The following is an introduction to the environmental analysis project-specific and cumulative impacts and general assumptions used in the analysis for the proposed project. The reader is referred to the individual technical sections of the Draft EIR regarding specific assumptions, methodology and significance criteria used in the analysis.

ANALYSIS ASSUMPTIONS GENERALLY USED TO EVALUATE THE IMPACTS OF THE PROJECT

BASELINE ENVIRONMENTAL CONDITIONS ASSUMED IN THE DRAFT EIR

Section 15125(a) of the State CEQA Guidelines requires that an EIR include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the Notice of Preparation (NOP) is published. The State CEQA Guidelines also specify that this description of the physical environmental conditions is to serve as the baseline physical conditions by which a lead agency determines whether impacts of a project are considered significant.

The environmental setting conditions of the project site and the surrounding area are described in detail in the technical sections of this Draft EIR (see Sections 4.1 through 4.12). The setting discussions describe the existing conditions of the project site and the surrounding area at the time of the second NOP release (January 26, 2005). A second NOP was released due to substantial changes to the project since the original NOP was released on September 10, 2004. The setting discussion (baseline) also includes updated or new information since release of the NOP, when applicable (i.e., the status of proposed and approved development projects or the presence of sensitive status species on the project site).

In addition to consideration of the environmental effects of development proposed by the project, the EIR evaluates the potential environmental effects on the entire Sunrise-Douglas Community Plan associated with the proposed amendments to previously adopted mitigation measures BR-2 and BR-4 contained in the Sunrise-Douglas Community Plan (see Section 3.0, Project Description, and **Appendix 3.0**).

SUNRISE DOUGLAS COMMUNITY PLAN/ SUNRIDGE SPECIFIC PLAN EIR

Sacramento County approved the Sunrise Douglas Community Plan and the Sunridge Specific Plan (SRSP) in 2002. The project site is within the adopted Sunrise Douglas Community Plan (SDCP) area. The SDCP provided policies and conceptual land uses for the area. It should be noted that the SDCP did not grant individual entitlements. Individual entitlements for subareas within the Community Plan area will be granted through the adoption of specific plans, use permits, subdivision maps and related entitlements. The Community Plan document will function as part of a tiered process for planning and approving the subsequent development proposals. The Community Plan provided a policy bridge between the existing Sacramento County General Plan and subsequent developments within the Community Plan area. The Community Plan assumed conceptual land uses to evaluate the cumulative impacts of future development in the Community Plan area. The Preserve at Sunridge project site was designated as being partially located within villages "C" and "F" of the SDCP (see **Figure 4.1-1**).

Sacramento County prepared an EIR for the Sunrise Douglas Community Plan/Sunridge Specific Plan (SDCP/SRSP). The SDCP/SRSP project received final approval on July 17, 2002. The Sacramento County Board of Supervisors certified the Sunrise Douglas/Sunridge EIR as adequate and complete on June 19, 2002. As noted earlier, the SDCP/SRSP EIR is a Master EIR, and the discussions of general issues included in it are in some cases applicable to the Preserve at Sunridge project.

The SDCP/SRSP Final EIR disclosed the environmental effects of the approval of a General Plan Amendment, Community Plan Amendment, adoption of the Sunridge Specific Plan, Rezone, Zoning Ordinance Amendment, General Plan Transportation Diagram Amendments, 2010 Bikeway Master Plan Amendments, Large Lot Tentative Subdivision Map and an Amendment to existing Williamson Act contracts. The SDCP/SRSP Final EIR considered such changes in the context of the Sunrise Douglas/Sunridge project area, taking into consideration the overall impacts of the development of the entire area. The SDCP/SRSP EIR identified a number of potentially significant impacts associated with the development of the Community Plan, including some that could not be feasibly mitigated to less than significant levels. Section 4.1 Land Use of this DEIR includes a discussion of the proposed project's consistency with the conceptual land uses evaluated in the SDCP/SRSP. In approving the SDCP/SRSP project, the Sacramento County Board of Supervisors adopted Findings of Fact and Statement of Overriding Considerations for those impacts that could not be mitigated to less than significant levels. A list of unavoidable adverse impacts for this project are identified in Section 7.0 (Long-term Implications of the Project).

GENERAL PLAN CONSISTENCY ANALYSIS

As required by State CEQA Guidelines 15125(d), each technical section of the EIR (Sections 4.1 through 4.12) has been evaluated for consistency with relevant policies contained in the Interim City of Rancho Cordova General Plan Elements (as of May 16, 2005) and relevant policies in the Sacramento County General Plan and Cordova Community Plan where the policy provisions of the Interim City of Rancho Cordova General Plan are silent on an environmental issue. **Appendix 4.0** contains a consistency analysis of the project with the relevant General Plan policies.

PROJECT CONSTRUCTION EFFECTS

Section 3.0 (Project Description) provides a description of anticipated construction activities associated with the proposed project. The environmental analysis addresses potential significant impacts from the direct effects of construction at the project site; direct effects associated with site development and required infrastructure improvements. Each technical section (Section 4.1 through 4.12) of the DEIR addresses the potential direct and indirect construction related impacts resulting from development of the project site. Anticipated direct effects include, but are not limited to: grading and site preparation, and the construction of new and the extension of existing infrastructure. The realignment of Morrison Creek would result in direct significant impacts to on-site biological resources. Indirect effects resulting from the proposed project could include potential surface water quality impacts (see Section 4.7 Hydrology and Water Quality), off-site biological resource impacts (see Section 4.9 Biological Resources), construction related traffic and increased air emissions from site preparation activities (see Section 4.6 Air Quality).

New on-site and off-site wastewater infrastructure is required to serve the project. In the interim, the project's wastewater flows will be collected and conveyed to a new lift station and to the existing Bradshaw Interceptor. The interim force main will be located along Chyrsanthy Boulevard through the project site and tie in with the force main along Sunrise Boulevard to Kiefer Boulevard. The serving interim lift station will be located on the south side of Chrysanthy Boulevard approximately 1,000 feet east of Sunrise Boulevard. The project's wastewater flows will ultimately be conveyed to the AJ-1 Interceptor, with on- and off-site trunks and collectors being located within public rights-of-way to lessen environmental impacts.

In the short-term, the project will use groundwater extracted from the North Vineyard Well Field, also known as the Execelsior Road Well Field, treated at the Anatolia Water Treatment Plant and delivered to the project site. In the long-term, the project will be supplied in accordance with SCWA's conjunctive use program of surface and groundwater. New transmission pipelines, pressure-reducing valves, check valves, storage tanks, and new treatment capacity will be required to serve the project. As with wastewater infrastructure, the majority of the water pipelines and other infrastructure would be placed within roadway rights-of-way.

Improvements to existing facilities and the construction of new roadways is also required to serve the project maintain acceptable traffic conditions in the area. The City of Rancho Cordova's five year Transportation Improvement Program (TIP) describes the five-year plan for allocating Measure A Transportation Sales Tax, developer programs, and the Road Fund for specific improvement projects selected for implementation during the CIP period. The CIP projects in the vicinity of the project include, but are not limited to, the construction of Chrysanthy from Sunrise Boulevard to Jaeger Road, widening of Douglas Boulevard from Sunrise Boulevard to Americanos Boulevard and ultimately widening it to Grant Line Road, and the construction of Jaeger Road from Douglas Road to Chyrsanthy Boulevard and from Chysanthy Boulevard to Kiefer Boulevard. As previously indicated, the potential environmental impacts associated with these proposed on-site and off-site roadway improvements are addressed in each technical section, Sections 4.1 through 4.12 of this DEIR.

PROJECT BUILDOUT ASSUMPTIONS

For the purposes of the environmental analysis, it is assumed that full buildout of the project site would be complete by the year 2012. Construction is anticipated to begin in April 2006 and be phased over a six-year period. However, the air quality and noise analyses assume full buildout of the project in 2006.

Specifically, the DEIR project impact analysis evaluates the following development scenarios:

Baseline Conditions – Baseline conditions are defined as existing conditions with traffic from approved projects (i.e., projects with tentative map approval) in the study area, including 6,500 units developed in the Sunridge Specific Plan. In addition, this scenario incorporates roadway improvements that are under construction or are included in the City's 5-year CIP with an anticipated completion date of 2006.

Interim Year (2014) Conditions – Interim Year (2014) Conditions are defined as existing traffic volumes with traffic from partial or full buildout of approved developments in Rancho Cordova with regional traffic growth to Year 2014. Approved projects in the Rancho Cordova area (identified by City staff) that are included in Interim Year Conditions are summarized in **Table 4.0-1**. The 2014 conditions would include approved and entitled projects and Phase I of Rio del Oro.

Cumulative (Year 2030) Conditions – Cumulative (Year 2030) Conditions are based on the City of Rancho Cordova General Plan buildout projections plus Year 2030 regional levels of development. Year 2025 SACMET regional household and job projections were factored to develop estimates for Year 2030 conditions outside the City of Rancho Cordova.

TABLE 4.0-1
SURROUNDING APPROVED AND PROPOSED PROJECTS IN THE PROJECT AREA

Approved Projects						
Project[1] Name	Total Acres	Res. Acres	Com. Acres	Residential Units	Land Use Designation	Zoning Designation
Sunridge Park	244.2	244.2	N/A	933	Low Density Residential	RD-4, RD-5, RD-7, CMU
Anatolia I	229.8	163.5	N/A	1038	Residential, commercial, park, elementary school	RD-5, RD-7, RD-10
Anatolia II	298	150.7	N/A	955	Residential, commercial, recreation center, park, school	RD-4, RD-5, RD-7, RD-10
Anatolia III	208	208	N/A	879	Low Density Residential, Open Space	RD-4, RD-5
Mather East	44.56	11.9	29.1	129	Commercial, Multi-family, open space	RD-10, LC
Sunrise Douglas Shopping Center	14	N/A	14	N/A	Commercial	LC
Villages of Zinfandel GPA	823	527	18	1833	Residential, Commercial, Public, Recreation	SPA
North Douglas	130.3	120.9	N/A	680	Low Density Residential, Park	RD-5, RD-7, RD-10
Capital Village	117	71.7	32	836	Mixed Use	SPA
Proposed Projects						
Anatolia IV	25	21.6	N/A	203	Residential	RD-10
Rio del Oro	3,828.5	1,931	137	11,608	Mixed-use development, which will include a General Plan Amendment, and Amending the Aerojet SPA Ordinance.	SPA
Suncreek Specific Plan	3,410	2,901	306	12,483	Low density Residential, Medium density Residential, Commercial, Recreation, Open Space, Schools	SPA
Sunridge East	609.4	393.6	25.7	3,042	Residential, commercial, office, and natural preserve	RD-5, RD-7, RD-10, RD-15, LC
Montelena	251.9	158.3	N/A	869	Residential, wetlands preserve, parks, fire station.	RD-4, RD-5, RD-7, RD-10, RD-20
Westborough	1,518	1,000	274	6,000	Residential, business, community and recreational uses	RD-5, RD-10, RD-30, LC, CMU, VCMU, OMU
Glenborough	1,366	801	178	4,810	Residential, commercial and recreational uses	RD-5, RD-10, RD-30, LC, CMU, O
Bradshaw Landing	40.5	N/A	N/A	N/A	360,000-square-foot theater and retail commercial use	LC
Legion of Christ Catholic College	300	N/A	N/A	N/A	Private college campus with residences for 7,000 students and nearly 600 faculty members. The estimated completion date of 2008.	N/A
Stone Creek Apartments	17.2	17.2	N/A	218	Multi-Family Residential within Village of Zinfandel	RD-20
Lot J	78.6	78.6	N/A	368	Residential, parks.	RD-4, RD-5, RD-7, RD-10

Source: Rancho Cordova Planning Department. September 2005.

APPROACH TO THE CUMULATIVE IMPACT ANALYSIS

Definition of Cumulative Setting

CEQA Guidelines Section 15130 requires that EIRs include an analysis of the cumulative impacts of a project when the project's effect is considered cumulatively considerable. Cumulative settings are clearly defined in for each technical issue area evaluated in Sections 4.1 through 4.12 of this DEIR.

The geographic extent of the cumulative setting for this DEIR generally includes the existing, proposed, planned and approved projects listed in **Table 4.0-1** and land use planning and development activities in the Sacramento region (generally consisting of Sacramento County and the incorporated cities in the County, the western portions of El Dorado and Placer counties and the southern portion of Sutter County)**. Table 4.0-1** includes the name, associated acreage, dwelling units (if applicable), and land use designations and zoning of large-scale proposed and approved projects in the area. The cumulative setting also assumes existing projects. **Figure 4.0-1** illustrates the location of the projects listed in **Table 4.0-1.** Each technical section of the Draft EIR includes a specific description of the geographic extent of the cumulative setting based on the characteristics of the environmental issue under consideration (e.g., Sacramento Valley Air Basin for the cumulative air quality setting) as set forth in Section 15130(b) of the State CEQA Guidelines.

SACOG has developed a major update to the long-range Metropolitan Transportation Plan (MTP) for the Sacramento region (covering Sacramento, Yolo, Sutter, Yuba, Placer and El Dorado Counties, except for the Tahoe Basin). The MTP uses the transportation plans of cities and counties as its primary building blocks, providing coordination between them and focusing on transportation strategies that link different locations in the region. The proposed project's cumulative traffic analysis uses MTP Tier 1 identified improvements as a basis for evaluation, which achieves the CEQA's objective of full disclosure of potential impact. Tier 1 improvements are considered to be reasonably foreseeable and likely to be constructed in identified time frames. It should be noted that due to air quality compliance issues, SACOG indicated that no Tier 1 roadway improvements would be implemented until 2006. SACOG is updating its major roadway improvement portion of the MTP to address air quality issues and anticipates it will be completed by March 2006. The Traffic and Circulation section of this EIR (Section 4.4) also considers the regional traffic patterns and this project's impacts on the regional transportation system.

Consideration of Cumulative Impacts

Technical sections 4.1 through 4.12 of this DEIR evaluate whether the project's individual or incremental contribution to cumulative environmental conditions is cumulatively considerable (i.e., constitutes a significant effect in and of itself). The determination of whether the project's impact on cumulative conditions is significant (cumulatively considerable) is based on applicable public agency standards, consultation with public agencies and technical and/or expert opinion. Section 5.0 (Cumulative Impacts Summary) provides a summary of the cumulative impacts associated with the project. The long-term implications of this project are addressed in Section 7.0 of this DEIR.

Terminology Used in the Draft EIR

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

Cumulatively Considerable Impact: A cumulative significant impact would result when the project would contribute considerably to a significant physical impact on the environment expected under cumulative conditions.

Less Than Significant Impact: A less than significant impact would cause no substantial or potentially substantial change in the physical condition of the environment (no mitigation would be required for project effects found to be less than significant).

Significant Impact: A significant impact would, unless mitigated, cause (or would potentially cause) a substantial or potentially adverse change in the physical conditions of the environment. Significant impacts are identified by the evaluation of project effects using specified standards of significance provided in each technical section of the EIR. Identified "significant" impacts are those where the project would result in an impact that can be measured or quantified, while identified "potentially significant" impacts are those impacts where an exact measurement of the project's effect cannot be made but City staff believes, based on substantial evidence, that the impact would exceed standards of significance.

Potentially significant: impact may also be an impact that may or may not occur and where a definite determination cannot be foreseen. Mitigation measures and/or project alternatives are identified to avoid or reduce the project's effects on the environment to a less than significant level or to the extent feasible.

Significant and Unavoidable Impact: A significant and unavoidable impact would result in a substantial change in the environment that cannot be avoided or mitigated to a less than significant level if the project is implemented.

Standards of Significance: A set of significance criteria used by the CEQA lead agency (Rancho Cordova) as well as by other public agencies with regulatory jurisdiction over the project to determine at what level or "threshold" an impact would be considered significant. Significance criteria used in this EIR are derived from the following: the State CEQA Guidelines; factual or scientific information; regulatory performance standards of local, state, and federal agencies; and, goals, objectives, and policies (e.g., Sacramento County General Plan and the Interim Rancho Cordova General Plan). Specified significance criteria are identified at the beginning of the impact analyses in each technical section of the EIR.

General Plan Planning Area (Rancho Cordova Planning Area): This refers to the planning area that is being used by Rancho Cordova as part of the Interim General Plan to plan land uses and a circulation pattern for a 25-year planning horizon. It contains 15 planning areas, including: 1) Folsom Boulevard; 2) Sunrise Boulevard North; 3) Sunrise Boulevard South; 4) Westborough; 5) Rio del Oro; 6) Grant Line West; 7) Suncreek/Preserve; 8) Grant Line North; 9) Mather; 10) Jackson; 11) Grant Line South; 12) East; 13) Aerojet; 14) Glenborough; and 15) Countryside/Lincoln Village.

INSERT FIGURE 4.0-1 – EXISTING, APPROVED, AND PROPOSED PROJECTS

The purpose of this section is to evaluate the existing land uses in the vicinity of the Preserve at Sunridge project and analyze the proposed project's consistency with applicable City of Rancho Cordova's General Plan policies and the potential physical land use related impacts resulting from implementation of the project.

4.1.1 EXISTING SETTING

SETTING

The Preserve at Sunridge project (proposed project) is located within the Sunrise Douglas Community Plan (SDCP) area in the southeastern portion of Rancho Cordova. The SDCP area is comprised of approximately 6,042 acres and is generally bounded by Douglas and the former Aerojet property on the north, State Route 16 (SR-16) to the south, Grant Line Road to the east, and Sunrise Boulevard to the west. The Preserve at Sunridge project site is bounded by approved Sunridge Specific Plan (SRSP) projects to the north and the proposed Suncreek Specific Plan area (Suncreek) to the south. The approved Anatolia developments, also within the SRSP, are located to the west of the proposed project, and additional mixed-use projects are proposed immediately to the east.

EXISTING AND HISTORICAL LAND USES

The site's current lease-holder has used it for cattle grazing since 1971 and indicated that it has most likely been used for that purpose for the past century. There is a 350-foot wide utility easement that runs diagonally from north to south through the center of the project site. Both PG & E and SMUD own and maintain the 230kV transmission lines that are located in this corridor. The Buffalo Creek USGS Map dated 1967 and photo revised in 1980 shows no buildings or other indicators of development on the site, other than the power transmission corridor. The soil Conservation Service (SCS) Map from 1937 also shows the site to be undeveloped. A Phase I Environmental Assessment conducted for the project indicated that the site is void of any residences and other structures other than an abandoned above ground storage tank, which would be removed as part of the project.

SURROUNDING LAND USES

There are several planned and approved projects adjacent to the proposed project. The Sunridge Park and Sunridge Park Lot J are adjacent to the project's northern boundary and the proposed Suncreek Specific Plan is immediately south and west of the site. The Security Park Industrial complex is located approximately ½ mile north of the site on the north side of Douglas Road. There are proposed low-density residential, medium-density residential, and commercial/mixed use projects to the east of the proposed project site. These projects include, but are not limited to, the Grant Line 208, Pappas, and Grant Line 220 developments, which are in the Sunridge East project area. The Anatolia developments and the proposed Sunridge 250 project are adjacent to the site's northwestern and western boundaries.

4.1.2 REGULATORY FRAMEWORK

LOCAL

Sacramento County General Plan

The existing Sacramento County General Plan was adopted in December of 1993. As explained earlier and in more detail below, the County General Plan became the City's General Plan upon incorporation in July 2003. The central focus of the County General Plan is the Land Use Element, which sets the policies for the distribution and intensity of land uses. The County is in the process of updating its General Plan and it is anticipated that the resulting Plan, as ultimately adopted, will recognize the City's land use authority within its municipal borders. The update addresses plans for growth in the next planning cycle (2004-2025) as well as addressing new emerging planning issues. Topics addressed in the Update Project include, but are not limited to, holding capacity, infrastructure financing, policy analysis, smart growth planning, and mature communities. The City is currently operating under its Interim General Plan rather than the Sacramento County General Plan for transportation policy direction in the City. **Appendix 4.0** provides a consistency analysis of relevant Sacramento County General Plan policies associated with environmental issues that the City's Interim General Plan is silent.

Proposed Rancho Cordova General Plan

On May 17, 2004 the Rancho Cordova City Council officially kicked off the preparation of the first Rancho Cordova General Plan. As part of the process of creating its first General Plan, the City has adopted an interim General Plan that is comprised of three parts – The Vision Book; The Circulation Plan; and the Land Use Map Book. The Vision Book establishes the conceptual vision of the City and reflects the compilation of ideas from the community on a wide variety of topics related to the future of Rancho Cordova. The Vision Book is presented in a conceptual level and does not contain guidance policies. In accordance with Government Code Section 65360, new development proposals and actions by the City will be examined for their consistency with Vision Book and other interim City policies and standards, and will allow the City to begin improving the quality of development in Rancho Cordova. The Circulation Plan describes the basic roadway, bikeway, transit, and pedestrian system that will form the backbone of the City as it develops. The General Plan Land Use Book, and associated General Plan Land Use Map were adopted on May 16, 2005, which combine geographical areas of the City with generalized and specific land use designations to guide the City's future development patterns. The intent of the General Plan Land Use Map is to establish a variety of new land use designations that reflect more mixed, and in some cases, a higher density of development envisioned for the City. These mixed-use categories provide for residential, commercial, and office uses all on a single site. New development proposals and actions by the City and will be examined for their consistency with this interim General Plan and allow the City to begin improving the quality of development in Rancho Cordova.

As explained in further detail in Section 1.6 (Relationship to the General Plan and Sunrise Douglas Community Plan), pursuant to California Government Code Section 65360, the City will be using the policies, ideas, and diagrams from the Vision Book and General Plan Land Use Map Book and associated General Plan when making required consistency determinations. The City will rely these various documents that comprise the City's Interim General Plan to determine whether there is a reasonable probability that the proposed project will be consistent with the General Plan the City expects to eventually adopt. The General Plan ultimately adopted by the City will translate the conceptual ideas in the Interim General Plan documents into more detailed land use designations, policies, and plans.

The adoption of various interim policies and diagrams enable the City to continue to evaluate and take action on land use applications and other projects, consistent with Government Code Section 65360. In addition, they have the additional benefit of providing direction to project applicants and City staff regarding the processing of projects prior to formal adoption of the General Plan in the near future.

The project site is located within the Suncreek/Preserve Planning Area, as described in the Land Use Map Book. The Suncreek/Preserve Planning Area makes up approximately 1,847 acres in the southeastern portion of the City and is anticipated to hold approximately 9,830 dwelling units with an estimated residential population of 26,840 and an employment population of approximately 3,170 persons.

The reader is referred to **Appendix 4.0** for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

Community Plan Areas

As previously discussed, the proposed project site falls within the Sunrise Douglas Community Plan area (SDCP). There are portions of the SDCP that are also located in the Cordova Community Plan area (CCP). Properties of the SDCP area located north of Douglas Road and the small area lying west of Sunrise Boulevard fall within the CCP boundary. It should be noted, the Preserve at Sunridge site is also located within the boundaries of the Cosumnes Community Plan area. The Community Plans establish the policy framework and conceptual development plan for in the City of Rancho Cordova. The overall purpose of the Community Plans is to develop viable master planned communities. The Community Plans consist of the policy framework (including both guiding principles and policies), land use holding capacity and acreage estimates, and a basic infrastructure framework. Community Plans do not grant land use entitlements. Entitlements to develop sub-areas (including the proposed project site) within the Community Plan areas are granted through the adoption of specific plans, use permits, subdivision maps and related entitlements. The Community Plans and subsequent specific plans form a tiered process for planning and approving development proposals.

Zoning Code

The City adopted the majority of the Sacramento County Zoning Code upon its incorporation. The existing Rancho Cordova Zoning Code will be updated after the City adopts the new General Plan. The purpose of the Rancho Cordova Zoning Code is to regulate the use of buildings, structures and land as between agriculture, industry, business, residential, open space, recreation, enjoyment of scenic beauty, use of natural resources, and other purposes. The Zoning Code contains provisions for the placement of signs and billboards, the location, height, bulk, number of stories, and size of buildings and structures, and the size and use of lots, yards, courts and other open spaces. In addition, the Zoning Code regulates the percentage of developable land and intensity of land use on particular parcels and establishes requirements for off-street parking and loading. There are specific regulations to maintain appropriate building setback lines.

The proposed project site is currently zoned Permanent Agricultural-Extensive (AG-80), which is intended to preserve the long-term agricultural use of land and to establish minimum acreage requirements for newly created parcels within this zoning classification. The proposed project would be rezoned Special Planning Area (SPA). Historically, the County has used SPAs to address

the needs of projects or geographical areas with special environmental and social circumstances. SPAs generally supplement, enhance, or replace certain conditions of the existing code. The SPA process can be a valuable planning tool for both applicants and the City. These focused planning tools provide the opportunity for developing unique planning standards (e.g. lot sizes, setback standards, permitted uses, etc.) in response to site-specific issues. They also provide for a more creative development than could be achieved solely through standard zoning regulations. The current SPAs in the County include, but are not limited to, Metro Air Park, Calvine/Highway 99, Garden Highway, Fair Oaks Village, Zinfandel, Antelope Station, and McClellan Park. SPAs within the City boundaries includes the recently approved Capital Village SPA.

Mather Airport Comprehensive Land Use Policy (CLUP)/Airport Land Use Compatibility Plan (ALUP)

The Sacramento County Board of Supervisors adopted the updated Mather Airport Comprehensive Land Use Plan (CLUP) and the Mather Airport Policy Area (MAPA) into the County's General Plan. The CLUP establishes the planning area boundaries of the airport and provides the land use guidelines on which compatible uses are determined. The MAPA policies place additional development conditions on new residential uses within the geographic boundaries of the MAPA. The MAPA policies are more stringent than the CLUP policies and provide additional protection to the airport and the surrounding land uses. The proposed project and entire SDCP area are located outside the boundaries of the Mather Airport CLUP and MAPA. The CLUP is being updated and renamed the Mather Airport Land Use Compatibility Plan (ALUP). The Mather Airport Master Plan is being updated concurrently with the CLUP. Given that the project site is located outside the existing and proposed CLUP boundaries, implementation would not conflict with operations of this airport facility.

4.1.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

This land use analysis evaluates the consistency of the proposed project with the type and intensities of the existing and planned land uses on and surrounding the project site. These standards are based on State CEQA Guidelines Appendix G. A land use impact is considered significant if implementation of the project would result in any of the following:

1. Physically divide an established community;

2. Conflict with existing off-site (surrounding) land uses;

3. Cause a substantial adverse change in the types or intensity of existing or planned land use patterns; or,

4. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the adopted goals and policies of the General Plan, zoning ordinance, or other planning program) adopted for the purpose of avoiding or mitigating environmental effects.

5. Conflict with applicable habitat conservation plan or natural community conservation plan.

In addition to the above standards of significance, this DEIR considers the project's incompatibility with on-site sensitive resources (i.e., wetlands and vernal pools) as a significant impact. For a discussion addressing this impact, the reader is referred to Section 4.9 (Biological Resources) of this DEIR.

METHODOLOGY

This evaluation of land use impacts associated with the proposed project is based on field review of the project site and surroundings, review of the Sacramento County and City of Rancho Cordova Interim General Plans and Zoning Ordinances, and consultation with relevant agencies. The focus of this land use analysis is on land use consistency and potential conflicts resulting from implementation of the project and its related components. The reader is referred to other technical sections of this EIR for detailed analysis of other relevant environmental effects, resulting from the project land uses. Additionally, the project's potential land use impacts were evaluated for consistency with previous environmental review conducted for the Sunrise Douglas Community Plan area. Environmental effects associated with the proposed amendment of previously adopted mitigation measures BR-2 and BR-4 contained in the Sunrise Douglas Community Plan is addressed in Section 4.9 (Biological Resources).

Previous Environmental Review in the SDCP/SRSP EIR

The SDCP/SRSP Final EIR identified a number of significant and potentially significant land use impacts. The Sacramento County Board of Supervisors determined significant and unavoidable impacts resulting from the project were outweighed by overriding economic, social, and other considerations. The Board adopted CEQA Findings of Fact Statement of Overriding Considerations of the Board of Supervisors of Sacramento County for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project on July 17, 2002. The following are the potentially significant and significant impacts identified in the SDCP/SRSP Final EIR that are applicable to the proposed project.

"*Impact* The project is consistent with the General Plan in that it provides for the urbanization of the project site, which is identified as an Urban Growth Area on the General Plan. However, the project may be inconsistent with several relevant General Plan goals and policies.

The General Plan encourages the protection of farmland and natural resources by advocating the clustering of development. This theme is not explicitly carried over into the Specific Plan, nor does it appear to be reflected in the proposed land use plan, except for the wetlands protection proposed on the Sares-Regis property.

General Plan Land Use Policy LU-12 provides specific target proportions of different land uses for a mixed-use development. As applied to the proposed Specific Plan, areas of development emphasis are met in the "residential" and "public" categories, but are not met in the areas of "retail" and "office".

The General Plan encourages transit-oriented development in new Urban Growth Areas. The proposed Specific Plan incorporates several tenets of Transit-oriented design including some mixing of uses, neighborhood serving support services, and the opportunity for bicycle and pedestrian emphasis in future subdivision design. However, the project is predominantly low density residential, which hampers transit orientation.

LA-7 Pursuant to the requirements and emphasis of the Land Use Element of the General Plan, increase residential densities to a minimum of six-dwelling units per acre and increase non-residential intensity to a minimum floor ratio of 0.25 in proximity to future transit routes in order to promote efficient future transit service."

Notably, in approving the Sunrise Douglas Community Plan and Sunridge Specific Plan, the Board of Supervisors disagreed with its staff that the plans as then proposed and thence approved were inconsistent with the General Plan. The Board made the following determinations in its findings:

The following excerpt is from the CEQA Findings of Fact and Statement of Overriding Considerations of the Sacramento County Board of Supervisors for the Sunrise Douglas Community Plan/SunRidge Specific Plan Project.

Because the policy language found in a General Plan is often susceptible to varying interpretations, lead agency staff, in preparing a draft or final EIR, are often required to make difficult predictions regarding whether a local government's ultimate decision makers – here, the Board of Supervisors – will find a proposed project to be consistent or inconsistent with various General Plan policies. These Staff-level predictions may carry some weight, but they are not binding on elected bodies.

Here, the Draft and Final EIRs reflected County staff's view that the then-proposed Specific Plan appeared to be substantially consistent with the Open Space Element of the General Plan -- except potentially in the area of development clustering, targeted proportions of different land uses, and transit-oriented development. (FEIR, pp. 1.3, 4.25.)

In the name of achieving consistency with the General Plan, and thus avoiding what Staff considered a "significant effect on the environment" within the meaning of CEQA, Staff therefore advocated redesign of the Project to require clustering, to increase the retail component, and to increase the density of development to promote future transit service. Staff's analysis, and thus its recommendations, assumed that the General Plan policies at issue were mandatory in character, and that, in any event, the Project as proposed by the applicant was inconsistent with the spirit, if not the letter, of those polices. The Board, as the final arbiter of General Plan consistency, disagrees with these assumptions. (See No Oil, supra, 196 Cal.App.3d at p. 243.) Notably, unless a General Plan policy includes an unambiguous mandate that a project can be said to violate, the project is not "inconsistent" with the policy. (See Families Unafraid to Uphold Rural El Dorado County v. Board of Supervisors (1998) 62 Cal.App.4th 1332, 1341-1342; Sequoyah Hills, supra, 23 Cal.App.4th at pp. 717-720.)

General Plan Policy OS-10, mentioned in the EIR, "permit[s]," but does not require, "development clustering in urban areas where grouping of units would facilitate on-site protection of woodlands, wetlands, steep slopes, urban stream corridors, scenic areas, or other appropriate natural features as open space," subject to certain conditions. (FEIR, p. 4.6.) The project cannot be said to "violate," or be inconsistent with, this policy, which is permissive in character and therefore creates no binding directive applicable to the Project. Furthermore, the Board concludes that, given both the nature of the topography and biological characteristics of the project site, little environmental benefit would come from a redesign effort intended to facilitate additional "clustering." Generally, policies encouraging the clustering of residential units are aimed at protecting farmland and especially valuable biological or scenic resources. OS-10 specifically mentions "woodlands, wetlands, steep

slopes, urban stream corridors, [and] scenic areas[.]" Here, although the Project site includes vernal pools, the other open space found within the Specific Plan area does not contain the kinds of scenic land, valuable farmland, or rare natural resources that Policy OS-10 is intended to protect. (See February 12, 2002, letter from David Wade to John Hodgson ("Wade Letter"), p. 4, submitted as enclosure to Letter from James G. Moose to Board of Supervisors, dated March 15, 2002.) In any event, strategies for vernal pool protection will be implemented, and will be more site-specific, in the future as the County approves tentative subdivision maps and other project-level entitlements. Further details regarding wetlands mitigation cannot be worked out at the Specific Plan or Community Plan level of planning.

The Board also concludes that, despite implications to the contrary in the EIR, the Project as approved does not "violate," and is not inconsistent with, General Plan Policy OS-12. (FEIR, p. 4.27.) Like Policy OS-10, that policy also lacks mandatory language. Rather, it merely directs the Board to "[c]onsider density bonuses as a method of encouraging development clustering and open space preservation." (Emphasis added.) The Staff's recommendation, within the EIR, in favor of clustering of development at a higher density than might otherwise be feasible in a given location overlooks two key factors in a specific plan. First, a specific plan allocates residential land use with consideration of the land features, market conditions, and planning principles that direct the form of the neighborhood that can be built within the plan area. The appropriate number and density of dwelling units allocated in the specific plan is driven by the land characteristics, the capacity of the backbone infrastructure, the support of public transit and the market for housing. There is no pre-existing zoning that might otherwise artificially limit the number of dwelling units in a given location. Thus, there is no point in applying a "density bonus" when the specific plan can freely determine the number of dwelling units allocated to a given location. The "density bonus" concept is meaningless unless the existing regulatory framework has previously and artificially limited the number of dwelling units appropriate to the location. (See Wade Letter, p. 4.)

Differences in market demand for certain types of housing is the other factor not considered in the density clustering and density bonus concepts. These concepts presume that there is equal market demand for housing of differing density and size, and that a given number of dwelling units can simply be reduced in size and compressed into a smaller land area. The reality, however, is that the resulting housing type will not appeal to the same housing market and will not result in equal values and marketability. Addition of dwelling units in a "density bonus" concept does not necessarily increase the overall value or marketability of the neighborhood. It may simply increase the number of unmarketable dwelling units. (Wade Letter, p. 4.)

The Board has considered the potential benefits of offering density bonuses at the Specific Plan stage of development, and declines to do so. Such bonuses may be appropriate, however, as the applicants obtain tentative subdivision maps and other project-level entitlements. The Board will therefore give further consideration to providing for density bonuses at such times as future site-specific entitlements are requested.

Even though, as explained above, the Board finds that the Project's design will not violate General Plan Policies O-10 and O-12, the Sun Ridge Specific Plan was revised to increase its effectiveness in protecting wetland areas found within the Project site. This protection will be achieved through a combination of on-site preservation and off-site preservation of larger, more significant wetland areas. (See Specific Plan, July 17, 2002, pp. 7-1 – 7-3.) Moreover, the Project design already recognizes that any development that adversely affects wetlands will be subject to Clean Water Act permitting and mitigation requirements as implemented by the United States Army Corps of Engineers under the Section 404 process of the Clean

Water Act. (See Specific Plan, July 17, 2002, pp. 7-1 – 7-3.) Notably, the Specific Plan contains a large swath of land – a total of 482 acres – already set aside for wetlands preservation. This preservation area is the result of the "404" (Clean Water Act) permit issued to Sares-Regis in 1996 by the United States Army Corps of Engineers. In exchange for allowing Sares-Regis and its successors (i.e., AKT Development) to fill 38 acres of wetlands on-site, the Corps required Sares-Regis to protect 482 acres on site. The Specific Plan will preserve this acreage for perpetuity. (FEIR, pp. 3.6, 14.18; Specific Plan, p. 7-3.) The policies in the Specific Plan (Policy OSC-1, OSC-2, OSC-3, OSC-4, OSC-5, OSC-7, OSC-8, OSC-9, OSC-10, OSC-11, OSC-12, OSC-13, OSC-14, and OSC-16) and the Design Standards in Section 3.10 (Landscaping Adjacent to Open Space Edges) are sufficient to regulate development around any future wetland preservation areas consistent with General Plan OS-10. (SunRidge Specific Plan, p. A-8; see also David Wade letter, p. 5.)

The Specific Plan also addresses the need to protect the natural values of stream corridors. There are two stream corridors in the plan area, Laguna Creek and Morrison Creek. Within the plan area these are normally dry creek beds. The Specific Plan identifies the more significant stream corridor (Laguna Creek) as separate Open Space parcels (R-14 and S-1) in the Specific Plan. This feature of the Specific Plan clearly sets aside an open space corridor specifically for protection of an urban stream. (Wade Letter, p. 5.)

Morrison Creek crosses a small portion of the northwest corner of the plan area. The creek corridor is entirely within a single landownership that is designated as a Commercial Mixed Use (CMU) Zone District. The CMU zone is intended to provide a mix of medium density residential apartments, office, light industrial, and retail use in a flexible design. Because it is in a single CMU zoned property, the Morrison Creek corridor will be addressed in a single site design and incorporated in the mix of uses proposed for the site. The Specific Plan contains policies addressing the development of land uses along the Morrison Creek corridor. (Wade Letter, p. 5-6, citing "Access to Pedestrian Path Network, SunRidge Specific Plan, p. 3-13 and Policy OSC-22, SunRidge Specific Plan, p. 7-9.)

The Board also concludes that the land use mix embodied in the Specific Plan is not in violation of General Plan Policy LU-12, notwithstanding any implication to the contrary in the EIR (see FEIR, pp. 1.4, 1.5, 4.26, 4.28.) LU-12 provides that, "[d]epending on its emphasis," a "mixed use development should include" land uses within various ranges expressed as percentages of the total project area. (FEIR, p. 4.4 (emphasis added).) By its plain language, the policy stops far short of imposing a mandatory land use mix for all projects. In considering whether to require a land use mix consistent with the percentages set forth in Policy LU-12, the Board should focus initially on the nature of the land use "emphasis" associated with a proposed project. Depending on that "emphasis," the land use mix proposed by LU-12 may or may not be beneficial. Here, the Project's proximity to the job-rich Highway 50 Corridor reduces any planning benefit that might derive from greater amounts of retail and office space within the Project Area itself. (See Wade presentation, first slide entitled, "Job Growth"; Wade testimony, 11/07/01.)

Balancing land uses is one of the primary principles underlying the SunRidge Specific Plan. The plan is intended to provide a supply of housing to address the current and serious imbalance between jobs and housing in the Rancho Cordova community. The support uses within the Specific Plan (including parks, schools, retail and services) are intended to serve the local neighborhoods within the plan area and not to provide retail, employment or service uses for the regional community. Therefore, the standards set forth in LU-12, Table II.3 must be considered in the context of the surrounding community. The Specific Plan states

the need for a balance of land use, most importantly, jobs and housing, in the opening paragraphs of the plan. (Wade Letter, pp. 6-7, citing SunRidge Specific Plan, p. 1-1.)

LU-12 Implementation Measure B requires the County to "evaluate development projects by noting the balance of uses in the minor zone the project is located in and the surrounding community." The Plan area will make a very substantial contribution to balancing the existing office, industrial and commercial land use in the adjacent developed areas with new housing. The retail and office land use provided in the SunRidge Specific Plan is intended to serve the local resident population and is adequate to do so. Providing additional employment within the plan area would diminish the primary intent of the Specific Plan to provide housing to off-set the existing imbalance in the Highway 50 corridor, particularly in the Rancho Cordova community area. (Wade Letter, p. 8.)

It should be remembered that the SunRidge Specific Plan is just the first phase of development in the larger community plan. In the future, later phases of development in the Sunrise Douglas Community Plan will provide additional commercial and office uses to serve the expanded community area. The concept incorporated in the community plan is that the first phase of development would be oriented primarily to addressing the current imbalance of jobs and housing in the Rancho Cordova area. As the community plan area develops over time, there will be a greater need for local services and retail to serve the community population, which is expected to be close to 60,000 people. Consequently, the community plan includes a higher percentage of commercial and office uses than the first phase, the SunRidge Specific Plan. (Wade Letter, p. 8.)

Land Use Policy LU-10 provides the Board with the ability to judge a proposed project by the regional planning context in which it is being proposed. That policy states the County's desire to "[p]romote a better balance of employment, neighborhood services, and different housing types by reviewing development projects and the surrounding community and designing new projects wherever feasible so that they maintain or improve the mix of uses in the community." (FEIR, p. 4.4.)

Here, the emphasis of the Project, due to its location near the Highway 50 Corridor, is on "residential" and "public" categories, rather than on "retail" and "office" uses. (FEIR, pp. 1.4 - 1.5, 4.26.) For purposes of Policy LU-10, the Project's "emphasis" is to provide convenient housing for employees in the larger geographic area -- a need that is expected to grow over the next twenty years as jobs within the Rancho Cordova area continue to exceed available housing. (See Wade Presentation; Wade Testimony, 11/7/01.)

In general, the General Plan encourages "transit-oriented development" in new Urban Growth Areas such as the Project area. (FEIR, p. 4.3; General Plan, Land Use Element, p. 50.) Despite any implications to the contrary in the EIR, the Project does not violate or undermine the "objectives" and policies that embody this preference. Notably, the Specific Plan incorporates several tenets of transit-oriented design, including some mixing of uses, neighborhood-serving support services, and the opportunity for bicycle and pedestrian emphasis in future subdivision design. It is true, however, that the Project is predominantly lower-density residential -- a fact that, according to the Final EIR, hampers transit-orientation. (FEIR, pp. 1.5, 4.26.) In the Board's view, though, this emphasis on low-density residential uses does not translate into a General Plan violation, regardless of any implication to the contrary found in the Final EIR. Nor does the lack of a greater percentage of higher-density residential uses translate into a significant effect on the environment for purposes of CEQA. (See Pub. Resources Code, § 21082.2, subd. (e).

The Board rejects the FEIR's conclusion that the proposed plan would not promote efficient transit service. Rather, the Board finds that the residential land use in the Specific Plan is designed specifically to support a public transit system, particularly with regard to the distribution of medium density housing. The residential land use is distributed in the early phases of development so that the project will support the operation of the local shuttle bus system designed to provide a connection to the employment center to the northwest of the plan area and to the Mather Field Road/Mills Station light rail station. The placement of the medium density housing is coordinated with the planned shuttle route to achieve higher concentrations of housing density around likely bus stops along the major streets. (Wade Letter, pp. 10-11.)

County Staff's proposed mitigation measure favoring increased density – proposed Mitigation Measure LA-7 -- reflects an interpretation of the General Plan that would effectively disallow low density residential uses because they are not sufficiently "transit oriented." The Board does not accept that interpretation. As is noted in the EIR, the County's objective is to have 30 percent of new development be transit-oriented. (FEIR, p. 4.3.) Yet the Staff's interpretation of this objective would seem to make that figure 100%, regardless of where a proposed project is located (i.e., regardless of how close a project area is to existing or planned transit stops).

The higher density favored by Staff is likely to be economically infeasible. There is an extremely limited market in the Sacramento region for higher density housing (RD-6, RD-7 and higher). (See Letter from Doug Elmore to Board of Supervisors, January 10, 2002, ("Elmore Letter"), p. 1, enclosed with Letter from James G. Moose to Board of Supervisors, March 15, 2002.) If developers were to subdivide the project's residential property at the densities recommended by Staff, the project would contain an oversupply of this type of housing relative to market demand, and much of it would remain unmarketable within an economically feasible period of time. (Elmore Letter, pp. 1-2.) Accordingly, the Board rejects the Draft EIR's proposed Mitigation Measure LA-7 and finds it unnecessary to achieve or maintain consistency with the General Plan.

The Board does not believe that the Project's focus on low-density residential uses in any way frustrates future efforts to locate more dense housing development in areas where such density would translate into increased transit usage. Notably, there are currently no mass transit services to the Project area. To address this problem, the Project proponents have included within the Specific Plan provisions requiring the creation and operation of a shuttle system that will connect the Project area to major employment centers and light rail stops near Mather Field, Highway 50, and Rancho Cordova. (See Wade Presentation, slides entitled, "Specific Plan Area Public Shuttle," "Local Shuttle Route," and "Light Rail Connection"; Wade Testimony, 11/07/01; Specific Plan, July 17, 2002, pp. 4-8 – 4-13.) Because of the benefits of the shuttle, the Board feels no need to require any further increases in density as a means of further facilitating mass transit usage.

Proposed Mitigation Measures

Based on its assumptions that, without further revisions, the Specific Plan would violate General Plan Policies OS-10, OS-12, LU-12, and Land Use Element provisions generally favoring transit-oriented development, County Staff proposed the following "mitigation measures":

LA-5 Pursuant to the General Plan Open Space Element, appropriate policies and implementing regulations should be added to the proposed Specific Plan

encouraging clustering of development to protect wetlands, appropriate natural features, and buffering of adjacent agricultural lands. (FEIR, pp. 1.4, 4.27.)

LA-6 Pursuant to General Plan Land Use Element Policy LU-12, the land use mix proposed in the Specific Plan should be modified to increase the percentage of retail and office uses as a proportion of total uses. Alternatively, the Board of Supervisors shall find that: 1) the targeted balance of land uses is substantively met with the project as proposed; and/or 2) other areas of the Community Plan shall provide the required increased proportion of retail and office uses to achieve consistency with General Plan policy; and/or 3) the Specific Plan will achieve the required overall balance of retail, office and residential uses by providing needed housing near the jobs-rich Highway 50 corridor. (FEIR, pp. 1.5, 4.27.)

LA-7 Pursuant to the requirements and emphasis of the Land Use Element of the General Plan, increase residential densities to a minimum of six dwelling units per acre and increase non-residential intensity to a minimum floor area ratio of 0.25 in proximity to future transit routes in order to promote efficient future transit service. (FEIR, p. 1.5, 4.28.)

For reasons discussed above, the Board rejects these proposed mitigation measures, and disagrees with County Staff's assumptions in recommending them. Because they do not relate to any "significant effect on the environment," they need not be adopted or implemented, regardless of whether they might be considered feasible. (Sacramento County Board of Supervisors, CEQA Findings of Fact and Statement of Overriding Considerations for Sunrise Douglas Community Plan and Sunridge Specific Plan (July 17, 2002), pp. 31- 36; see also Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova (2005) 127 Cal.App.4th 490, 510-514, 517.)

IMPACTS AND MITIGATION MEASURES

Division of Existing Communities

Impact 4.1.1 Implementation of the project would place urbanized land uses in a rural area. This is considered a **less than significant** impact.

The project site and surrounding area is historically associated with rural residences, dry land farming, and grazing activities. The Security Park industrial complex is located approximately ½ mile north of the project site. There are no remaining residences on the project site or in the immediate vicinity. The project site is located within the approximately 6,042-acre Sunrise Douglas Community Plan, which is designated as an Urban Growth Area in the Sacramento County General Plan. The project site is in the center of the Community Plan and as indicated above, the project is surrounded on all sides by proposed low-density residential, medium-density residential, and commercial/mixed use projects. These projects include, but are not limited to, the Grant Line 208, Pappas, and Grant Line 220 developments, which are in the Sunridge East project area to immediate east of the project site. The approved Sunridge Park and Lot J projects are primarily residential projects and are located on the site's northern boundary. Suncreek is a proposed specific plan area of mixed-use development on approximately 1,253 acres and is adjacent to the Preserve at Sunridge project to the southwest, south, and southeast. Given the amount of existing urbanization in the Community Plan area and proposed, approved, and planned projects in the immediate vicinity, the project would not divide an established community and less than significant impacts would result. Even though

the project is site is not yet urbanized, it is in close proximity to land currently under urbanization and has lost most, if not all, of its value for viable agriculture.

Mitigation Measures

None required.

Adjacent and Nearby Land Use Compatibility

Impact 4.1.2 Implementation of the proposed project may result in incompatibilities between existing and planned land uses in the vicinity of the project site. This is considered a **less than significant** impact.

As previously discussed, the Preserve at Sunridge project is located within the larger SDCP area. Land use compatibility issues were globally addressed for the Community Plan area in the SDCP/SRSP Final EIR, which was certified by the Sacramento County Board of Supervisors in July of 2002. Land use compatibility issues addressed in the previous EIR included existing residences, proposed residential land uses, existing agricultural land uses, proposed open space land uses, the former Aeroject property (the proposed Rio Del Oro project), the Sacramento County Kiefer Landfill, the Folsom South Canal (FSC), the Sacramento Rendering Plant, Mather Airport, and power line electromagnetic fields. The setting in the Community Plan area has changed substantially since certification of the SDCP/SRSP Final EIR. Changes include roadway improvements to Sunrise Boulevard and Douglas Road, the extension of water and sewer facilities, new 69-kV lines and 12-kV electrical transmission lines, drainage and detention basin improvements, and several modifications to projects proposed in the SDCP due to environmental constraints on various properties.

As discussed above, the proposed project site would be bounded by other residential and mixed-use developments, which are part of the SunRidge Specific Plan and the larger Community Plan area. The Suncreek Specific Plan is a proposed mixed-use development with residential, commercial, schools, and open space uses and is adjacent to the project's southern and eastern boundaries. The Sunridge Park and Lot J projects are developments made up exclusively of single-family residential land uses with various densities and are adjacent to the Preserve at Sunridge's northern boundary. Anatolia I, II, and III are approved mixed used developments within the SRSP and are adjacent to the project's western boundary. The construction activities associated with the proposed project may have the potential to generate noise, dust, construction traffic, which may adversely affect residences in these developments and in the surrounding area. Noise, traffic, odor, and visual impacts are addressed in the appropriate sections of the DEIR.

Aerojet

Aerojet previously operated a rocket testing facility on its property, which is located on the northern side of Douglas Road. Currently the areas of concern and the groundwater are undergoing various levels of review and/or remedial action. Approximately 1,100 acres of the site are now owned by Elliott Homes, and GenCorp owns the remaining acreage totaling approximately 2,800 acres. Gencorp and Elliot Homes are proposing a mixed-use development on the site, with single-family, multiple family, commercial, industrial, schools, and park related land uses (Rio del Oro Specific Plan). The proposed project would be compatible with the land uses associated with the proposed Rio del Oro Specific Plan and less than significant compatibility impacts would result.

Kiefer Landfill

The actual Sacramento County Kiefer Landfill facility is located approximately ¾-mile from the SDCP area's boundary, which runs along the western side of Grant Line Road. However, the landfill's boundary is within ½-mile of the Community Plan area's eastern boundary. The proposed project site is more than one mile from the landfill's boundary and roughly two miles northwest of the actual landfill. Sacramento County purchased a protective buffer in excess of 2,000 feet between the SDCP area and the landfill's boundary along Grant Line Road. This is a permanent protective buffer, which will be retained in for open space for perpetuity and cannot be developed with any urban or other land uses. The Kiefer Landfill and associated operations would not adversely affect or be incompatible with the proposed project and less than significant impacts are anticipated.

The Sacramento Rendering Plant

The Sacramento Rendering Company (SRC) owns and operates the Sacramento Rendering Plant (Facility), which is located at 11350 Kiefer Boulevard. The Facility is situated on an approximately 600-acre site and is adjacent to the SDCP area's western boundary. The plant is located approximately 1-¼-miles southwest of the proposed project site. The Facility handles and processes nearly 11 million pounds of animal waste products per month. The Facility operates under noxious-use control requirements, which are established and enforced by the Sacramento Metropolitan Air Quality Management District (SMAQMD). Since the certification of the SDCP/SRSP Final EIR, which occurred in June 2002, the Facility has been retrofitted with state-of-the-art scrubbers and other air pollution devices. The additional devices are equipped with the latest odor control technology and have reduced any potential impacts associated with Facility operations on adjacent and nearby land uses to insignificant levels. The SDCP/SRSP Final EIR concluded that full mitigation of potential odor impacts associated with the rendering plant was beyond the control of the County and that land use compatibility impacts remained significant. However, since the SDCP/SRSP Final EIR was certified, changes or alterations have been required in, or incorporated into, the SDCP/SRSP project that avoid the significant effect as identified in the SDCP/SRSP FEIR (CEQA Findings of Fact and Statement of Overriding Considerations, p 25); therefore, the potential compatibility impacts associated with the Sacramento Rendering Plan were mitigated consistent with LA-3 of the SDCP/SRSP EIR and no further impacts are anticipated.

Mitigation Measures

None required.

Mitigation measures are identified in Sections 4.5 (Noise) and 4.6 (Air Quality) of this DEIR to lessen compatibility impacts.

General Plan and Community Plan Consistency

Impact 4.1.3 Implementation of the proposed project may conflict with applicable General Plan Land Uses Designations. This is considered a **less than significant** impact.

As discussed above, the project site is located in the SDCP. The boundaries of the SDCP are consistent with the Sacramento County General Plan Urban Policy Area (UPA) and the Urban Services Boundary (USB). The General Plan identified the SDCP area as an Urban Growth Area (UGA) and the Sacramento County Board of Supervisors determined that the SDCP area would meet the growing demand for housing and employment uses, provide adequate services and

facilities, provide public transit service, and preserve and conserve natural features (SDCP/SRSP FEIR, p. 4.26). The SDCP document established the guiding principles, policies, land use acreage estimates, and basic infrastructure framework for the entire Community Plan area; however, only properties within the SunRidge Specific Plan (SRSP) were given land use designations by the County Board of Supervisors resolution in approving the SDCP and certifying the SDCP/SRSP EIR in June 2002. Individual properties outside the approved SRSP are required to identify proposed land uses on specific parcels and provide detailed plans implementation plans, including financial planning for public services and infrastructure necessary to accommodate the proposed land uses (SDCP, p. 2-1 and 2-2).

The SDCP does not assign land uses to individual parcels. Rather, the conceptual land use mix was established in subareas (villages) to evaluate the total environmental effect of developing the entire Community Plan area in the SDCP/SRSP EIR. The conceptual land uses and associated acreages represent the maximum allowable densities and residential units for each conceptual village. The Village areas identified in the SDCP are illustrated in **Figure 4.1-1**. The SDCP land use concept consisted of six neighborhood clusters of villages (Villages A through F) with approximately 1,500 to 3,000 dwelling units in each village, all bounded by major arterial streets. The villages ranged from 450 acres to just over 1,000 acres. Each village's population was sufficient to support an elementary school, neighborhood park, and typically contained two activity centers and a commercial center. **Figure 4.1-2** illustrates the summary of land uses associated with each conceptual village in the SDCP.

The Preserve project site falls within portions of Villages C and F in the SDCP; therefore, this consistency analysis assumes the remainder of Villages C and F minus the proposed and approved uses in Lot J, Sunridge Park, and a portion of SunCreek Specific Plan. **Table 4.1-1** illustrates the land use allocations for Villages C and F in the SDCP. The boundaries of the SDCP Village C also include the proposed Lot J project and the approved Sunridge Park project. Village C (as approved by Sacramento County) included a total of 445.6 acres, including 1,557 low-density residential units on 340 acres, 240 medium-density residential units on 12 acres, and 110 residential units within the commercial/office designation, as well as 60 acres of commercial and office use, 22.6 acres of parks and recreation, and 11.1 acres of elementary school. Together, Lot J and Sunridge Park projects would include 264.5 acres of low-density residential and 1,315 units, 2 acres of commercial, 17.3 acres of parks and recreation and a 10-acre elementary school, as well as a 6.4-acre wetland preserve, a 10-acre SMUD substation, and 14 acres of detention for a total of 324 acres. This would leave approximately 75 acres of low-density residential, 12 acres of medium-density residential, 60 acres of commercial, and 5.3 acres of parks within the Village C boundaries on the Preserve at Sunridge project site (e.g., north of Chrysanthy Boulevard).

The boundaries of the SDCP Village F include a portion of the proposed SunCreek Specific Plan in addition to the proposed project. Village F (as approved by Sacramento County) included 540 acres, including 1,756 low-density residential units on 424.2 acres, 216 medium-density residential units on 10.8 acres, 33 acres of commercial and office, 12 acres of parks and recreation, and a 60-acre junior and senior high school site. The portion of the proposed SunCreek Specific Plan that falls within Village F includes approximately 207 low-density residential units on 46 acres, 220 medium-density residential units on 11 acres, 26.6 acres of wetland preserve, and a 77-acre junior and senior high school site. This would leave

Insert Figure 4.1-1 Village Areas Within the Specific Plan & Community Plan

Insert Figure 4.1-2 Community Plan and Specific Plan Land Use Allocation Matrix

approximately 334 acres of low-density residential and 12 acres of park in the Village F boundaries on the Preserve at Sunridge project site (e.g., south of Chrysanthy Boulevard).

As indicated the Preserve project includes the remainder of the acreages and unit counts specified by the SDCP for Villages C and F; however, several things have changed since the Sacramento County Board of Supervisors approved the Sunrise Douglas Community Plan in 2002. The U.S. Army Corps of Engineers has required on-site wetland preserves on Sunridge Park and the proposed SunCreek Specific Plan. SMUD has required a 10-acre substation on the Sunridge Park site. Additionally, the Elk Grove Unified School District has required an 11-acre school on the Preserve at Sunridge project site and an elementary school site on the Sunridge Park site. Due to substantial changes in the SDCP, the current land uses and approved projects are not exact representations of those approved in conjunction with the SDCP.

TABLE 4.1-1
APPROVED SUNRISE DOUGLAS COMMUNITY PLAN LAND USE ALLOCATIONS

	Village C		Village F		Combined Villages C & F	
Land Use	**Acres**	**Dwellings**	**Acres**	**Dwellings**	**Total Acres**	**Total Dwellings**
Low Density Residential (1-12 du/ac)	75.0	398	197.3	888	272.3	1,286
Medium Density Residential (20 du/ac)	12.0	240	0	0	12.0	240
Commercial and Offices	48.0	110	12.0	0	60.0	110
Recreation (Park)	5.3	-	12.0	-	17.3	-
Drainage Way/ Open Space	0	-	0	-	0	-
Approved Wetland Preserve	0	-	0	-	0	-
Elementary School	11.0	-	0	-	11.0	-
Junior and Senior High School	0	-	0	-	0	-
Roads	42.5	-	57.0	-	99.5	-
Detention	6.0	-	17.0	-	23.0	-
Utility Corridor	14.1	-	20.9	-	35.0	-
Total	213.9	855	316.2	875	530.1	1,636

Note: The land use matrix above is based on Plate PD-16, Conceptual Land Use Allocation Matrix for the Specific Plan and Community Plan Areas (revised 7/23/97) from the adopted Sunrise Douglas Community Plan. The Conceptual Land Use Allocation Matrix for the Specific Plan and Community Plan Areas allocates approximately 134 acres to low-density residential and 47 acres to commercial uses in Village C and approximately 264 acres to low-density residential and 32 acres to commercial uses in Village F. This consistency analysis subtracts the proposed Lot J, approved Sunridge Park, and proposed SunCreek Specific Plan acreages and unit counts. This analysis also includes detention, roads and utility corridors, which were not considered or allocated in the Sunrise Douglas Community Plan or Land Use Allocation Matrix. Additionally, the analysis includes 23 acres of detention and subtracts the 23 acres from the commercial areas and assumes 70 acres of roads and 35 acres of utility corridor, which are subtracted from the low-density residential acreage.

The Preserve at Sunridge's proposed land uses and pattern of development varies from land allocations illustrated in **Table 4.1-1** and the SDCP. As indicated in **Table 4.1-1**, the land use allocations for Villages C and F had more commercial acreage, no designated wetland preserves, more compact and higher-density development, more residential dwelling units, less acreage for parks, and did not consider acreages associated with the existing power line corridor. Therefore, a General Plan Amendment (GPA) is required for the project to change the existing designations on the site to allow for the proposed land uses. As indicated, the entire SDCP area is designated in the existing Sacramento County General Plan as an Urban Growth Area, which indicates the County's intention to allow for urbanized land uses during the current General Plan horizon. The Preserve at Sunridge project site is located within the Suncreek/Preserve Planning Area (SPPA) in the City of Rancho Cordova Interim General Plan, which supercedes the Sacramento County General Plan for land use designations. The SPPA is designated for urbanized development during the planning horizon of the Interim General Plan (2030). Based on previous Sacramento County approvals and current development requests, land uses in the SPPA could result in the development of approximately 1,200 acres of single-family and multi-family residential areas, up to 450 acres of supporting commercial, office and mixed uses, 175 acres designated for community and neighborhood parks, and 150 acres for elementary, middle and high school sites. As previously indicated, the land uses in the SDCP were conceptual in nature and were developed as general tabulations and assigned to large subareas for the purposes of evaluating environmental and cumulative impacts of development of the entire Plan area and did not designate specific parcel acreages or exact land use locations. The project is a subsequent development within the SDCP and the associated land uses (i.e., single-family residential, multi-family, commercial/office, parks, open space, and school uses were components of the SDCP and land uses evaluated in the certified SDCP/SRSP EIR.

The project's design and land uses are consistent with the City's Interim General Plan goals and policies, which seek to avoid noncontiguous development, requiring infrastructure financing plans a the time of zoning is attached to the land, using Specific Plans for sub-areas of growth, and maintaining a balance of land uses in a community. The reader is referred to Section 1.0 and Section 3.0 for details regarding the project's relationship to the General Plan and Sunrise Douglas Community Plan. The project would have an average residential density of 9.3 units per acre, consistent with the Guiding Principles identified in the Interim General Plan. The project would also integrate a programmed, interconnected open space system, a grid pattern-interconnected circulation network, and a balance of creative workplaces and housing with vertical and horizontal live-work units. The proposed project's residential units and densities, Town Center and commercial uses, public services, parks, trails, and population increases are substantially consistent with the Interim General Plan, which was adopted on May 16, 2005 (Interim General Plan/Draft Land Use Map Book p. 23). Therefore, the project's General Plan and Community Plan consistency impacts are considered less than significant and would not result in any physical effects to the environment beyond what has been addressed in this EIR.

Environmental effects associated with the proposed amendment of previously adopted mitigation measures BR-2 and BR-4 contained in the Sunrise Douglas Community Plan is addressed in Section 4.9 (Biological Resources).

Mitigation Measures

None required.

Consistency with Applicable Plan Policies

Impact 4.1.4 Implementation of the project may conflict with adopted General Plan policies. This is considered a **less than significant** impact.

The adoption of the policies of the Interim General Plan and diagrams enable the City to continue to evaluate and take action on land use applications and other projects, consistent with Government Code Section 65360. In addition, they have the additional benefit of providing direction to project applicants and City staff regarding the processing of projects prior to formal adoption of the General Plan in the near future.

Government Code Section 65360 requires a newly-incorporated city that has not yet prepared a General Plan to make certain findings prior to approving projects, issuing building permits and taking other actions, including a finding that:

> "There is a reasonable probability that the land uses or action proposed will be consistent with the general plan proposal being considered or studied or which will be studied within a reasonable time." (Gov. Code Section 65360 (b)(1)).

The City's recently approved General Plan Land Use Map Book and the General Plan Vision Book are the building blocks for preparation of the eventual new City of Rancho Cordova General Plan. The General Plan Land Use Map Book combines geographical areas of the City with generalized and specific land use designations to guide the City's future development patterns. The intent of the General Plan Land Use Map is to establish a variety of new land use designations that reflect more mixed, and in some cases, a higher density of development envisioned for the City. The Interim General Plan "Vision Book" reflects the compilation of ideas from the community on a wide variety of topics related to the future of Rancho Cordova. It includes ideas that relate to specific sites and issues, as well as ideas that are more conceptual in nature. New development proposals and actions by the City are evaluated for their consistency with the Vision Book and the Draft General Plan Land Use Book and General Plan Land Use Map, which were adopted on May 16, 2005, and relevant policies contained in the Interim City of Rancho Cordova General Plan Elements.

The proposed project is located in the Suncreek/Preserve Planning Area (Suncreek/Preserve) as described in the City's General Plan Land Use Map Book. The Suncreek/Preserve includes the proposed project and the proposed Suncreek Specific Plan area, which is adjacent to the project's eastern and southern boundaries. This area is anticipated to have approximately 9,830 dwelling units, with a residential population of approximately 26,840 people. The reader is referred to Section 1.0 for a complete discussion for the project's relationship to the General Plan and the Sunrise Douglas Community Plan. Additionally, the reader is referred to **Appendix 4.0 Table 4.1** for a summary the project's consistency with applicable General Plan policies. The project would not result in any substantial inconsistencies with applicable General Plan policies that would result in physical effects to the environment.

Mitigation Measures

None required.

Zoning Consistency

Impact 4.1.5 The project may conflict with the City's Zoning Code. This is considered a **less than significant** impact.

As discussed previously, the proposed zoning for the project Special Planning Area (SPA), which would supplement, enhance, or replace certain conditions of the existing code and include special conditions not provided through the application of standard zone regulations. The City's Zoning Code contains relatively little detail for dealing with specialized site-specific conditions. The SPA designation is allowable under the current Zoning Code and would provide the opportunity for developing unique planning standards (e.g. lot sizes, setback standards, permitted uses, etc.) in response to the project's site-specific issues. Additionally, the SPA zoning would allow for more flexibility considering the project's site-specific environmental impacts. Therefore, this impact is considered less than significant.

Mitigation Measures

None required.

Habitat Conservation Plan Conflicts

Impact 4.1.6 The Preserve at Sunridge project may conflict with habitat conservation plans in the area. This is considered a **less than significant** impact.

There are currently no adopted habitat conservation plans in the area. The South Sacramento County Habitat Conservation Plan (SSHCP) is currently being developed in conjunction with several public agencies and other interested stakeholders. The SSHCP, which is managed by the Sacramento County Planning and Community Development Department, is an environmental study that seeks strategies that allow commercial, residential, and other development, while balancing the needs of sensitive plant and animal species and the preservation of agricultural operations. The SSHCP study area includes portions of southern and southeastern Sacramento County comprising approximately 340,000 acres. The critical steps taken in completion of the SSHCP include the: completion of species account documents, preparation of habitat account, completion of draft chapters (land use, physical resources, biological resources, and cultural resources. The County is making progress towards the goal of acquiring a Clean Water Act Section 404 permit. The County will collaborate with five other counties in the region to lobby Congress for appropriations for fiscal year 2006. Given the substantial progress that has been made on the SSHCP over the last year, it is anticipated that a stakeholder draft will circulate in late 2005 and a public review draft should follow within six to twelve months after release of the stakeholder draft. Biological resource issues associated with habitats and species under consideration in the HCP are addressed in Section 4.9 Biological Resources of this document. As indicated, there is no adopted habitat conservation plan in the project's vicinity; therefore, less than significant impacts are anticipated.

Mitigation Measures

None required.

4.1.4 CUMULATIVE IMPACTS AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative land use setting includes existing, proposed, planned and approved projects in the City of Rancho Cordova Planning Area and outlying areas and is an update of cumulative conditions that were considered in the SDCP/SRSP Final EIR. The reader is referred to **Table 4.0-1**, which includes the name, associated acreage, dwelling units (if applicable), and land use designations and zoning of existing, proposed, and approved projects in the area. The

cumulative setting also assumes existing projects as well as anticipated development of City of Folsom Sphere of Influence, City of Elk Grove General Plan, and the City of Rancho Cordova Interim General Plan.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Land Use Impacts

Impact 4.1.7 The proposed project would contribute to approved and planned urban development of the southern portion of the City as well as urbanization within the unincorporated portion of Sacramento County that would result in the conversion of open space and agricultural lands. The project's contribution would **less than cumulatively considerable**.

The issues resulting from cumulative growth on the project site and in the surrounding SDCP area, including increased population, the provisions of public services, loss of agricultural land, and traffic increases have been globally addressed in the Sacramento County General Plan EIR and the SDCP/SRSP EIR, which were certified by the County Board of Supervisors. Cumulative land use impacts will be further addressed in the Rancho Cordova General Plan EIR. As indicated above, the project site is located within the Suncreek/Preserve Planning Area in the Rancho Cordova Interim General Plan. This area is planned for urbanized development consistent with the Sunrise Douglas Community Plan, the County's General Plan, and the Interim Rancho Cordova General Plan. Cumulative buildout and development of those projects listed in **Table 4.0-1** would not result in cumulatively considerable impacts based on the standards of significance identified above. Though the project involves a General Plan Amendment; no cumulatively considerable impacts are anticipated from this action. Additionally, the proposed project is consistent with the conceptual land uses of the SDCP, the Sacramento County General Plan, and the City of Rancho Cordova Interim General Plan and would not contribute to substantial land use conflicts or environmental effects; therefore, less than cumulatively considerable impacts would result.

Mitigation Measures

None Required.

REFERENCES

County of Sacramento. *CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project*. July 17, 2002.

County of Sacramento. *Sunrise Douglas Community Plan/Sunridge Specific Plan, Final Environmental Impact Report*. November 2001.

County of Sacramento. *Sunrise-Douglas Community Plan*. July 17, 2002.

This section analyzes the current population, housing, and employment conditions in the City of Rancho Cordova and the potential impacts resulting from implementation of the Preserve at Sunridge (proposed project) project. This section includes discussions on population and housing characteristics, as well as housing and employment opportunities in the vicinity of the project site.

4.2.1 EXISTING SETTING

DEMOGRAPHICS

Population Trends

According to current data, the County of Sacramento has experienced substantial amounts of growth over the past decade and is projected for continued growth through 2020. The County had a population of approximately 1,223,000 in 2000. By 2020, the population in the County is projected to be 1,646,045. The population of unincorporated Sacramento County is projected to have approximately 755,697 persons by 2020. The City of Rancho Cordova incorporated in July 2003 and prior to incorporation, the City was not considered a separate political entity; therefore, an aggregation of available demographic and employment data was performed by the City to evaluate the information contained in this analysis. The 2000 Census estimated that the population for the City of Rancho Cordova was 53,605. Because the City did not incorporate until July 2003, SACOG has not established projections for population, housing or employment.

Household Characteristics

The unincorporated portions of the County had approximately 453,602 total housing units in 2000. The projected amount of housing units is anticipated to be 641,512 by 2020. Table 4.2-1 shows housing characteristics of households within the City of Rancho Cordova, the total number of households, and the percentage of each type of household.

TABLE 4.2-1
CITY OF RANCHO CORDOVA HOUSING CHARACTERISTICS

Household Type	Number	Percentage of Total Households
Total Households	19,918	100%
Family Households	13,168	66%
Married Couple Households	8,759	67%
Female Householder, no husband present	3,288	25%
Male Householder no wife present	1,121	9%
Non-Family Household	6,750	34%
Householder living alone	5,108	26%
Householder ≥ 65 years old	3,331	17%
Households with Individuals < 18 years old	7,573	38%
Households with Individuals > 65 years old	**3,929**	**20%**

Source: Census 2000(Based on Census Tracts included within City Boundaries.)

As indicated in **Table 4.2-1**, family households make up the majority of households in the City, representing approximately 66 percent of occupied housing units. Married couple family households represent the largest percentage of all household types, approximately 67 percent, while non-family households account for 34 percent of all occupied housing units. Male and female households with the occupants living alone represent approximately 16 and 17 percent of all occupied units, respectively.

Household Size

Household size refers to the total number of persons living in an available household. The average household size in the City of Rancho Cordova in 2000 was 2.68 persons, which is slightly higher than Sacramento County's average of 2.64 persons per household. Table 4.2-2 shows the number of persons in a particular household, the number of households, and the percentage of each households of each size.

TABLE 4.2-2
CITY OF RANCHO CORDOVA HOUSEHOLD SIZE

Household Size	Rancho Cordova	Percentage	Sacramento County	Percentage
1 Person	5,108	26%	120,985	26%
2 Person	6,379	32%	143,307	32%
3 Person	3,383	17%	73,210	16%
4 Person	2,523	13%	61,249	14%
5 Person	1,318	7%	29,529	7%
6 Person	644	3%	13,465	3%
7+ Person	563	3%	11,857	2%
Total	19.918	100%	453,602	100%
Average Household Size	2.68		2.64	

Source: Census 2000 (Based on Census Tracts included within City Boundaries.)

As indicated in **Table 4.2-2**, two-person dwellings makeup the majority of households in the City, representing approximately 32 percent of all households. Household sizes in the City of Rancho are similar to those throughout Sacramento County, with 5, 6, and 7+ person households accounting for 3 to 7 percent of all households. The City's average household size of 2.68 persons per unit is slightly higher than the Sacramento County average of 2.64 persons per household.

Household Income

According to the 2000 Census, the household median income for Rancho Cordova was $40,989, which is slightly lower than the median household income for Sacramento County at $43,816 (Census 2000).

Tenure

Housing Tenure refers to the proportion of households occupied by renters and those occupied by owners. The tenure of housing in the City of Rancho Cordova is displayed in **Table 4.2-3**. The City had a total of 20,416 housing units in 2000. Considering all available housing units in the City, 48 percent were owner occupied and the remaining 52 percent were rental households.

The 52 percent housing rental rate in the City is higher that than of Sacramento County as a whole, where approximately 42 percent of all households are occupied by a renter.

TABLE 4.2-3
CITY OF RANCHO CORDOVA HOUSEHOLD TENURE

Housing Units	*City of Rancho Cordova*		Sacramento County	
Total Occupied	20,416	100.0%	453,602	100.0%
Owner Occupied	9,860	48%	263,819	58%
Renter Occupied	10,556	52%	189,783	42%

Source: 2000 Census (Based on Census Tracts included within City Boundaries.)

Housing Units

According to 2000 Census data, there were a total of 20,856 housing units in the City of Rancho Cordova. The majority of the Rancho Cordova's housing stock was constructed prior to 1979, with approximately 73 percent of the total built during that time period (see **Table 4.2-4**). The most housing units were constructed between 1970 and 1979, with a total of 6,855 units built. In addition, approximately 5,051 housing units (23.5 percent) were constructed between 1960 and 1969 and approximately 3,676 housing units were constructed prior to 1960, or 17.1 percent of the City's total.

TABLE 4.2-4
CITY OF RANCHO CORDOVA AGE OF HOUSING

Year	Number	Percent	Accumulated Percent
1939 or earlier	106	<1%	1%
1940-1949	335	1%	2%
1950-1959	3,235	14%	16%
1960-1969	5,040	22%	40%
1970-1979	6,726	30%	69%
1980-1989	3,807	17%	86%
1990-1998	2,035	9%	95%
1999-2000	333	1%	97%
2001-January 2005*	808*	4%	100%
TOTAL	**22,330**	**100%**	**100%**

Source: 2000 Census (Based on Census Tracts included within City Boundaries.)
** City of Rancho Cordova Building Department.*

Housing Unit Vacancy

Vacancy trends in housing are analyzed using a "vacancy rate," which established the relationship between housing supply and demand. For example, if the demand for housing is greater than the supply, then the vacancy rate is low and the price of housing generally increases. According to "Raising the Roof, California Housing Development Projections and Constraints, 1997-2020", the desirable vacancy rate in a community is considered to be 5 percent. Generally, when the vacancy rate drops below 5 percent, the demand for housing exceeds the supply of housing.

Table 4.2-5 shows the vacancy rates by housing type for the City of Rancho Cordova. As indicated in **Table 4.2-5**, the vacancy rate for the Rancho Cordova was 1.3 percent for owner housing units and 5.15 percent for rental housing units. The vacancy rates for the City are similar to those of Sacramento County, which had a 1.6 percent vacancy rate for owner occupied units and a 5.2 percent vacancy for rental housing units.

TABLE 4.2-5
HOUSEHOLD VACANCY STATUS

Housing Occupancy/Tenure	City of Rancho Cordova[1]	Percent	Sacramento County	Percent
Vacant Housing Units	932	100%	21,212	100%
For rent	408	44%	9,534	45%
For sale only	169	18%	3,875	18%
Rented or sold, not occupied	59	6%	1,770	8%
For seasonal, recreational, or occasional use	39	4%	1,621	8%
For migrant workers	0	0%	32	<1%
Other vacant	257	28%	4,380	21%

Source: 2000 Census (Based on Census Tracts included within City Boundaries.)

Rental Housing Cost

As median housing prices have increased, the average rental price for the Sacramento metropolitan area has also increased. According to RealFacts, the average rent for apartments of all types in the Sacramento metropolitan region was $843 per month. The current average rental price for one, two, and three bedroom apartments in the City of Rancho Cordova are shown in **Table 4.2-6**.

TABLE 4.2-6
RENTAL COSTS IN THE CITY OF RANCHO CORDOVA

Bedroom Type	Median Gross Rent
1 bedroom	$858
2 bedroom	$1,080
3 bedroom	$1,295

Source: Springstreet.com, July 2002

Employment

The City of Rancho Cordova has become a major job center for the Sacramento region over the past decade. As indicated in **Table 4.2-7**, approximately 24,435 citizens over the age of sixteen were active in the labor force, according to the latest Census 2000 data. The largest employment industries in the City were public administration, which employed approximately 3,617 people or roughly 15 percent of the workforce population. The other major employment sectors in the City are professional management and administrative, manufacturing, retail trade,

and finance, real estate and insurance. The largest employers in the City include, but are not limited to, Delta Dental, GenCorp, SureWest Communications, Intel, and Vision Service Plan.

The unincorporated portions of the County had approximately 238,979 jobs in 2000. The City of Rancho Cordova made up approximately 10 percent of the unincorporated County's workforce. The jobs in the unincorporated areas are anticipated to increase to 308,443 jobs by 2020. Based on the current employment totals, the City will have approximately 31,152 people over the age of sixteen in the workforce by 2020. This projection results in an increase of approximately 6,833 jobs or a 12 percent increase through 2020.

TABLE 4.2-7
EMPLOYMENT BY INDUSTRY – RANCHO CORDOVA

Sector	2000	
	Number	Percent
Agriculture, Forestry, Fishing, Hunting, and Mining	59	1%
Construction	1,758	7%
Manufacturing	2,307	10%
Transportation and Public Facilities	747	3%
Wholesale Trade	2,732	11%
Information	1,112	5%
Retail Trade	983	4%
Finance, Insurance, Real Estate	2,495	10%
Services	2,765	11%
Public Administration	3,617	15%
Professional	1,985	8%
Education, health and social services	1,321	5%
Arts, entertainment, food services	2,554	10%
TOTAL	**24,435**	**100%**

Source: 2000 Census (Based on Census Tracts included within City Boundaries.)

It should be noted that the Sacramento Council of Governments (SACOG) provides employment projections based on the current Sacramento County General Plan. As indicated above, the City did not incorporate until July 2003; therefore, SACOG has not yet established population, housing, or employment projections for Rancho Cordova.

4.2.2 REGULATORY FRAMEWORK

LOCAL

Sacramento County General Plan

The existing Sacramento County General Plan was adopted in December of 1993. The County's General Plan is undergoing an update. The update addresses plans for growth in the next planning cycle (2004-2025) as well as addressing new emerging planning issues. Topics addressed in the Update Project include, but are not limited to, holding capacity, infrastructure financing, policy analysis, smart growth planning, and mature communities. As noted in Section 4.1 (Land Use), the City is currently operating under its Interim General Plan rather than the Sacramento County General Plan for transportation policy direction in the City. **Appendix 4.0**

provides a consistency analysis of relevant Sacramento County General Plan policies associated with environmental issues that the City's Interim General Plan is silent.

Interim Rancho Cordova General Plan Housing Element

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan that includes a Housing Element. The reader is referred to **Appendix 4.0** for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council.

Regional Housing Needs

SACOG allocates housing need figures for cities and counties within the six-county SACOG region for the state-mandated time frame of the Housing Element period of 2000 through 2007. SACOG has identified that the City of Rancho Cordova has a fair share housing need for 2000 through 2007 of 559 units affordable to very low income households, 407 units affordable to low income households, 506 units affordable to moderate income households, and 1,339 units affordable to above moderate income households.

The intent of the Regional Housing Needs Plan (RHNP) is to ensure that local jurisdictions address not only the needs of their immediate areas but also fill the housing needs for the entire region. Additionally, a major goal of the RHNP is to assure that every community provides an opportunity for a mix of affordable housing to all economic segments of its population. The RHNP jurisdictional allocations are made to ensure that adequate sites and zoning are provided to address existing and anticipated housing demands during the planning period and that market forces are not inhibited in addressing the housing needs for all facets of a particular community. **Table 4.2-8** provides the Regional Housing Needs Allocation (RHNA) target for the planning period 2000 through 2007 (also referred to as "basic construction needs") for each of the four household income groups for the City of Rancho Cordova.

TABLE 4.2-8
RANCHO CORDOVA AREA REGIONAL HOUSING NEEDS ALLOCATION FOR 2000-2007

Income Group	Income Range	Existing 2000	Projected 2007	Regional Housing Needs	Percentage of each income group (%)
Very Low	0 – 50% of the AMI*	5,366	5,925	559	12%
Low	50% - 80% of the AMI*	4,090	4,497	407	14%
Moderate	80% - 120% of the AM*I	4,349	4,855	506	18%
Above Moderate	120% - +*	6,737	8,076	1,339	48%
TOTAL	**–**	**20,542**	**23,353**	**2,811**	**100%**

Source: SA COG Regional Housing Needs Plan; City of Rancho Cordova
**Area Median Income.*

Based on the above projections, the City of Rancho Cordova will need to provide an additional 966 affordable housing units or 34 percent of all new housing units through 2007 to people in the very low to low income groups to comply with SACOG's RHNP allocation targets for these income levels. In addition, the City will have to provide 1,845 housing units available to moderate and above-moderate income households. A total of 2,811 new housing units are anticipated for the City of Rancho Cordova by 2007. The City has permitted 808 housing units,

both single-family and multi-family between January 1, 2000 and January 1, 2005. Of these, 20 units were affordable to very-low income households and 70 units were affordable to low-income households. As a result of the building production since 2000 and currently approved projects, the City should meet and surpass its RHNA by 2007.

The City of Rancho Cordova currently has 264 acres zoned solely for multifamily residential development. Assuming an 80 percent holding capacity, the acreage would have capacity for approximately 1,600 units available for multi-family development. The City has 3,230 acres of vacant land available for single-family home developments, of which 3,217 acres are located within specific plan and special planning areas. Assuming an 80 percent holding capacity, the acreage would have capacity for approximately 15,000 units available for single-family development.

4.2.3 IMPACTS AND MITIGATION MEASURES

STANDARDS OF SIGNIFICANCE

Based on criteria derived from Appendix G to the CEQA Guidelines, a population, housing or employment impact is considered significant if implementation of the project would:

1. Induce substantial growth or concentration of population in an area either directly or indirectly (e.g., through projects in an undeveloped area or extension of major infrastructure) that results in a physical effect on the environment.

2. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

METHODOLOGY

Preparation of this section is based on demographic and housing data provided by the U.S. Bureau of the Census, the California Department of Finance, the Sacramento Area Council of Governments (SACOG), and the California Employment Development Department (EDD). The proposed project was evaluated on its consistency with Sacramento County General Plan Housing Element policies. The project site has no existing structures; therefore, implementation would not displace substantial numbers of people or residences requiring new housing elsewhere. The project's potential growth inducing impacts are addressed in Section 7.0 of this DEIR.

Previous Environmental Review in the SDCP/SRSP EIR

The SDCP/SRSP FEIR addressed population, housing, and employment for the SunRidge Specific Plan area but did not evaluate potential impacts for the Sunrise Douglas Community Plan area. The SDCP/SRSP indicated that the Community Plan area is specifically identified in the Sacramento County General Plan as an Urban Development Area and falls within the County's Urban Services Boundary (USB). Community issues resulting from new growth in this particular location, including increased population, housing, or employment were addressed in the Sacramento County General Plan EIR and considered less than significant and no mitigation was necessary (SDCP/SRSP FEIR pp. 4.32 and 4.33).

PROJECT IMPACTS AND MITIGATION MEASURES

Population, Housing and Employment Increases

Impact 4.2.1 Implementation of the Preserve at Sunridge project would not result in population and housing increases that exceed regional population and growth projections. This is considered a **less than significant** impact.

The City of Rancho Cordova and the Sunrise Douglas Community Plan (SDCP) area will play a significant role in providing a location for new housing to meet the demand generated by existing, planned and approved projects along the US-50 Corridor. The City has experienced intense job growth in the high-tech, electronics, and service industries. Implementation of the proposed project would contribute towards improving the jobs/housing balance in the region by locating worker housing close to the new employment centers and substantially decrease the amount of vehicle miles traveled (VMT) for commuting purposes. The proposed project site is specifically identified in the Sacramento County General Plan as an Urban Growth Area (UGA) and falls within the Urban Services Boundary (USB). The project's potential population and housing impacts were globally addressed in the Sacramento County General Plan EIR. Additionally, the SDCP/SRSP FEIR, which was certified by the Sacramento County Board of Supervisors, further addressed new growth in this particular location, the conversion of the land to residential and other urbanized land uses, and the projected population and housing increases resulting from the proposed development.

The proposed project would result in the construction of potentially 2,703 dwelling units or roughly 13 percent of the total dwelling units in the City (see **Table 4.0-1** in Section 4.0 of this EIR). The average household size in the City is 2.68 persons per household (see **Table 4.2-2**); therefore, the project would increase the City's population by approximately 7,244 people or approximately 13 percent. Based on U.S. Census Bureau 2000 population projections, the City of Rancho Cordova will have approximately 79,307 citizens and 29,201 dwelling units by year 2020 The proposed project would make up approximately 9 percent of the City's projected population and contain approximately 9 to 10 percent of its projected dwelling units. The proposed project is generally consistent with the land uses, and project population and housing units evaluated in the approved SDCP/SRSP FEIR.

The SDCP document established the guiding principles, policies, land use acreage estimates, and basic infrastructure framework for the entire the Community Plan area; however, only properties within the SunRidge Specific Plan (SRSP) where changed by the County Board of Supervisors resolution in approving the SDCP. Therefore, a General Plan Amendment (GPA) is required to change the existing land use designations from Urban Development Area (Agriculture) to allow for land uses proposed as part of the Preserve at Sunridge. The previous EIR evaluated the project as being part of conceptual villages "C" and "F" in the Community Plan area. The reader is referred to Section 4.1 (Land Use) for a further discussion of the project's consistency with the proposed land uses evaluated in the SDCP/SRSP EIR. The project site is located within the Suncreek/Preserve Planning Area in the Interim General Plan Land Used Map Book, which up approximately 1,847 acres in the southeastern portion of the City and is anticipated to hold approximately 6,080 dwelling units with an estimated residential population of 16,600 and an employment population of approximately 4,250 persons. As stated previously a balance of jobs and housing can significantly reduce the total of vehicle miles traveled (VMT) for commute trips with resulting improvements in air quality and reduced traffic congestions (SDCP/SRSP CEQA Finding of Fact and Statement of Overriding Consideration).

The SDCP/SRSP FEIR, which was certified in July 2002, addressed effects on population, housing and employment and concluded; because, the entire Community Plan area is specifically identified in the County General Plan as an Urban Development Area and falls within the Urban Service Boundary, community issues resulting from new growth in this particular location, including increased population, housing, or employment have already been globally addressed in the certified General Plan EIR. This issue is considered less than significant in the community plan context. Additionally, the direct environmental impacts resulting from population and housing increases associated with the project and development in this area and addressed in the appropriate technical sections of this DEIR (i.e., traffic, air quality, etc.). Therefore, this impact is considered less than significant and no mitigation is necessary.

Mitigation Measures

None required.

4.2.4 CUMULATIVE SETTING, IMPACTS AND MEASURES

CUMULATIVE SETTING

The cumulative setting for population, housing, and employment includes all of Sacramento County, and more specifically, the existing, proposed, planned and approved projects in the eastern portion of the County along the US-50corridor. These projects encompass nearly 9,970-acres in eastern Sacramento County, which will contribute to cumulative population, housing and employment-related impacts in City of Rancho Cordova and Sacramento County as a whole.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Population Housing, and Employment Increases

Impact 4.2.2 Implementation of the proposed project would result in cumulative population and housing unit increases. The project's contribution to cumulative population and housing conditions is **less than cumulatively considerable**.

Implementation of the project would contribute to cumulative development in the City and increase the population and number of housing units in Sacramento County. However, the proposed development is generally consistent with the land use designations and growth projections assumed in the current Sacramento County General Plan, which designated the entire SDCP area as an Urban Growth Area (UGA) and slated for urbanized development as well as the City of Rancho Cordova Interim General Plan. Population and housing growth impacts are both direct and indirect. Cumulative population increases result in a greater demand for housing, which results in direct noise, air quality, and traffic related impacts. Indirect impacts could be the additional and unforeseen growth as a result of roadway improvements and infrastructure extensions. The proposed project would include a commercial component and place housing in close proximity to employment and include a live-work component, which could decrease vehicle miles traveled and improve local and regional air quality and traffic congestion in the long term. According to Rancho Cordova's Economic Development Background Report (2004) the City provides 16 percent of Sacramento County's employment. This strong city employment base equates to a jobs-housing balance of 3:1, this means there are three job opportunities in Rancho Cordova for every household.

The Draft Housing Element policies for the City of Rancho Interim General Plan encourage and promote the need for new upscale housing to bring more executive and professional housing to the City. There are also policies that promote mixed-income housing and support a strong jobs-housing balance.

As indicated, the project site is located within the Suncreek/Preserve Planning Area in the Interim General Plan Land Used Map Book, which covers approximately 1,847 acres in the southeastern portion of the City and is anticipated to hold approximately 6,080 dwelling units with an estimated residential population of 16,600 and an employment population of approximately 4,250 persons. The development of the project site and associated housing and population increases were considered in preparation of the Rancho Cordova Interim General Plan. The City of Rancho Cordova Interim General Plan, anticipated for adoption in June 2006, includes policies and implementation programs that serve to mitigate the impact of development and population growth and the related demand for jobs and a variety of housing types that accompany a larger population (see **Table 4.2** in **Appendix 4.0**).

As previously discussed, the Preserve at Sunridge is located within the SDCP area, which is specifically identified in the County General Plan as an UGA and falls within the USB. The cumulative population, housing, employment, and growth impacts in this area were globally addressed in the Sacramento General Plan EIR and were considered less than significant in the subject context (SDCP/SRSP EIR, p. 4.33). Additionally, the General Plan EIR indicated that development within Sacramento County would substantially increase the total County population by the year 2010; however, this was considered a less than significant impact for the General Plan Update and all of its alternatives (General Plan EIR, p. 4.12-22). The project would not conflict with SACOG's Regional Housing Needs Plan. The City has permitted 808 housing units, both single-family and multi-family between January 1, 2000 and January 1, 2005. Of these, 20 units were affordable to very-low income households and 70 units were affordable to low-income households. These very-low and low-income units along with other building since 2000, and the project's proposed 288 units of multifamily units, would assist the City in meeting or surpassing its RHNA by 2007. The project would contribute to population, housing and employment increases; however, based on previous environmental review, projected development in the SDCP, and applicable adopted plans, the project's contribution to any cumulative population, housing, and employment related impacts are considered less than significant.

Mitigation Measures

None required.

REFERENCES

County of Sacramento. *Sacramento County General Plan.* 1993

http://www.census.gov/main/www/cen2000.html

http://www.sacbee.com/content/homes/resale

Sacramento Area Council of Governments. 2004. *SACOG Projections by RAD. www.sacog.org.*

Sacramento County Planning Department. 1993. *County of Sacramento General Plan.* Sacramento, CA.

U.S. Census Bureau. *United States Census 2000.* April 2004.

This section describes the existing conditions of the Preserve at Sunridge and identifies the methods used in analyzing the project's potential hazardous safety related impacts. This analysis also provides the CEQA standards of significance and identifies any hazardous materials or other human health hazards that may impact public safety.

4.3.1 EXISTING SETTING

HAZARDOUS MATERIALS DEFINED

The term hazardous substance refers to both hazardous materials and hazardous wastes. A material is defined as hazardous if it appears on a list of hazardous materials prepared by a federal, state or local regulatory agency or if it has characteristics defined as hazardous by such an agency. California Health and Safety Code Section 25141(b) defines "hazardous waste" as follows:

> *". . . its quantity, concentration, or physical, chemical, or infections characteristics: (1) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; (2) pose a substantial present or potential hazard to human health or the environment, due to factors including, but not limited to, carcinogenicity, acute toxicity, chronic toxicity, bioaccumulative properties, or persistence in the environment, when improperly treated, stored, transported, or disposed of, or otherwise managed."*

Public health is potentially at risk whenever hazardous materials are, or will be used. It is necessary to differentiate between the "hazard" of these materials and the acceptability of the "risk" they pose to human health and the environment. A hazard is any situation that has the potential to cause damage to human health and the environment. The risk to health and public safety is determined by the probability of exposure, in addition to the inherent toxicity of a material. Factors that can influence the health effects of exposure to hazardous materials include the dose the person is exposed to, the frequency of exposure, the duration of exposure, the exposure pathway (route by which a chemical enters a person's body) and the individual's unique biological susceptibility.

PROJECT SETTING

The project site is located near US-50, which is a east-west highway connecting Sacramento Valley with the Lake Tahoe Region, which accommodates heavy vehicles, some of which may transport hazardous materials. The most common hazardous materials transported by roadway are gasoline and liquefied petroleum gas. In addition, the Southern Pacific railroad track, south of the project site, is used for the transport of hazardous materials. The project site is located approximately 3 miles east of the Mather Field Airport. Additionally, overhead power lines are located within and in the vicinity of the project site.

Phase I Environmental Site Assessment

Phase I Environmental Site Assessments (Phase I) are used to identify the use/storage of hazardous materials, surficial staining or discoloration, debris, stressed vegetation, or other conditions that may be indicative of potential sources of contamination on a particular project site. The main purpose of a Phase I is to determine if hazardous materials were historically and/or are currently being used, stored, or disposed of on a project site or in the immediate vicinity.

The assessments can identify the extent of any hazardous material contamination, if present. Sugnet and Associates conducted a Phase I for the proposed project in January 1996, which included the following methodology:

- Review of federal, state, and local regulatory databases for properties that handle hazardous materials or hazardous waste, or are the known location of a release of hazardous substances to soil and/or groundwater;
- Interviews of owners, operators, tenants, and those familiar with area;
- Evaluation of hydrologic conditions;
- Review of previous reports prepared for the subject property; and
- Field reconnaissance.

As indicated above, the Phase I included review of Federal, State and local regulatory agencies databases or "lists' of businesses and properties that handle hazardous materials or hazardous waste, or are the known location of a hazardous materials release resulting in soil and/or groundwater contamination. The databases are publicly available for review and/or purchase at the regulatory agencies, or the information may be obtained through a commercial database service. While the Phase 1 for the project site is nearly 10 years old, this site assessment is still valid, as the property has not been altered in the last nine years.

The Phase I states that no hazardous materials or petroleum products are known to be used or stored on the proposed project site. There is no evidence of under ground storage tanks or evidence suggesting the former or obscured presence of an underground tank was observed being present on the project site. One above ground tank is located near the northwest corner of the site. It is a metal tank with a tar coating, with an approximate capacity of 500 gallons. The tank was reported as being used to provide a summer water supply for cattle. No electrical equipment likely containing PCBs were observed on or near the project site. The site has no transformers or equipment associated with the power lines. The Phase I indicated no presence of solid waste disposal or alteration of natural contours on the site. All adjacent properties are currently under agricultural use with scattered rural residences presence on and throughout the vicinity of the project site.

Two sites with known contamination problems, the former Mather Air Force Base and Aerojet General, are located in the general region, although more than one mile away. Mather Airport and redevelopment area are located west of the site and Aerojet is located to the north. Based on the northwest-to-southeast groundwater gradient in the region, there is no reason to suspect that contamination from either site would migrate to this site. There is no indication that the property was ever under any industrial use. The area was owned by an industrial company for a time, however their ownership was speculative toward future development. No actual operations occurred on the property. The former leaseholder on the property, Orville Clark, reported that he has been grazing cattle on the site since 1971, and that the site has been used for cattle grazing "for 100 years".

Potential On and Offsite Soil and/or Groundwater Contamination

Bookman-Edmonston Engineering, Inc. (B-E) completed a Draft Evaluation of Groundwater Impacts Report (Report) for the Sunrise Douglas Community Plan/Sunridge Specific Plan (SDCP/SRSP) areas in October 1996 and updated the Draft version in 1997 due to the discovery

of perchlorate in the groundwater aquifer in the vicinity of the SDCP/SRSP area. The detection of ammonium perchlorate occurred in groundwater contaminant plumes emanating from former Aerojet General Corporation operations. The Report indicated that contaminants may have been drawn from the shallowest, unconfined aquifer into the upper confined aquifer and that the upgradient contaminants have the potential to migrate beneath the SDCP/SRSP areas as a result of the groundwater pumping in the eight supply wells, which were originally proposed to serve the SDCP/SRSP area. Perchlorate salts have been used in a wide variety of applications including explosives, stick matches, highway safety flares, fireworks and other pyrotechnics; however, approximately 90 percent of the manufactured volume is currently used as a solid rocket fuel oxidizer. To a limited extent, perchlorate also occurs naturally in Chilean nitrate deposits and has been detected in fertilizer derived from those deposits.

The United States Environmental Protection Agency (EPA) has designated the former Aerojet property as a Superfund Site, which are uncontrolled or abandoned places where hazardous waste is located, possibly affecting local ecosystems or people. In November 2000, the EPA proposed a plan to clean up the plume of groundwater contamination to the west of the Aerojet property and to ensure continued, safe water supplies for area residents. The EPA signed a Record of Decision in July 2001 to formally approve the cleanup plan for this area for the site, called the Western Groundwater Operable Unit. Part of this plan includes both short- and long-term contingency planning for drinking water supply wells. Despite long negotiations, the EPA was unable to reach an agreement with Aerojet General Corporation to implement the remedy for this part of site, and, in August 2002, issued an order to Aerojet for this purpose. Aerojet has now begun installing wells, pipelines, and treatment systems in the first phase of this effort. In June 2003, Aerojet sampled groundwater at Rossmoor Bar Park at the known edge of the contamination plume to investigate a potential site for a new drinking water well to replace wells already lost to contamination in the Western Groundwater area. Analysis revealed that the groundwater is contaminated with n-nitrosodiumdimethylamine (NDMA), TCE, and perchlorate. Further sampling of existing wells showed that that the NDMA plume extends northwest underneath the American River and below the southern edge of Carmichael. NDMA is reasonably anticipated to be a human carcinogen based on animal experiments, according to the National Institute of Environmental Health and Safety. Historical research indicates that the source of this plume may be past discharge via Buffalo Creek into former sand-mining pits just south of the American River.

The groundwater depths in the SDCP/SRSP area range between 135 to 160 feet below the ground surface. The groundwater gradient generally slopes northeast to southwest towards the groundwater depression near the City of Elk Grove. The soils underlying the project site have very low permeability, resulting in little or no percolation into the groundwater table. Water generally remains standing and undrained for the majority of the rainy season. The site contains an old groundwater well or monitoring well located in the power line easement corridor near the northern boundary of the project site. This well would not be used to pump groundwater for delivery to the project site. The existing on-site well consists of a 6-inch diameter pipe embedded in the ground and extending approximately 24 inches above the ground surface. The pipe is plugged with soil and is no longer operational and will be abandoned. Any well abandonment must be in accordance with Sacramento County Environmental Management standards and regulations.

Groundwater Treatment and Extraction

In efforts to contain the contaminated plume, McDonnel Douglas Corporation (MDC), which has subsequently been acquired by the Boeing Company and Aerojet, are constructing a Groundwater Treatment and Extraction (GET) system consisting of wells and conveyance

pipelines to pump groundwater from the leading edge of the perchlorate plume to a central water treatment plant. The ultimate discharge locations of the treated groundwater are currently being evaluated. The main treatment plant will be located off of Sunrise Boulevard, east of the Folsom South Canal and is anticipated to treat approximately 6,000 gallons per minute of contaminated groundwater. In accordance with California Regional Water Quality Control Board (CRWQCB) requirements, Aerojet must submit an Operation, Maintenance, and Monitoring Plan for the GET systems, including short-term and long-term discharge alternatives.

Residual Agricultural Chemicals

The proposed project site has generally been used for dry farming and cattle grazing. Residual (persistent) chemicals are not typically associated with these types of agricultural activities; however, they may be present at differing levels on the project site. Irrigated pasture and natural grasses typically require little to no applications of these persistent pesticides. Over-the-counter insecticides and herbicides may have been used on the project site; however, these chemicals generally do not persist in soils for greater than one year from application. Orchards are often associated with the repeated application of herbicides and/or pesticides to fruit or nut trees. Organochlorine pesticides is a "family" of compounds which includes but is not limited to DDT, its degradation compounds DDD and DDE, toxaphene, and lead arsenates. Organochlorine pesticides are generally applied to "fleshy" irrigated row crops such as tomatoes and potatoes, and fruit orchards. Lead-arsenic compounds are also extremely persistent in soils and are associated with row crops and orchards. According to the Phase I, the current leaseholder has used the site for cattle grazing since 1971 and indicated that the project site has most likely been used for grazing purposes for the past "100 years." Cattle grazing practices do not require the application of agricultural chemicals. Additionally, the Phase I did not indicate any evidence of fruit or nut orchards or the use residual agricultural related chemicals potentially affecting the project's soils. Given the historical uses of the project site, the potential for residual chemical concentrations in the site's soils is considered very low.

Asbestos Containing Building Materials

Structures constructed or remodeled between 1930 and 1981 have the potential to contain asbestos containing building materials (ACBM). These materials can include, but are not limited to: resilient floor coverings; drywall joint compounds; acoustic ceiling tiles; piping insulation; electrical insulation and fireproofing materials. The Sacramento Metropolitan Air Quality Management District (SMAQMD) regulations (i.e., SMAQMD Rule 902) require the evaluation of potential asbestos-containing materials prior to the demolition, removal, or renovation of any structures. In addition, abatement asbestos surveys are required for all structures constructed prior to 1981. The Phase I indicated that the project site consists of fallow grazing land is void of any structures. Therefore, the potential of ACBMs on the proposed project site is considered very low.

Lead Based Materials

Exposure to lead from older vintage paint is possible when the paint is in poor condition or during paint removal. During construction, demolition, and site preparation activities, workers can be exposed to airborne lead during renovation, maintenance or removal work. Lead-based paints were phased out of production in the early 1970s. Lead is a highly toxic metal that was used for many years in products found in and around homes and has been linked to a wide range of health effects, from behavioral problems and learning disabilities, to seizures and death. Children under the age of six are most at risk. The primary sources of lead exposure for most children are: deteriorating lead-based paint; lead-contaminated dust; and lead containing

residential soils. The proper handling and disposal of lead based materials can significantly reduce potential safety and health related impacts. As previously discussed, the project site consists of fallow grazing land and is void of any structures. Therefore, the presence of lead based paint and other lead containing building materials in the project area is anticipated to be minimal. In addition, aerially deposited lead may also present along some of the roadways in the vicinity of the project site. The major concern of aerially deposited lead is along US-50, where there are substantial amounts of traffic volumes. Aerially deposited lead is lead deposited within unpaved areas or formerly unpaved areas, primarily due to vehicle emissions. Aerially deposited lead is not anticipated to be a major concern as US-50 is more than two miles from the project site. The roadways in the project's vicinity (i.e., Sunrise Boulevard, Douglas Road, and Kiefer Boulevard) are not associated with high levels of aerially deposited lead.

Electrical Facilities

Pacific Gas and Electric Company and the Sacramento Metropolitan Utility District (SMUD) own and operate the existing electrical facilities in the SDCP area. SMUD provides electrical service to the City of Rancho Cordova and would provide service to the entire SDCP area. There are two 230-kilovolt (kV) lines that pass through near the center of the proposed project site. One of the lines is owned and maintained by SMUD, while the other is owned and maintained by PG&E. These transmission lines are located within a 350-foot wide easement corridor. Land use restrictions within this easement include the prohibition against buildings and structures, swimming pools, wells, or other bodies of water and height limitations for lighting and landscaping, and minimum ground to conductor clearances. The proposed project will be required to grant unrestricted access to this corridor for maintenance and operational purposes. The potential safety hazards to future project residents associated with magnetic fields from the existing and proposed electrical power lines are not quantifiable; however, based on available research information, is considered less than significant. It is recommended that prudent avoidance of electromagnetic fields be exercised where practicable in order to minimize any potential for health risks emitting from these facilities (SDCP/SRSP FEIR, p. 4.23). Other existing electrical facilities in the project's vicinity include a 69kV and 12kV along the east side of Sunrise Boulevard, a 69kV along the south side of Jackson Highway (SR-16), and a 12kV along Douglas Road to Jaeger Road, and south along Jaeger Road.

PCB Transformers

In 1976, the United States Congress enacted the Toxic Substances Control Act (TSCA), which gave the Environmental Protection Agency (EPA) the ability to track all industrial chemicals imported into and used in the U.S. The EPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human health hazard. The EPA can ban the manufacture and import of those chemicals that pose an unreasonable risk. The TSCA directed the EPA to ban the manufacture of polychlorinated biphenyls (PCBs) and regulated their use and disposal. The EPA accomplished this by the issuance of regulation in 1978. Generally, sources of PCBs include flourescent light ballast and electric transformers. The Environmental Protection Agency (EPA) maintains the PCB Activity Database (PADS) that identifies generators, transporters, commercial storers, and brokers and disposers of PCBs. Electrical facilities developed after 1979 are unlikely to be associated with PCB-containing transformers. The actual levels of PCBs in specific equipment can only be confirmed by sampling and analysis of the mineral oil coolant within the actual pieces of equipment under consideration. Sacramento Municipal Utility District is responsible for all transformers within its service area boundaries and is subject to EPA regulations regarding PCB transformers and is required to notify EPA of any PCB related activities or incidences. In addition, SMUD routinely identifies and replaces all leaking and PCB containing transformers within its service area

boundaries. According to the Phase I, there are no transformers or electrical equipment likely to contain PCBs on or near the proposed project site. Additionally, there are no transformers or other potential PCB containing equipment associated with the 230 kV transmission line corridor.

Radon Potential

Radon isotope-22 is a colorless, odorless, tasteless radioactive gas that is a natural decay product of uranium. Uranium and radon are present in varying amounts in rocks and soil, and radon is present in background concentrations in the atmosphere. Current evidence indicates that increased lung cancer risk is directly related to radon-decay products. Radon potential of rocks and soils and indoor radon exposure levels in the United States are currently areas of intense research by governmental regulators as well as the geoscience and medical communities. At this time, the EPA has recommended an "action" level for indoor radon concentrations at or exceeding 4 pico-curies per liter of air (pCi/l). The EPA has extrapolated a one percent to three percent lung cancer mortality rate due to a lifetime of exposure at 4 pCi/l; that is, one to three persons per 100 exposed to this concentration for life will die of lung cancer induced by radon.

The California Statewide Radon Survey Interim Results, based on the EPA/State Department of Health Services State Radon Survey, predicts that only 3.6 percent of homes in Sacramento County would exceed the EPA's recommended level of 4 pCi/l. Additionally, California ranks as the third lowest for percentage of homes exceeding 4 pCi/l of the 33 states participating in the study. The Phase I did not include as specific indoor radon information regarding the project site. Presence of radon can only be obtained through a sampling and testing program for existing or future buildings. Based on the soil composition and geology of the project site and that lack of existing on-site structures that are predicted to exceed the EPA's recommended exposure level as described above, the potential for radon concentrations exceeding 4 pCi/l is estimated to be very low.

Underground and Aboveground Storage Tanks

As previously discussed, the Phase I conducted for the project included a review of all available federal and State databases which identify properties that are known or have had above ground storage tanks (ASTs) or underground storage tanks (USTs). The radii of investigation for federal and State agency lists were selected in accordance with the American Society of Testing Materials (ASTM) Standards for Environmental Site Assessments (E-1527-97). There are no known USTs on the project site and the Phase I indicated that there was no evidence suggesting the presence of a UST. One 500-gallon metal AST with tar coating, most likely used for summer water supplies for cattle, was observed near the northwest corner of the project site. This AST would be removed for grading and site preparation in accordance with Sacramento County Environmental Management standards and regulations.

Buried Natural Gas Pipeline

The Pacific Gas and Electric Company (PG&E) provides natural gas service to the City of Rancho Cordova and would provide service to the proposed project site. PG&E owns and operates an 8-inch feeder line main, located in the frontage of Sunrise Boulevard. This feeder main runs along the entire length of the SDCP. This feeder main is currently operating at 60 pounds per square inch (psi); however, this line is intended to be a future high pressure main to serve the projected growth in the area, including the proposed project site. PG&E also owns and operates 6-inch diameter gas mains in the vicinity of the SDCP area. PG&E has indicated that the existing system will need modifications and improvements to serve the estimated

demand from other developments as well as the proposed project. Anticipated improvements include, but are not limited to:

- New pressure regulator station on the existing 8-inch feeder main near Sunrise Boulevard and Douglas Road;
- Upgrade the existing 8-inch main from the current 60 psi to an operating pressure of 150 psi;
- Extend 6-inch transmission mains from the new regulation along Douglas Road, Jaeger Road, and Americanos Boulevard;
- Extend smaller diameter feeder mains into individual development projects; and
- Add odorizer stations, valve lots, and other distribution and transmission lines.

Given the location of these natural gas improvements, no additional environmental effects are expected beyond the environmental effects of site development as well as development of other approved projects in the area (e.g., approved development in the Sunridge Specific Plan area).

There have been no reported leaks, ruptures, or other problems associated with the existing feeder line, since the SDCP/SRSP FEIR was certified in July 2002. In addition, this section of buried pipeline was not identified on any of the regulatory agency databases searched in preparation of the Phase I or identified as a contamination or hazardous materials release or accident site.

AGENCY DATABASE REVIEW

The Sugnet and Associates Phase I included a search of the following agencies' databases regarding hazardous materials contamination for sites in the vicinity of the proposed project:

- National Priorities List (NPL);
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS);
- Resource Conservation and Recovery Information System – Treatment, Storage, and Disposal Facilities (RCRIS_TS);
- Resource Conservation and Recovery Information System – Large Quantity Generators (RCRIS_LG);
- Resource Conservation and Recovery Information System – Small Quantity Generators (RCRIS_SG);
- Emergency Response Notification System – 1994 (ERNS);
- California Leaking Underground Storage Tank Report (LRST);
- California Underground Storage Tank Report (RST);
- California Solid Waste Information System (SWF);

- California CalSites (HWS);
- No Further Remedial Action Planned Sites (NFRAP); and,
- California Oil and Gas Well Report (OGW).

The database searches produced the five following sites listed in the SWF in the general vicinity of the project site: Aerojet Waste Water Lagoon, located 1.5-miles southeast of Nimbus Dam; the Sacramento County Landfill (Kiefer Landfill), located approximately 2-miles southeast of the project site; the Aerojet Liquid Rocket Company Landfill, located 3 miles south of the City of Folsom and approximately ½ mile south of US-50; the Mather Air Force Base Landfill, located at 323 D of the Flying Training Wing of the airport; and the White Rock Road Disposal Site, located at the intersection of White Rock Road and Grant Line Road. The Kiefer Landfill is the only facility listed above that is still operational and active. The Aerojet Liquid Rocket Company Landfill and the Aerojet Lrc Waste Water Lagoon are permitted facilities; however, both facilities are closed and no longer operational. The White Rock Road Disposal Site and the Mater Air Force Base Landfill are no longer permitted facilities and have been closed.

4.3.2 REGULATORY FRAMEWORK

Many agencies regulate hazardous substances. The following discussion contains a summary review of regulatory controls pertaining to hazardous substances, including federal, State and local laws and ordinances. **Table 4.3-1** lists federal, State and local regulatory agencies that oversee hazardous materials handling and hazardous waste management, and the statutes and regulations that they administer.

FEDERAL

Federal agencies that regulate hazardous materials include the Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), the Department of Transportation (DOT), and the National Institute of Health (NIH). The following federal laws and guidelines govern hazardous materials:

- Federal Water Pollution Control;
- Clean Air Act;
- Occupational Safety and Health Act (OSHA);
- Federal Insecticide, Fungicide, and Rodenticide Act;
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA);
- Guidelines for Carcinogens and Biohazards;
- Superfund Amendments and Reauthorization Act Title III;
- Resource Conservation and Recovery Act (RCRA);
- Safe Drinking Water Act; and
- Toxic Substances Control Act (TSCA).

Prior to August 1992, the principal agency at the federal level regulating the generation, transport and disposal of hazardous waste was the EPA under the authority of the Resource Conservation and Recovery Act (RCRA). As of August 1, 1992, however, the California Department of Toxic Substance Control (DTSC) was authorized to implement the State's hazardous waste management program for the EPA. The federal EPA continues to regulate hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

TABLE 4.3-1
REGULATORY AGENCIES FOR HAZARDOUS MATERIALS

Federal Agencies	
Regulatory Agency	**Authority**
Department of Transportation (DOT)	Hazardous Materials Transport Act - Code of Federal Regulations (CFR) 49
Environmental Protection Agency (EPA)	Federal Water Pollution Control Act Clean Air Act Resource Conservation and Recovery Act (RCRA) Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Superfund Amendments and Reauthorization Act (SARA) Federal Insecticide, Fungicide and Rodenticide Act
Occupational Safety and Health Administration (OSHA)	Occupational Safety and Health Act and CFR 29
State Agencies	
Department of Toxic Substances Control (DTSC)	California Code of Regulations
Department of Industrial Relations (CAL-OSHA)	California Occupational Safety and Health Act, CCR Title 8
State Water Resources Control Board and Regional Water Quality Control Board	Porter-Cologne Water Quality Act Underground Storage Tank Law
Health and Welfare Agency	Safe Drinking Water and Toxic Enforcement Act
Air Resources Board and Air Pollution Control District	Air Resources Act
Office of Emergency Services	Hazardous Materials Release Response Plans/Inventory Law
Department of Fish and Game	Fish and Game Code
Department of Food and Agriculture	Food and Agriculture Code
State Fire Marshall	Uniform Fire Code, CR Title 19
County Agencies	
Regulatory Agency	Authority
County Agencies	
Sacramento County Environmental Management Department	CCR Title 22 Hazardous Waste Control Law Hazardous Materials Release Response Plans/Inventory Law Acutely Hazardous Materials Law Underground Storage Tanks Law

STATE

The California Environmental Protection Agency (Cal-EPA) and the State Water Resources Control Board establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable State and local laws include the following:

- Public Safety/Fire Regulations/Building Codes;
- Hazardous Waste Control Law;
- Hazardous Substances Information and Training Act;
- Air Toxics Hot Spots and Emissions Inventory Law;
- Underground Storage of Hazardous Substances Act; and
- Porter-Cologne Water Quality Control Act.

Within Cal-EPA, DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the state agency, for the management of hazardous materials and the generation, transport and disposal of hazardous waste under the authority of the Hazardous Waste Control Law (HWCL).

LOCAL

Sacramento County

The County of Sacramento, Office of Emergency Services (OES) implements the State's Right-to-Know Ordinance that gives the OES the authority to inventory hazardous materials used by businesses. The County is also in the process of collecting information regarding existing and proposed locations of hazardous material disposal, storage, handling, and transportation facilities. Additionally, the Sacramento County Environmental Management Department (EMD) is responsible for enforcing the state regulations on both the city and county level, governing hazardous waste generators, hazardous waste storage, underground storage tanks (USTs) and environmental health including inspections and enforcement. EMD also regulates the use, storage, and disposal of hazardous materials in the County and abandonment of wells and septics systems in the County by issuing permits, monitoring regulatory compliance, investigating complaints, and other activities. EMD reviews technical aspects of hazardous waste site cleanups, and oversees remediation of certain contaminated sites resulting from leaking underground storage tanks. EMD is also responsible for providing technical assistance to public and private entities that seek to minimize the generation of hazardous waste.

City of Rancho Cordova Interim General Plan

As further described in Section 4.1 (Land Use), the City currently operating under its Interim General Plan. The reader is referred to **Appendix 4.0 Table 4.3** for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council. The Rancho Cordova Safety Element addresses human and natural safety concerns in the City and establishes goals, policies and works in conjunction with the Infrastructure, Services, and Finance Element (to provide public services, utilities, and infrastructure in a timely manner and ahead of anticipated development and the Land Use Element (to promote safety through proper land use planning.

Sacramento County Multi-Hazard Disaster Plan

The Sacramento County Multi-Hazard Disaster Plan (SCMDP) was established to address planned response to extraordinary emergency situations associated with natural disasters and technological incidents. The SCMDP focuses on operational concepts related to large-scale disasters, which can pose major threats to life and property requiring unusual emergency responses. The SCMDP was designed to include Sacramento County as part of the California Standardized Emergency Management System (SEMS), which assigns responsibilities to support implementation of the SCMDP and to ensure successful response during a major disaster. The SCMDP also established the following emergency management goals:

- Provide effective life safety measures and reduce property loss;
- Provide for the rapid resumption of community services and businesses; and
- Provide accurate documentation and records required for cost recovery efforts.

Sacramento County Area Plan

The Sacramento County Environmental Management Department established the Sacramento County Area Plan (SCAP) as a guideline for hazardous material related accidents or occurrences. The purpose of the SCAP is "To delineate responsibilities and actions by various agencies in Sacramento County required to meet the obligation to protect the health and welfare of the populace, natural resource (environment), and the public and private properties involving hazardous materials." The SCAP is used for making initial decisions at a hazardous materials incident. The SCAP uses Level I, Level II and Level III classifications for hazardous material incidents, which are determined by the following planning basis:

- Level of technical expertise required to abate the incident;
- Extent of Municipal, County, and State Government involved;
- Extent of evacuation of civilians; and
- Extent of injuries and/or deaths.

The SCAP also defines applicable agencies and their roles and includes a responsibilities matrix, the Sacramento County Notification Tree, Information and Incident Command Flow Charts, Scene Manager Checklists, and the Master Inventory Lists for all Sacramento County Fire Departments.

4.3.3 PROJECT IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Based on criteria derived from Appendix G to the CEQA Guidelines, the proposed project would result in a significant Human Health/Risk of Upset impacts if the project would:

1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment

3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of existing or proposed school.

4. Be located on a site which is included on a list of hazardous materials sites compiled by Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

5. (For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport), would result in a safety hazard for people residing or working in the project area.

6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

7. Expose people or structures to significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

METHODOLOGY

This section analyzes the impacts associated with the proposed project and the risk of upset to potential hazardous substances and/or waste contamination that may exist on the project site or in the project area. This evaluation of hazards and hazardous material impacts associated with the proposed project is based on field review of the project site and surroundings, review of the Sacramento County General Plan, City of Rancho Cordova General Plan, Rancho Cordova Zoning Ordinance, and consultation with relevant agencies. This analysis is also based upon information obtained from Sugnet and Associates Environmental Consulting's Draft Phase 1-Environmental Site Assessment (1996). The reader is referred to other technical sections of this EIR for detailed analysis of other relevant environmental effects, resulting from the project. Additionally, the project's potential impacts were evaluated in consistency with previous environmental review conducted for the Sunrise Douglas Community Plan area.

Previous Environmental Review in the SDCP/SRSP EIR

The SDCP/SRSP Final EIR identified a number of hazard impacts. The Sacramento County Board of Supervisors determined the significant and unavoidable impacts resulting from the project were outweighed by overriding economic, social, and other considerations. The Board adopted *CEQA Findings of Fact and a Statement of Overriding Considerations* of the Board of Supervisors of Sacramento County for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project on July 17, 2002. The following are the impacts identified in the SDCP/SRSP Final EIR that are applicable to the proposed project.

"*Impact* *Exposure to toxic air emissions sources.*"

As described in the SDCP/SRSP EIR on page 16.11:

"Because this business (Sacramento Rendering Plant) is subject to the regulatory controls of the SMAQMD and is already subject to a strict permit process, the potential for exposure to toxic air emissions is considered less than significant. The nuisance aspect of potential odor impacts on proximate residential land uses is discussed in the Land Use and Air Quality sections.

Mitigation Measure:

None required"

"*Impact* *Exposure to residential agricultural chemicals in soils.*

The predominant historical uses of the approximate 6200-acre Sunrise Douglas Community and Specific Plan project are have consisted of fallow land, or dry-farmed and natural grass grazing land since at least the 1950s. These agricultural uses typically require little to no applications of environmentally persistent pesticides. Therefore, the potential for residual agricultural chemical concentrations in existing surficial soils of the project area is low, and no further assessment in this regard is recommended.

Mitigation Measure

None required"

"Impact Potential exposure to groundwater contamination.

It should be noted that the project's water supply plan has been revised, such that the use of on-site wells for municipal supply is no longer proposed. Instead, the project now proposes to obtain potable water from an off-site well field [known as the North Vineyard Well Field (NVWF)] located approximately 5 miles southwest of the SDCP/SRSP project area, ultimately to be combined with surface water supplies as part of the planned Zone 40 conjunctive use system. The California Department of Health Services believes that the NVWF will provide a guaranteed safe supply of drinking water for the indefinite future (Zucarro, February 9, 2001). Therefore, the potential for exposure to groundwater contamination is considered to be less than significant.

Mitigation Measure

None required"

"Impact Exposure to PCBs.

PCB-containing transformers could pose a health and safety risk to people in the vicinity if PCB exposure occurs as a result of leakage or combustion. This potentially significant impact can be mitigated by replacing PCB-containing transformers with PCB-free transformers as development occurs.

TX-3 Future development projects within the Sunrise Douglas Plan area shall coordinate with SMUD to ensure that all transformers which predate 1979/80 are sampled and analyzed as needed to determine the presence or absence of PCBs. All PCB-containing transformers shall be removed and replaced with PCB-free transformers."

"Impact Exposure to radon.

Indoor radon information regarding the project area can only be obtained through building-specific sampling and testing. Based on the low percentage of homes predicted to exceed the EPA's recommended exposure level as described above, the potential for radon concentrations exceeding 4pCi/l within the project area is low.

Mitigation Measure

None required"

"Impact Potential for exposure to asbestos during the construction period.

Compliance with SMAQMD Asbestos Rules and Regulations for the demolition/renovation of structures will ensure that potential impacts related to asbestos exposure are reduced to a less than significant level.

TX-4 Asbestos surveys and abatement procedures shall be completed for each of the structures within the project area which are intended to be razed or otherwise disturbed in accordance with the SMAQMD Asbestos Rules and Regulations."

"Impact Potential for contamination of groundwater via existing water supply wells in the area.

Existing and previously developed sites within the project area contain an undocumented number of groundwater supply wells. The 1996 B-E report estimated that approximately 40 water supply wells currently exist within the Specific and Community Plan areas. During development, all water supply wells within the project area should be properly destroyed. Old wells must be properly abandoned to ensure that they will not provide a direct conduit for contaminants to enter the groundwater. This procedure requires a well abandonment permit (issued on a per-well basis) from the Sacramento County Environmental Management Department, Environmental Health Division. Existing septic tanks, leach lines and cisterns within the project area should be removed and their locations backfilled in accordance with the recommendations of a qualified geotechnical engineer. These sanitary sewage-related features are unlikely to be soils hazardous materials threats because the features are expected to have received domestic inflows, as opposed to commercial or industrial wastewater. This potentially significant impact can be reduced to a less than significant level.

TX-5 As development occurs, each site shall be specifically inspected for water supply wells, septic tanks, leach lines, and cisterns. All water supply wells shall be properly destroyed via the well abandonment procedures of the County Environmental Health Division. Septic tanks, leach lines, and cisterns shall be located, removed, and backfilled in accordance with the recommendations of a qualified geotechnical engineer."

"Impact Potential for exposure to hazardous material from illegally dumped debris in the area.

Several sites within the Community and Specific Plan areas contain either building demolition debris or a substantial quantity of apparently abandoned or discarded items. For example, a number of sites contain stored, out-of-service vehicles. All debris, trash, rubble, refuse and abandoned, discarded and/or out-of-service items within the project area should be removed from the affected properties and disposed of recycled off-site as appropriate. This potentially significant impact can be reduced to a less than significant level.

TX-6 As development occurs, all debris, trash, refuse, and abandoned, discarded and/or out-of-service items shall be removed from the affected properties and disposed of or recycled off-site."

"Impact Potential for additional hazardous materials impacts on inaccessible parcels.

To the maximum extent possible the consultant viewed Community Plan sites from public right-of-ways, from accessible adjacent sites, and from a private plane during low altitude fly-overs. Based on these preliminary efforts no adverse findings have been made with respect to potential hazardous materials encumbrances for the vast majority of both the Community and Specific Plan land areas.

TX-7 As development occurs, the actions identified below shall be taken for each identified parcel within the Community Plan area (see Final EIR Plate TX-1 for map of parcel locations). All remedial actions recommended as a result of any of these site investigations shall be fully implemented."

"Impact Potential for unknown underground storage tanks.

Underground tanks associated with farm and ranch use are exempt from registration requirements. The potential exists, therefore, for such tanks to be found in the Plan area. If a tank is found, it would require removal prior to any development activities. If subsurface contamination occurred as a result of tank leakage or overfilling, the contamination would require assessment and possible remediation.

TX-8 Any discovered underground storage tanks (farm tanks) shall be removed as required by the County Environmental Management Department (EMD), Hazardous Materials Division. In addition, groundwater and soil investigation for contamination and remediation in the tank vicinity shall be conducted if required by the EMD."

All human health and hazards impacts identified in the SDCP/SRSP EIR were reduced to a less than significant level with mitigation. The following section addresses the project-specific hazardous material and safety related impacts.

PROJECT IMPACTS AND MITIGATION MEASURES

Transport, Use or Disposal of Hazardous Materials

Impact 4.3.1 Implementation of the proposed project would include the transportation, use and disposal of limited amounts of hazardous materials, which may result in adverse human health and safety impacts. This is considered a **less than significant** impact.

Construction of the proposed project would require the use of limited amounts of hazardous materials including tars, sealants, and other construction chemicals. Once construction of the project is complete, hazardous materials use, transport, and/or storage would be limited in scope and restrained almost entirely to the commercial land uses in the northwest portion of the project. Both during and after construction all transportation, storage, use, or disposal of hazardous materials would be required to be conducted in a manner consistent with all federal,

State, and local laws. No extremely hazardous materials such as explosives will be used, stored, or disposed of on the project site at any time. Therefore, the proposed project would have a less than significant impact.

Mitigation Measures

None required.

Airport Safety and Aircraft Hazards

Impact 4.3.2 Uses associated with the airport may expose people on the ground to excessive noise as well as expose aircraft to hazards from the ground. This is considered a **less than significant** impact.

The proposed project is located approximately four miles from the center of Mather Airport, a major, county-owned facility. Mather Airport is primarily used by air cargo carriers and general aviation (small, private aircraft). Mather Airport is also a major maintenance facility and houses the California Department of Forestry administrative and maintenance facilities. All air traffic arriving and departing Mather Airport is generally routed along a path more than 2.5 miles north of the project area. The proposed project is outside all measured noise contours as indicated on the current Comprehensive Land Use Plan for Mather Airport (Airport Land Use Commission, 1997).

The Federal Aviation Administration (FAA) has established Federal Aviation Regulation (FAR) Part 77 which establishes a series of "imaginary surfaces" around an airport above which hazards to aircraft may be considered significant. Imaginary surfaces are established at radiuses from the end of the primary runway surface outward for varying distances and heights above ground. The furthest extent that these surfaces reach is 14,000 feet. The proposed project is located outside this area and therefore would not cause any potential hazard to approaching and departing aircraft. Additionally, no part of the proposed project would be built at a height that would concern airborne aircraft. The primary aircraft hazard in the project area is the electrical transmission lines and towers already existing on the property. As these are not a part of this project they are not considered here. Due to the project's proximity to the Mather Airport, less than significant aircraft and aircraft related hazards are anticipated.

Mitigation Measure

None required.

Wildland Fire Hazards

Impact 4.3.3 The proposed project may expose people or property to the risk of wildland fires. This is considered a **less than significant** impact.

While the proposed project is located in a mostly undeveloped area, it lies within an Urban Development Area as delineated on the County of Sacramento's general plan. Additionally, the area surrounding the proposed project is planned for large-scale development by the City of Rancho Cordova and specifically in the SDCP/SRSP. By the time people are taking up residence in the project, it will be surrounded by urban development as established in the SDCP/SRSP. As such, no wildlands of a size sufficient for creating a substantial risk from wildland fire would be located within the vicinity of the project. Prior to occupancy of the project, hazards from wildland fires would not be substantial due to the fact that the area does not

include any trees or large brush that would fuel a large-scale fire significant enough to cause major damage. It is important to note that the potential exists for wildland fires to occur in the weltand preserve area and along the power line corridor that runs diagonal through the project site. However, the probability of this occurring is considered very low. The Sacramento Metropolitan Fire District is responsible for fire and emergency response in the area and has stated their willingness and ability to serve the project area (Dobson, 2005). In the case of any wildland fire, they would be responsible for primary response. Due to the above factors, the proposed project would have a less than significant impact.

Mitigation Measure

None required.

Hazardous Emissions Near the Proposed Elementary School

Impact 4.3.4 Hazardous materials in limited amounts would be used during construction and operational activities for the project, which may expose students, faculty and staff at the elementary school to toxic emissions. This is considered a **less than significant** impact.

The project would be comprised of primarily residential land uses with a limited amount of mixed-use commercial and retail in the proposed Town Center. An elementary school would be located in the northeastern quadrant of the project site. The proposed school site is consistent with California Public Resources Code (CPRC) Section 21151.8, as well as guidelines for new school sites set forth by the California Board of Education. Minor inconsistencies between the school site and the Board of Education guidelines were deemed acceptable for the Elk Grove Unified School District (EGUSD) and EGUSD sees no problem with building an elementary school on the site (Williams, 2005). Consultation with air SMAQMD as well as other agencies required by CPRC 21151.8 was conducted in order to complete sections 4.6 and 4.12 of this EIR. More information on potential impacts to the school site can be found in those sections. The use of hazardous materials or toxic materials in residences generally consists of household cleaners, solvents, and fuels. The commercial portion of the project would use small amounts of hazardous materials for maintenance of operation purposes. Limited amounts of hazardous materials would also be used during construction activities for the fueling and maintenance of equipment. The majority of the construction activities would be completed prior to the construction of the school site; thus, would not adversely affect the facility. The Town Center is greater than ½-mile from the site. This impact was not addressed in the SDCP/SRSP EIR. However, this impact is considered less than significant and no mitigation is necessary.

Mitigation Measure

None required.

Potential Exposure to Groundwater Contamination

Impact 4.3.5 Due to past activities in the area, the potential for exposure to contaminated groundwater exists. This is considered a **potentially significant**.

The public record indicates that remediation efforts are being conducted on an on-going basis to monitor groundwater contamination resulting from past McDonell Douglas/Aerojet operations. The SDCP/SRSP FEIR determined that the potentially significant impacts arising from potential contamination of groundwater via existing wells could be mitigated to a less than

significant level through the imposition of mitigation measures requiring inspection and destruction of these existing wells (FEIR, p. 16.18). Regional groundwater contamination is not anticipated to be an issue for the proposed project, as water would be supplied by the SCWA facilities from the proposed North Vineyard Well Field, which is approximately seven miles southwest of the project site, from wells located within the Suncreek Specific Plan area south of Kiefer Road (which is considered an adequate distance from groundwater contamination associated with McDonell/Aerojet pursuant to consultations with SCWA), and other facilities operated by SCWA.

The identified groundwater contamination is unlikely to affect future development within the SDCP/SRSP areas, based on the low to moderate ground water contaminants, the large depth to first ground water beneath the property, the underlying lithography, and the apparent California Department of Toxic Substances Control conclusion of the negligible potential health risk to future occupants resulting from the migrating vapor groundwater contamination. The FEIR also concluded that:

> *"The project's water supply plan has been revised, such that the use of on-site wells for municipal supply is no longer proposed. Instead, the project now proposes to obtain potable water from an off-site well field (know as the North Vineyard Well Field) located approximately 5 miles southwest of the SDCP/SRSP project area, ultimately to be combined with surface water supplies as part of the planned Zone 40 conjunctive use system. The California Department of Health Services believes that the NVWF will provide a guaranteed safe supply of drinking water fro the indefinite future (Zucarro, February 9, 2001). Therefore, the potential for exposure to groundwater contamination is considered to be less than significant." (SDCP/SRSP FEIR p. 16.14)*

All existing water supply wells, septic tanks and leach fields on the site must be abandoned in accordance with Sacramento County Environmental Management Department (EMD), Environmental Health Division regulations. To ensure that the measures adopted by the Sacramento County Board of Supervisors for the SDCP area are implemented, the City is requiring mitigation, which is based on the requirements of measure TX-5, adopted by the Board for application to subsequent developments within the SDCP/SRSP planning areas.

Mitigation Measure

The following mitigation measure is based on TX-5 of the SDCP/SRSP EIR in order to address project specific impacts.

MM 4.3.5 The proposed project site shall be specifically inspected for water supply wells, septic tanks, leach lines, and cisterns. All water supply wells shall be properly destroyed via the well abandonment procedures of the County Environmental Health Division. All septic-tanks, leach lines, and cisterns shall be located, removed, and backfilled in accordance with the recommendations of a qualified geotechnical engineer.

Timing/Implementation: *Prior to the approval of improvement plans.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department and the Sacramento County Environmental Health Department.*

Implementation of mitigation measure MM 4.3.5 would reduce the potentially significant impacts from wells or groundwater contamination to **less than significant**.

Exposure to Existing Hazardous Containing Materials and Soils

Impact 4.3.6 Implementation of the project may expose people to hazardous containing materials and/or soil contamination. This is considered a **potentially significant** impact.

Underground storage tanks (UST) are associated with a wide a variety of farmland and ranching activities. As previously discussed, the proposed project site has been historically used for rural residences and cattle grazing. USTs used in farming and ranching activities are exempt from Sacramento County Environmental Management Department's (EMD) registration requirements. The site has been used for grazing which typically don't require storage tanks. There is one AST, most likely used to store water for the cattle during the summer months, located near the northwest corner of the site. The Phase I for this project site indicated that there was no evidence of USTs discovered during the site survey; however, it is possible that USTs are present in the project area and may be encountered during the grading, excavation, and site preparation activities required for project. In the case that UST(s) are discovered, removal is required prior to any additional site preparation or development activities. Although the County's EMD does not regulate the registration of farm/ranch USTs, any UST(s) removal and remediation efforts must comply with the City of Rancho Cordova and EMD standards. Due to unknown underlying conditions, there is the potential of discovering USTs on the project site.

The SDCP/SRSP addressed the potential of underground storage tanks being discovered during development of the SDCP area due to the historical agricultural practices in the area (SDCP/SRSP FEIR p. 16.20). If found, the tanks would require removal prior to any development activities and if subsurface contamination occurred as result of tank leakage or overfilling, the contamination would require assessment and remediation in compliance with Sacramento County Environmental Management Department regulations.

As indicated, the project site was historically used for grazing purposes. Grazing practices are not typically associated with the application of persistent pesticides. Therefore, the potential for residual agricultural chemical concentrations on the project site is considered low and no further assessment in this regard is recommended, except for the orchard sites that are located within the SRSP area, north of the Preserve at Sunridge project site (SDCP/SRSP FEIR, p. 16.12).

Radon is a natural decay product of uranium. Varying levels of radon is present in rocks and soils and is lesser concentrations in the atmosphere. Radon has been linked to lung and other cancer risks. Current EPA standards recommend an "action" level for indoor radon concentrations at or exceeding 4 pico-curies per liter (pCi/l). EPA has extrapolated a 1 percent to 3 percent lung cancer mortality rate related to the standard of 4 pCi/l, meaning that 1 to 3 persons per 100 would be exposed and die from radon induced lung cancer. The California Statewide Radon Survey Results, which are based on the EPA and State of California Department of Health Services surveys, predict that only 3.6 percent of Sacramento County homes would exceed EPA standards. Additionally, California ranks as the third lowest state for homes exceeding EPA recommended standards of 33 states surveyed. Indoor radon concentrations can only be obtained from building specific tests. Given the low percentage of California homes potentially containing radon levels in excess of EPA standards, this impact was considered less than significant (SDCP/SRSP FEIR, p. 16.17)

There were several areas within the SDCP area containing debris (i.e., construction materials, abandoned vehicles, etc.) The proposed project site was identified as containing a tank in a detached truck bed, near the northwest portion of the parcel, most likely used for the watering of livestock. The SDCP/SRSP EIR recommended that all discarded debris and materials be removed from the affected properties and properly recycled or disposed of to reduce this impact to less than significant (SDCP/SRSP FEIR, p. 16.19 Plate TX-4).

Structures constructed or remodeled between 1930 and 1981 have the potential to contain asbestos containing building materials (ACBM). These materials can include, but are not limited to: resilient floor coverings; drywall joint compounds; acoustic ceiling tiles; piping insulation; electrical insulation and fireproofing materials. The Phase I indicated that the project site consists of fallow grazing land is void of any structures. Therefore, the potential of ACBMs on the proposed project site is considered very low and no further steps are required.

The specific activities associated with the Preserve at Sunridge project were not addressed in the SDCP/SRSP EIR. However, the project is not expected to create any new or additional significant impacts arising from hazardous materials and/or soil impacts that were not already identified in the EIR. To ensure that the measures adopted by the Sacramento County Board of Supervisors (Board) are implemented with the proposed project, the City is requiring the following mitigation measure, which is based on the requirements of measure TX-8 adopted by the Board for application to subsequent developments within the SDCP/SRSP planning areas.

Mitigation Measure

The following mitigation measures are based on TX-6 and TX-8 from the SDCP/SRSP EIR and are applicable to the proposed project:

MM 4.3.6a The abandoned water tank, associated truck bed, and all debris, trash, discarded, and/or out-of-operation items shall be removed from the project site and properly disposed of or recycled off-site.

Timing/Implementation: *Prior to grading, excavation, and site preparation activities.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department*.

MM 4.3.6b If USTs are discovered during site preparation activities, procedures to remove the tank shall be undertaken in accordance with City of Rancho Cordova and EMD standards and regulations. Development of the site shall not commence until the site is deemed remediated and clear of USTs, for development by the City in consultation with the EMD.

Timing/Implementation: *Ongoing during all grading, excavation, and site preparation activities.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department and the Sacramento County Environmental Management Department.*

Implementation of Mitigation Measure MM 4.3.6a and MM 4.3.6b would reduce the project's potential UST impacts to **less than significant**.

PCB Transformers

Impact 4.3.7 PCB-containing transformers have the potential to pose a health and safety risk to people in the vicinity of the proposed project. This is a **less than significant** impact.

According to the Phase I, no electrical equipment likely to contain PCBs was observed on or near the site. There are no transformers or other equipment associated with the power line easement on the Preserve at Sunridge site. There are no PCB-containing transformers that could pose a health and safety risk to construction workers if PCB exposure occurs as a result of leakage or combustion, or if workers come into contact with contaminated or hazardous materials associated with the transformers.

The specific activities associated with the Preserve at Sunridge project were not addressed in the SDCP/SRSP EIR. However, the potential impacts due to exposure to PCB's were analyzed within that EIR (page 16.16). Mitigation measure TX-3 requires the removal and replacement of any PCB containing transformers found on the site. Mitigation measure TX-3 reduces potential impacts from PCB's to less than significant. The proposed project is not expected to create any new or additional significant impacts arising from exposure to PCB's that were not already identified in the EIR. Therefore, this impact is considered less than significant.

Mitigation Measures

None required.

4.3.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for hazards associated with the proposed project includes proposed, planned, approved, or reasonably foreseeable projects in the City of Rancho Cordova and adjacent vicinity as described in Section 4.0. Hazardous material and human health impacts are generally site-specific. Cumulative impacts associated with hazardous materials and human health risks from increased development include, but are not limited to impacts on transportation, air quality, hydrology and water quality, and biological resources. The cumulative impacts associated with these potentially affected resources are analyzed in the applicable sections of this EIR.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Hazards and Risks

Impact 4.3.8 Implementation of the proposed project would involve potential hazard issues that would be limited to the project site and would not contribute to cumulative hazards in the City or region. The project's contribution would **less than cumulatively considerable**.

The cumulative effects from ongoing development in the area could create a risk to public health associated with exposure to natural hazards (e.g. fire, flooding) and hazardous materials (chemicals, pesticides, etc.). Impacts associated with natural hazards and hazardous materials are generally site-specific and each individual project is responsible for mitigating its specific

risks. Exposure to natural hazards would be controlled through BMPs and project design. As discussed above, the project would involve the limited use of hazardous materials associated with construction of the project but would be required to comply with all federal, state and local regulations regarding the handling of hazardous materials. The proposed project would produce minor incremental increases in risks to people from hazards and hazardous materials on the project site that can be mitigated but as the project is part of a much larger area of development with many projects in the vicinity (see **Figure 4.0-1**), the contribution to these risks by the proposed project is not cumulatively considerable. Therefore, the project's contribution would less than cumulatively considerable.

Cumulative impacts due to hazards from specific activities associated with the Preserve at Sunridge project were not analyzed in the SDCP/SRSP FEIR. However, cumulative impacts due to hazards and hazardous materials were analyzed along with the predicted cumulative condition at the time of the original EIR (SDCP/SRSP FEIR p. 17.9). The SDCP/SRSP EIR did not find impacts from hazards and hazardous materials to be cumulatively significant.

Mitigation Measures

None required.

REFERENCES

Airport Land Use Commission for Sacramento, Sutter, Yolo, and Yuba Counties. May, 1997. *Mather Airport Comprehensive Land Use Plan.* SACOG 97-011.

County of Sacramento Department of Environmental Review and Assessment. *Sunrise Douglas Community Plan/Sunridge Specific Plan Final Environmental Impact Report*. November 2001.

County of Sacramento. *CEQA Findings of Fact and Statement of Overriding Considerations of the Board of Supervisors of Sacramento County for the Sunrise Douglas Community Plan/Sunridge Specific Plan.* July 17, 2002.

Dobson, Michael. August, 2005. Sacramento Metropolitan Fire Department. *Personal communication between Michael Dobson and Kevin Freibott with the City of Rancho Cordova Planning Department*.

Sugnet and Associates. *Phase I Environmental Site Assessment (Draft*) – Peery Arrillaga Jaeger Road Property. January 26, 1996.

http://www.dtsc.ca.gov/

This section analyzes the existing transportation system in the area and addresses the potential transportation and circulation impacts resulting from development of the Preserve at Sunridge project. The analysis is based on the Traffic Impact Study for the proposed project, which was prepared by Fehr & Peers Associates (July 2005). DKS Associates peer reviewed the traffic study and environmental analysis of transportation and circulation impacts.

4.4.1 EXISTING CONDITIONS

The existing transportation system near the project site is heavily dependent on roadways for the movement of people and goods. Automobiles are the primary travel mode for most trips, as limited bus transit service is provided, and limited bicycle and pedestrian facilities exist in the immediate vicinity of the project site. Light Rail Transit (LRT) has recently been extended to Rancho Cordova and will ultimately provide service from Downtown Sacramento to Folsom.

This chapter analyzes the operation of the roadway system, transit system, bicycle, and pedestrian facilities in the study area under existing conditions. The following describes the existing roadway network and identifies study area intersections, roadway segments, and freeway facilities.

ROADWAY NETWORK

A brief description of the key facilities in the area is provided below. **Figure 4.4-1** shows the existing number of lanes on the roadway segments in the study area.

US-50 extends eastward from downtown Sacramento into El Dorado County. US-50 has four lanes in each direction from west of Bradshaw Road to Sunrise Boulevard. From Sunrise Boulevard to Hazel Avenue, it has three lanes in each direction plus a high occupancy vehicle (HOV) lane. East of Hazel Avenue, US-50 has three lanes, including HOV lanes, in each direction.

Sunrise Boulevard is a major north-south arterial connecting Grant Line Road to the City of Roseville. It has two lanes between Grant Line Road and Douglas Road, four lanes between Douglas Road and White Rock Road, and six lanes north of White Rock Road. The US-50/Sunrise Boulevard interchange is an L-9 configuration with loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants.

White Rock Road extends from International Drive to El Dorado County. It is a two-lane collector street between International Drive and Zinfandel Drive, a six-lane arterial between Zinfandel Drive and Sunrise Boulevard, and a two-lane roadway east of Sunrise Boulevard.

*Jackson Highway (*SR-16*)* is a two-lane highway that extends from Folsom Boulevard east of Howe Avenue into Amador County.

Mather Field Road extends from the Mather Reuse Area to Folsom Boulevard. It has six lanes between International Drive and US-50, and four lanes between US-50 and Folsom Boulevard. The US-50/Mather Field Road interchange is an L-9 configuration with loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants.

Douglas Road is a two-lane roadway that extends from Mather Boulevard in the Mather Reuse Area to Grant Line Road.

Insert Figure 4.4-1 – Existing Transportation System

Grant Line Road is a two-lane roadway that extends from State Route (SR) 99 to White Rock Road through the southeastern portion of Sacramento County.

Zinfandel Drive is a four-lane arterial from International Drive to Sunrise Boulevard. The US-50/Zinfandel Drive interchange is an L-9 configuration with loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants.

Hazel Avenue is four-lane north-south arterial through Sacramento County and into Placer County, where it becomes Sierra College Boulevard. The US-50/Hazel Avenue interchange is an L-9 configuration with loop on-ramps in the northeast and southwest quadrants and diagonal ramps in all four quadrants.

STUDY AREA

Fehr & Peers conducted a detailed analysis of the following intersections, roadway segments, and freeway facilities under existing conditions. These roadway facilities were identified based on input from City staff and comments received on the Notice of Preparation.

INTERSECTIONS

1. State Route 16 (SR-16)/Excelsior Road
2. SR-16/Eagles Nest Road
3. SR-16/Sunrise Boulevard
4. SR-16/Grant Line Road
5. Florin Road/Sunrise Boulevard
6. Grant Line Road/Sunrise Boulevard
7. Grant Line Road/Kiefer Boulevard
8. Douglas Road/Grant Line Road
9. Douglas Road/Sunrise Boulevard
10. Mather Field Road/Folsom Boulevard
11. Mather Field Road/US-50 Westbound Ramps
12. Mather Field Road/US-50 Eastbound Ramps
13. Mather Field Road/International Drive
14. Zinfandel Drive/International Drive
15. Zinfandel Drive/White Rock Road
16. Zinfandel Drive/US-50 Eastbound Ramps
17. Zinfandel Drive/US-50 Westbound Ramps
18. Sunrise Boulevard/White Rock Road
19. Sunrise Boulevard/Folsom Boulevard
20. Sunrise Boulevard/US-50 Eastbound Ramps
21. Sunrise Boulevard/US-50 Westbound Ramps
22. Sunrise Boulevard/Zinfandel Drive
23. Hazel Avenue/Folsom Boulevard
24. Hazel Avenue/US-50 Eastbound Ramps
25. Hazel Avenue/US-50 Westbound Ramps
26. White Rock Road/Grant Line Road

ROADWAYS

1. SR-16 – Bradshaw Road to Excelsior Road
2. SR-16 – Excelsior Road to Eagles Nest Road
3. SR-16 – Sunrise Boulevard to Grant Line Road
4. Excelsior Road – SR-16 to Kiefer Boulevard
5. Kiefer Boulevard – Grant Line Road to SR-16
6. Mather Boulevard – Femoyer Street to Douglas Road
7. Douglas Road – Mather Boulevard to Sunrise Boulevard
8. Douglas Road – Sunrise Boulevard to Grant Line Road
9. International Drive – South White Rock Road to Zinfandel Drive
10. International Drive – Zinfandel Drive to Kilgore Road
11. White Rock Road – Zinfandel Drive to Sunrise Boulevard
12. White Rock Road – Sunrise Boulevard to Grant Line Road
13. Folsom Boulevard – Zinfandel Drive to Sunrise Boulevard
14. Folsom Boulevard – Sunrise Boulevard to Hazel Avenue
15. Mather Field Road – Folsom Boulevard to US-50 Westbound Ramps
16. Mather Field Road – US-50 Eastbound Ramps to International Drive
17. Zinfandel Drive – Folsom Boulevard to US-50 Westbound Ramps
18. Zinfandel Drive – US-50 Eastbound Ramps to White Rock Road
19. Zinfandel Drive – White Rock Road to International Drive
20. Sunrise Boulevard – Gold Country Boulevard to Coloma Road
21. Sunrise Boulevard – Coloma Road to US-50 Westbound Ramps
22. Sunrise Boulevard – US-50 Eastbound Ramps to Folsom Boulevard
23. Sunrise Boulevard – Folsom Boulevard to White Rock Road
24. Sunrise Boulevard – White Rock Road to Douglas Road
25. Sunrise Boulevard – Douglas Road to SR-16
26. Sunrise Boulevard – SR-16 to Grant Line Road
27. Hazel Avenue – US-50 Westbound Ramps to Winding Way
28. Grant Line Road – White Rock Road to Douglas Road
29. Grant Line Road –Douglas Road to SR-16
30. Grant Line Road – SR-16 to Sunrise Boulevard

FREEWAY SEGMENTS

1. US-50 – Mather Field Road to Zinfandel Boulevard
2. US-50 – Zinfandel Boulevard to Sunrise Boulevard
3. US-50 – Sunrise Boulevard to Hazel Avenue
4. US-50 – Hazel Avenue to Folsom Boulevard

INTERCHANGES

1. Mather Field Road interchange at US-50
2. Zinfandel Drive interchange at US-50
3. Sunrise Boulevard interchange at US-50
4. Hazel Avenue interchange at US-50

TRAFFIC OPERATIONS METHODOLOGY

The analysis methodology used to analyze roadway, intersection, and freeway facilities are described below. The operations of roadway facilities are described with the term *level of service*. Level of service (LOS) is a qualitative description of traffic flow from the perspective of motorists based on factors such as speed, travel time, delay, freedom to maneuver, volume, and capacity. Six levels are defined from LOS A, as the best operating conditions, to LOS F, or the worst operating conditions. LOS E represents "at-capacity" operations. When volumes exceed capacity, stop-and-go conditions result and operations are designated as LOS F.

Consistent with the City of Rancho Cordova Interim General Plan, impacts to the study-area roadways and intersections were identified based on the Rancho Cordova Circulation LOS Policy, which identifies LOS D as acceptable.

ROADWAY SEGMENTS

Roadway segments were analyzed by comparing the average daily traffic volume to daily volume thresholds. **Table 4.4-1** displays the daily volume thresholds for various facility types. These thresholds are used as guidelines to identify the need for new or upgraded facilities. In general, intersection operations analysis provides a more realistic assessment of traffic conditions on a road than the roadway segment analysis.

TABLE 4.4-1
ROADWAY SEGMENT DAILY VOLUME THRESHOLDS[1]

Facility Type	Number of Lanes	Daily Volume Threshold				
		LOS A	LOS B	LOS C	LOS D	LOS E
Residential	2	600	1,200	2,000	3,000	4,500
Residential collector with frontage	2	1,600	3,200	4,800	6,400	8,000
Residential collector without frontage	2	6,000	7,000	8,000	9,000	10,000
Arterial, low access control	2	9,000	10,000	12,000	13,500	15,000
	4	18,000	21,000	24,000	27,000	30,000
	6	27,000	31,500	36,000	40,500	45,000
Arterial, moderate access control	2	10,800	12,600	14,400	16,200	18,000
	4	21,600	25,200	28,800	32,400	36,000
	6	32,400	37,800	43,200	48,600	54,000
Arterial, high access control	2	12,000	14,000	16,000	18,000	20,000
	4	24,000	28,000	32,000	36,000	40,000
	6	36,000	42,000	48,000	54,000	60,000
Rural, 2-lane highway	2	2,400	4,800	7,900	13,500	22,900
Rural, 2-lane road, paved shoulders	2	2,200	4,300	7,100	12,200	20,000
Rural, 2-lane road, no shoulders	2	1,800	3,600	5,900	10,100	17,000

Notes: [1] County of Sacramento Traffic Impact Analysis Guidelines, July 2004.
2. County of Sacramento Traffic Impact Analysis Guidelines, July 1997 (2004 guidelines do not provide capacities for freeway segments).

INTERSECTIONS

SIGNALIZED

Signalized intersections were analyzed using the methodology contained in *Interim Materials on Highway Capacity – Circular 212* (Transportation Research Board, 1980). This methodology determines the intersection LOS by comparing the critical volume-to-capacity (v/c) ratio at the intersection to the thresholds shown in **Table 4.4-2**. The City's traffic impact study guidelines specify higher capacities (based on field measurements to better reflect driver behavior in the Sacramento region) than those published in *Circular 212*; therefore, the capacities at signalized intersections were increased as follows:

- Four or more phase operations: from 1,375 to 1,500 vehicles per lane per hour.
- Three-phase operations: from 1,425 to 1,550 vehicles per lane per hour.
- Two-phase operations: from 1,500 to 1,650 vehicles per lane per hour.

UNSIGNALIZED

For unsignalized (four-way stop-controlled and side-street stop-controlled) intersections, the LOS analysis was conducted using the methodology contained in Chapter 17 of the *Highway Capacity Manual – Special Report 209* (Transportation Research Board, 2000). The LOS is based on the average control delay expressed in seconds per vehicle. At two-way or side street stop-controlled intersections, level of service is calculated for each movement, not for the intersection as a whole. For approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. At all-way stop-controlled intersections, LOS is based on the average delay experienced on all approaches. **Table 4.4-2** also summarizes the relationship between delay and LOS for unsignalized intersections.

TABLE 4.4-2
INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Unsignalized Intersection – Average Control Delay (sec/veh)	Signalized Intersection – Volume-to-Capacity Ratio
A	Represents free flow. Individual users are virtually unaffected by others in the traffic stream.	≤ 10.0	≤ 0.60
B	Stable flow, but the presence of other users in the traffic stream begins to be noticeable.	10.1 – 15.0	0.61 – 0.70
C	Stable flow, but the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.	15.1 – 25.0	0.71 – 0.80
D	Represents high-density, but stable flow.	25.1 – 35.0	0.81 – 0.90
E	Represents operating conditions at or near the capacity level.	35.1 – 50.0	0.91 – 1.00
F	Represents forced or breakdown flow.	> 50.0	> 1.00

Sources: Highway Capacity Manual *(Transportation Research Board, 2000) and Interim Materials on Highway Capacity – Circular 212 (Transportation Research Board, 1980).*

Warrant for Traffic Signal Installation

Warrants for traffic signal installation at unsignalized intersections were evaluated based on the peak hour volume warrant contained in the *Traffic Manual* (Caltrans, 1995). The peak hour

warrant is a sub-set of the standard traffic signal warrants recommended in the Federal Highway Administration Manual on Uniform Traffic Control Devices and associated Caltrans guidelines. The peak hour signal warrant analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. Furthermore, the decision to install a signal should not be based solely upon the warrants, since the installation of signals can lead to certain types of collisions. The responsible state or local agency (dependent on if the intersection is controlled by the state, county, or city) should undertake regular monitoring of actual traffic conditions and accident data, and timely re-evaluation of the full set of warrants in order to prioritize and program intersections that may be identified for signalization in this study.

FREEWAY FACILITIES

Freeway Segments

Freeway mainline operations were evaluated using HCM methodologies. Freeway segment operations are reported in terms of LOS and density, which is measured in terms of passenger cars per mile per lane. **Table 4.4-3** summarizes the relationship between freeway mainline density and LOS.

TABLE 4.4-3
FREEWAY MAINLINE LOS CRITERIA

LOS	Description	Density1
A	Free-flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	< 11
B	Free-flow speeds are maintained. The ability to maneuver with the traffic stream is only slightly restricted.	> 11 to 18
C	Flow with speeds at or near free-flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.	> 18 to 26
D	Speeds decline slightly with increasing flows. Freedom to maneuver with the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort.	> 26 to 35
E	Operation at capacity. There are virtually no usable gaps within the traffic stream, leaving little room to maneuver. Any disruption can be expected to produce a breakdown with queuing.	> 35 to 45
F	Represents a breakdown in flow.	*

Notes: [1] *Density in passenger cars per mile per lane.*
Source: Highway Capacity Manual *(Transportation Research Board, 2000).*

Freeway Ramp Merge/Diverge Analysis Methodology

Freeway ramp merge/diverge analysis was conducted at study area interchanges using the methodologies contained in Chapters 24 and 25 of the *Highway Capacity Manual* (Transportation Research Board, 2000). These methodologies correlate the LOS to the expected density of vehicles in passenger cars per mile per lane. **Table 4.4-4** summarizes the relationship between density and LOS for freeway merge/diverge operations.

TABLE 4.4-4
FREEWAY RAMP MERGE/DIVERGE LEVEL OF SERVICE DEFINITIONS

Level of Service	Density (pc/mi/ln)
A	$\leq$ 10.0
B	> 10.0 and $\leq$ 20.0
C	> 20.0 and $\leq$ 28.0
D	> 28.0 and $\leq$ 35.0
E	> 35.0
F	Demand Exceeds Capacity

Source: Transportation Research Board, Highway Capacity Manual, 2000.
Density in passenger cars per mile per lane.

Freeway Weaving Methodology

The analysis of the weaving section between the Hazel Avenue eastbound on-ramp and the AeroJet Road off-ramp was conducted using the nomograph presented in figure 507.7A in the Caltrans *Highway Design Manual*, 1995. This methodology is referred to the *Leisch Method for Weaving Analysis*.

EXISTING TRAFFIC VOLUMES

Fehr & Peers conducted daily roadway segment and AM and PM peak period traffic counts during the second quarter of 2003 and the first quarter of 2004. Traffic counts were collected for all study roadway segments and intersections. The traffic counts were collected within six months of the beginning of this analysis and are considered reasonable for documenting existing conditions. **Figures 4.4-2** and **4.4-3** show existing daily roadway segment traffic volumes and AM and PM peak hour intersection turning movement volumes, respectively.

EXISTING TRAFFIC CONDITIONS

Existing operation of the study area roadways, intersections, freeway facilities, and bicycle/pedestrian facilities are discussed below.

ROADWAY SEGMENTS

Table 4.4-5 presents the existing conditions analysis for roadway segments. Based on field observations, most of the study roadways were assumed to have moderate access control except for Hazel Avenue (US-50 to Winding Way) and Sunrise Boulevard (Douglas Road to SR-16), which were assumed to have high access control. Kiefer Boulevard (Grant Line Road to just north of SR-16) was classified as a rural two-lane collector.

TABLE 4.4-5
ROADWAY LEVEL OF SERVICE - EXISTING CONDITIONS

Roadway Segment	Existing Conditions			
	Lanes	Volume	V/C	LOS
1. SR-16 – Bradshaw Road to Excelsior Road	2	13,500	0.75	C
2. SR-16 – Excelsior Road to Eagles Nest Road	2	11,400	0.63	B
3. SR-16 – Sunrise Boulevard to Grant Line Road	2	15,400	0.86	D
4. Excelsior Road – SR-16 to Kiefer Boulevard	2	3,600	0.20	A
5. Kiefer Boulevard – Grant Line Road to North of SR-16[1]	2	1,800	0.09	B
6. Mather Boulevard – Femoyer Street to Douglas Road	2	6,000	0.33	A
7. Douglas Road – Mather Boulevard to Sunrise Boulevard	2	5,000	0.28	A
8. Douglas Road – Sunrise Boulevard to Grant Line Road	2	2,300	0.13	A
9. International Drive – South White Rock Road to Zinfandel Drive	4	12,000	0.33	A
10. International Drive – Zinfandel Drive to Kilgore Road	4	6,800	0.19	A
11. White Rock Road – Zinfandel Drive to Sunrise Boulevard	6	17,900	0.33	A
12. White Rock Road – Sunrise Boulevard to Grant Line Road	2	4,400	0.24	A
13. Folsom Boulevard – Zinfandel Drive to Sunrise Boulevard	4	20,300	0.56	A
14. Folsom Boulevard – Sunrise Boulevard to Hazel Avenue	2	13,300	0.74	C
15. Mather Field Road – Folsom Boulevard to US-50 Westbound Ramps	4	26,400	0.73	C
16. Mather Field Road – US-50 Eastbound Ramps to International Drive	6	33,700	0.62	B
17. Zinfandel Drive – Folsom Boulevard to US-50 Westbound Ramps	4	22,700	0.63	B
18. Zinfandel Drive – US-50 Eastbound Ramps to White Rock Road	6	41,900	0.78	C
19. Zinfandel Drive – White Rock Road to International Drive	6	19,700	0.36	A
20. Sunrise Boulevard – Gold Country Boulevard to Coloma Road	6	75,800	1.40	F
21. Sunrise Boulevard – Coloma Road to US-50 Westbound Ramps	6	82,400	1.53	F
22. Sunrise Boulevard – US-50 Eastbound Ramps to Folsom Boulevard	6	52,100	0.96	E
23. Sunrise Boulevard – Folsom Boulevard to White Rock Road	6	37,200	0.69	B
24. Sunrise Boulevard – White Rock Road to Douglas Road	4	24,600	0.68	B
25. Sunrise Boulevard – Douglas Road to SR-16[2]	2	20,000[3]	1.00	E
26. Sunrise Boulevard – SR-16 to Grant Line Road	2	13,600	0.76	C
27. Hazel Avenue – Winding Way to US-50 Westbound Ramps[2]	4	53,000	1.33	F
28. Grant Line Road – White Rock Road to Douglas Road	2	6,000	0.33	A
29. Grant Line Road –Douglas Road to SR-16	2	6,700	0.37	A
30. Grant Line Road – SR-16 to Sunrise Boulevard	2	5,600	0.31	A

Notes: [1] *Roadway segment is currently not a through roadway.*
[2] *Roadway segment assumed to have high access control.*
[3] *Roadway segment operates at capacity.*
Shaded areas indicate deficiency.
Source: Fehr & Peers*, 2005.*

The following roadway segments operate unacceptably at LOS E or LOS F:

- Sunrise Boulevard – Gold Country Boulevard to Coloma Road
- Sunrise Boulevard – Coloma Road to US-50 Westbound Ramps
- Sunrise Boulevard – US-50 Eastbound Ramps to Folsom Boulevard
- Sunrise Boulevard – Douglas Road to SR-16
- Hazel Avenue – Winding Way to US-50 Westbound Ramps

STUDY INTERSECTIONS

The existing peak hour traffic volumes, traffic control, and intersection lane configurations shown on **Figure 4.4-3** were used to calculate levels of service at the study intersections. **Table 4.4-6** summarizes intersection LOS under existing conditions.

TABLE 4.4-6
INTERSECTION LEVEL OF SERVICE - EXISTING CONDITIONS

Intersection	Control	AM Peak		PM Peak	
		V/C[1] or Delay[2]	LOS[3]	V/C or Delay	LOS
1. SR-16/Excelsior Road	Signalized	0.74	C	0.73	C
2. SR-16/Eagles Nest Road	Side-Street Stop	23	C	29	D
3. SR-16/Sunrise Boulevard	Signalized	1.01	F	0.97	E
4. SR-16/Grant Line Road	Signalized	1.00	E	1.04	F
5. Florin Road/Sunrise Boulevard	Signalized	0.44	A	0.69	B
6. Grant Line Road/Sunrise Boulevard	All -Way Stop	33	D	> 50	F
7. Grant Line Road/Kiefer Boulevard	All -Way Stop	10	A	10	B
8. Douglas Road/Grant Line Road	Side-Street Stop	13	B	14	B
9. Douglas Road/Sunrise Boulevard	Signalized	0.68	B	0.73	B
10. Mather Field Road/Folsom Boulevard	Signalized	0.71	A	0.92	C
11. Mather Field Road/US-50 Westbound Ramps	Signalized	0.50	A	0.59	A
12. Mather Field Road/US-50 Eastbound Ramps	Signalized	0.80	D	0.54	A
13. Mather Field Road/International Drive	Signalized	0.44	A	0.58	A
14. Zinfandel Drive/International Drive	Signalized	0.29	A	0.40	A
15. Zinfandel Drive/White Rock Road	Signalized	0.54	A	0.85	D
16. Zinfandel Drive/US-50 Eastbound Ramps	Signalized	0.89	D	0.97	E
17. Zinfandel Drive/US-50 Westbound Ramps	Signalized	0.44	A	0.52	A
18. Sunrise Boulevard/White Rock Road	Signalized	0.74	C	0.76	C
19. Sunrise Boulevard/Folsom Boulevard	Signalized	0.64	B	0.77	C
20. Sunrise Boulevard/US-50 Eastbound Ramps[4]	Signalized	0.55	A	0.62	B
21. Sunrise Boulevard/US-50 Westbound Ramps[4]	Signalized	0.54	A	0.73	C
22. Sunrise Boulevard/Zinfandel Drive	Signalized	1.03	F	1.80	F
23. Hazel Avenue/Folsom Boulevard	Signalized	0.66	B	0.78	C
24. Hazel Avenue/US-50 Eastbound Ramps[4]	Signalized	0.49	A	0.64	B
25. Hazel Avenue/US-50 Westbound Ramps[4]	Signalized	0.74	C	0.85	D
26. White Rock Road/Grant Line Road	Side-Street Stop	18	C	> 50	F

Notes: [1] *V/C (volume-to-capacity) ratio is shown for signalized intersections.*
[2] *Delay for side-street stop unsignalized intersections reported for worst-case approach, for all-way stop intersections. Average intersection delay reported in seconds per vehicle.*
[3] *LOS = level of service*
[4] *Operations are worse at these ramp terminal intersections than reflected in the LOS analysis. LOS is based on vehicles that get through the intersections. Due to upstream and downstream congestion, fewer cars get through the intersection, which yields a better LOS.*
Shaded areas indicate deficiency.
Source: Fehr & Peers, *2005.*

As shown in **Table 4.4-6**, the following intersections operate unacceptably:

- SR-16/Sunrise Boulevard in the AM and PM peak hours
- SR-16/Grant Line Road in the AM and PM peak hours
- Grant Line Road/Sunrise Boulevard in the PM peak hour
- Zinfandel Drive/US-50 Eastbound Ramps in the PM peak hour
- Sunrise Boulevard/Zinfandel Drive in the AM and PM peak hours
- White Rock Road/Grant Line Road in the PM peak hour

Insert Figure 4.4-2 – Average Daily Traffic Volumes – Existing Conditions

Insert Figure 4.4-3 – Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Existing Conditions

In addition, the Sunrise Boulevard/US-50 and Hazel Avenue/US-50 ramp terminal intersections are shown to operate at LOS D or better during the AM and PM peak hours. However, the analysis methodology accounts for only vehicles that travel through the intersection during the peak hour and does not account for queued vehicles that do not make it through the intersection (i.e., total intersection demand). Based on field observations, the LOS experienced by motorists is worse than reported for vehicles actually served during peak hour conditions.

At the time the City released the Notice of Preparation (NOP) for the environmental studies, the Grant Line Road/Sunrise Boulevard intersection was all-way stop controlled. The analysis in **Table 4.4-6** assumes all-way stop control. Sacramento County installed a traffic signal at the intersection subsequent to the NOP. The intersection operates at LOS C with traffic signal control.

Signal Warrant Analysis

Peak hour volumes were used to determine if any of the unsignalized intersections currently satisfy the Caltrans peak hour volume for traffic signal installation. The results indicate that the following unsignalized intersections satisfy the peak hour volume warrant for traffic signal installation:

- SR-16/Eagles Nest Road – AM and PM peak hours
- Grant Line Road/Sunrise Boulevard – AM and PM peak hours
- Grant Line Road/Douglas Road – PM peak hour only
- Grant Line Road/White Rock Road – PM peak hour only

Freeway Facilities

Existing condition freeway operations for freeway segments, ramp junctions, and weaving sections are presented below.

Freeway Segments

Table 4.4-7 summarizes peak hour freeway segment LOS. The analysis indicates that the westbound segment of US-50 east of Hazel in the AM and PM peak hours and the segment west of Mather Field in the PM peak hour operate at LOS F. All other segments operate acceptably (LOS E or better) based on the HCM methodology. However, the Caltrans District 3 *Highway Congestion Monitoring Program (HICOMP) for Sacramento Metropolitan Area*, Fall 2004 identifies congested (LOS F) conditions on the following US-50 segments during the AM and PM peak hours:

AM Peak Hour
- Folsom Boulevard to Hazel Avenue (westbound)
- Zinfandel Drive to Bradshaw Road (westbound)

The HCM methodology indicates westbound US-50 operation at LOS F east of Hazel Avenue, which is consistent with the HICOMP report. West of Zinfandel Drive, the HCM methodology indicates LOS D operation west of Zinfandel Drive.

PM Peak Hour

- Zinfandel Drive to Folsom Boulevard (eastbound)
- Zinfandel Drive to Bradshaw Road (westbound)

The HCM methodology indicates eastbound US-50 operation at LOS E between Zinfandel Drive and Hazel Avenue and LOS D east of Hazel Avenue. Westbound, the HCM methodology indicates LOS E and F operation west of Zinfandel Drive.

Although generally consistent, the different results are due to the differences in analysis methodology. The LOS results in the HICOMP report are based on field measurements using a "floating car" method, which includes the affect of downstream bottlenecks that cause vehicle queues that impact upstream operations. The HCM methodology does not account for downstream conditions.

TABLE 4.4-7
FREEWAY SEGMENT LEVEL OF SERVICE - EXISTING CONDITIONS

Segment	Number of Lanes[3]	AM Peak		PM Peak	
		Density[1]	LOS[2]	Density[1]	LOS[2]
Eastbound US-50					
West of Mather Field Road	4	45	E	35	E
Mather Field Road to Zinfandel Drive	4	32	D	35	E
Zinfandel Drive to Sunrise Boulevard	4	23	C	35	E
Sunrise Boulevard to Hazel Avenue	3	27	D	36	E
East of Hazel Avenue	3	26	D	31	D
Westbound US-50					
East of Hazel Avenue	2	-	F	-	F
Hazel Avenue to Sunrise Boulevard	3	36	E	26	C
Sunrise Boulevard to Zinfandel Drive	4	34	D	25	C
Zinfandel Drive to Mather Field Road	4	34	D	29	E
West of Mather Field Road	4	34	D	-	F

Notes: [1] *Density in passenger cars per mile per lane.*
LOS = Level of Service.
Excludes HOV lanes.
Shaded identifies unacceptable operations.
Source: Fehr & Peers, *2005.*

Freeway Ramp Merge/Diverge and Weaving Analysis

The results of the freeway merge/diverge/weave analyses are summarized in **Table 4.4-8**. The following merge/diverge/weave maneuvers are operating at LOS F, where demand exceeds capacity based on the HCM methodology:

- Eastbound US-50/Mather Field Road Direct Off-Ramp – AM peak hour only
- Westbound US-50/Hazel Avenue Direct Off-Ramp – AM peak hour only
- Westbound US-50/Zinfandel Drive Direct On-Ramp – AM peak hour only
- Westbound US-50/Mather Field Loop/Direct On-Ramp – AM and PM peak hours.

Based on the HICOMP, all US-50 ramp merge/diverge/weave sections that are located in the congested segments identified above would also operate at LOS F.

TABLE 4.4-8
MERGE/DIVERGE/WEAVE LEVEL OF SERVICE - EXISTING CONDITIONS

Ramp	Merge, Diverge, or Weave	AM Peak		PM Peak	
		Density[1]	LOS[3]	Density[1]	LOS[3]
Eastbound US-50					
Mather Field Road Direct Off-Ramp	Diverge	-	F	39	E
Mather Field Road Loop On-Ramp	Merge	23	C	23	C
Mather Field Road Direct On-Ramp	Merge	22	C	22	C
Zinfandel Drive Direct Off-Ramp	Diverge	23	C	15	B
Zinfandel Drive Loop On-Ramp	Merge	20	B	25	C
Zinfandel Drive Direct On-Ramp	Merge	20	B	24	C
Sunrise Boulevard Direct Off-Ramp	Diverge	22	C	31	D
Sunrise Boulevard Loop/Direct On-Ramp	Merge	27	C	36	E
Hazel Avenue Direct Off-Ramp	Diverge	15	B	23	C
Hazel Avenue Loop/Direct On-Ramp	Weave	N/A	F	N/A	F
AeroJet Direct Off-Ramp					
Westbound US-50					
Hazel Avenue Direct Off-Ramp	Diverge	-	F	37	E
Hazel Avenue Loop On-Ramp	Merge	37	E	30	D
Sunrise Boulevard Direct Off-Ramp	Diverge	14	B	31	D
Zinfandel Drive Direct Off-Ramp	Diverge	37	E	29	D
Zinfandel Drive Loop On-Ramp	Merge	29	D	28	C
Zinfandel Drive Direct On-Ramp	Merge	-	F	-	F
Mather Field Road Direct Off-Ramp	Diverge	36	E	37	E
Mather Field Road Loop/Direct On-Ramp	Merge	-	F	-	F

Notes: [1] *Density in passenger cars per mile per lane for merge/diverge analysis only.*
[2] *LOS = Level of Service. LOS computed using HCS 2000 software for the merge/diverge analysis consistent with HCM 2000 methodologies. Weave analysis evaluated using the Leisch Method for Weaving Analysis.*
Shaded areas identify unacceptable operations.
N/A = Not Applicable.
Source: Fehr & Peers, *2005.*

Caltrans is conducting the U.S. Highway 50 HOV Lane Project Plus Community Enhancement Project. This project proposes to add HOV lanes (one lane eastbound and one lane westbound) between Sunrise Boulevard and Downtown Sacramento and to develop strategies and projects to improve the street system adjacent to US-50. The following is a link to the Caltrans District 3 project website, which was updated June 13, 2005.

http://www.dot.ca.gov/dist3/projects/Sac50HOV/index.htm

Transit System

Sacramento Regional Transit (RT) operates bus and light rail transit (LRT) service in Sacramento County. Existing fixed-route bus and LRT service near the project site are described below.

Fixed-route Bus Service

Fixed-route bus service is provided northwest of the project site. Routes 73 and 74 provide service along White Rock Road. Route 109 operates during weekday peak periods only along US-50. The following describes these individual routes in detail.

- *Route 73* provides service between the Mather Field/Mills Light Rail station and Kilgore Road near the US-50/Sunrise Boulevard interchange. Weekday service is provided between 6:20 AM and 6:45 PM on 15- to 60-minute headways. Saturday service is provided between 8:00 AM and 6:20 PM on 60-minute headways. No Sunday or holiday service is provided.

- *Route 74* provides fixed-route service between the Mather Field/Mills Light Rail station and Kilgore Road on weekdays only. The route operates between 6:00 AM and 6:20 PM on 60-minute headways. No Saturday, Sunday or holiday service is provided.

- *Route 109* (Hazel Express) is an express bus route between Orangevale and Downtown Sacramento. During the morning commute period (6:30 AM to 8:00 AM the route operates on approximately 30-minute headways in the westbound direction only. During the evening commute period (4:35 PM to 6:20 PM) the route operates on 45- to 50-minute headways in the eastbound direction only.

Light Rail Transit Service

Light Rail Transit (LRT) service is provided from Downtown Sacramento along the US-50 corridor to the Sunrise Boulevard Station. An LRT extension eastward to the City of Folsom is currently under construction with operation scheduled to begin in 2005. The Sunrise Boulevard station has a 489-space park-and-ride lot. This station is the closest light rail station to the project site.

Bicycle/Pedestrian Facilities

Bicycle facilities include Class I (off-street facilities), Class II (on-street bicycle lanes identified with signage and markings), and Class III (on-street bicycle routes identified by signage). Pedestrian facilities are comprised of paths, sidewalks, and pedestrian crossings.

Bicycle and pedestrian facilities are limited near the project site. A Class I off-street bike path parallels Sunrise Boulevard from White Rock Road south to Grant Line Road along the Folsom South Canal. Sidewalks exist on Sunrise Boulevard north and south of White Rock Road; however, sidewalks do not exist on Sunrise Boulevard south of Refinement Road.

The City of Rancho Cordova recently completed a bicycle circulation study that identifies existing and proposed bicycle facilities citywide. The City will be preparing a Bicycle and Pedestrian Master Plan (BPMP) after the City adopts its new General Plan. The purpose of the BPMP is to improve and encourage bicycle and pedestrian transportation in the City of Rancho Cordova. The BPMP will incorporate the bicycle circulation study and establish goals and policies for planning and implementing bicycle and pedestrian facilities in the City of Rancho Cordova.

4.4.2 REGULATORY FRAMEWORK

SACRAMENTO COUNTY GENERAL PLAN

The existing Sacramento County General Plan was adopted in December of 1993. The County's General Plan is undergoing update. The update addresses plans for growth in the next planning cycle (2004-2025) as well as addressing new emerging planning issues. Topics addressed in the Update Project include, but are not limited to, holding capacity, infrastructure financing, policy analysis, smart growth planning, and mature communities. As noted in Section 4.1 (Land Use),

the City is currently operating under its Interim General Plan rather than the Sacramento County General Plan for transportation policy direction in the City.

CITY OF RANCHO CORDOVA GENERAL PLAN

As further described in Section 4.1 (Land Use), the City is currently operating under its Interim General Plan that includes a Circulation Element and the Circulation Plan (which will be the basis of the City's Capital Improvement Program for roadway improvements). The reader is referred to **Appendix 4.0** for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's General Plan consistency, rests with the City of Rancho Cordova City Council. The City has adopted a revised level of service policy (Policy C.1.4) as part of the Interim General Plan Circulation Element. Policy C.1.4 follows:

> "The City shall seek to maintain operations on all roadways and intersections at Level of Service D or better at all times, including peak travel times, unless maintaining this Level of Service would, in the City's judgment, be infeasible and/or conflict with the achievement of other goals. Congestion in excess of Level of Service D may be accepted in these cases, provided that provisions are made to improve traffic flow and/or promote non-vehicular transportation as part of a development project or a City-initiated Project."

This policy is applicable for the consideration of project traffic impacts.

Sunrise-Douglas Community Plan

The circulation section of the Sunrise-Douglas Community Plan provides guidance for the design of roadways, bikeways, pedestrian pathways and the provision of transit services. The Community Plan road system identifies the provision of four lane roadway facilities for Jaeger Road, Americanos Boulevard, and Pyramid Boulevard (now referred to as Chrysanthy Boulevard). The proposed project design reflects these four lane roadway facilities. The reader is referred to **Appendix 4.0** for a consistency analysis with applicable policies pursuant to State CEQA Guidelines Section 15125(d). The final authority for interpretation of these policy statements, and determination of the project's consistency, rests with the City of Rancho Cordova City Council.

2010 Sacramento City/County Bikeway Master Plan

The Bikeway Master Plan identifies existing and planned bicycle routes through and near the planning area. The only existing facility is an off-street path along the Folsom Canal west of Sunrise Boulevard, connecting Hazel Avenue north of the freeway with Grant Line Road. On-street bike lanes are planned on Sunrise Boulevard, Grant Line Road, Jackson Road (just past Grant Line Road), Kiefer Road west of Sunrise Boulevard, Douglas Road west of Sunrise Boulevard, and White Rock Road.

The Master Plan also contains design, safety, and traffic control standards for use in constructing and/or upgrading facilities.

Transit Master Plan

Regional Transit's 20-year Master Plan for transit facilities planned feeder bus service for Sunrise Boulevard, Mather Boulevard, and Zinfandel Drive. These bus lines are intended to support light

rail service along the Folsom Boulevard/Highway 50 corridors, which currently extend as far east as Sunrise Boulevard. LRT service will soon be extended to the City of Folsom. As part of that extension, an additional stop is planned at Hazel Avenue.

Sunridge Specific Plan

The Sunridge Specific Plan surrounds the Preserve at Sunridge and is generally bound by Sunrise Boulevard, Douglas Road, Grant Line Road, and Kiefer Boulevard. As part of the Sunridge Specific Plan, conditions of approval were applied to the specific plan identifying dwelling unit thresholds that could not be exceeded without specific roadway improvements in the area either under construction or completed. Of note, Zoning Condition 48 requires that the construction of the Sunrise Reliever interchange (or other roadway improvements) at a development threshold of 6,500 residential building lots to ease congestion levels on Sunrise Boulevard.

Since the thresholds identified in the Sunridge Specific Plan were conditions of approval, they are not directly applicable to the Preserve at Sunridge. However, development of the Preserve at Sunridge will increase traffic burdens on Sunrise Boulevard similar to the Sunridge Specific Plan.

The City is currently undertaking an improvement phasing study that will identify the timing for potential roadway improvements (consistent with the City's proposed capital improvement program) to ease congestion on Sunrise Boulevard. This phasing study will correlate development thresholds for all development south of US-50 and east of Sunrise Boulevard to roadway improvements to satisfy the conditions placed on the Sunridge Specific Plan.

City of Rancho Cordova Transportation Improvement Program and Capital Improvement Plan

The City currently has a five year Transportation Improvement Program (TIP) (2005 – 2010) that includes several roadway facilities in the project area, including improvements to Douglas Road, Jaeger Road, Kiefer Boulevard, Sunrise Boulevard, and State Route 16. Funding sources associated with current TIP include development fees, financing districts, Measure A sales tax, and state and federal funding sources. The City is proposing to adopt a new Capital Improvement Plan (CIP) for roadway improvements in the fall of 2005 and will include updated development fees and additional roadway improvements identified in the City's Interim General Plan Circulation Plan.

4.4.3 PROJECT IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

The impact analysis provided below is based on the following State CEQA Guidelines Appendix G:

1. Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections).
2. Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.
3. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
5. Result in inadequate emergency access.
6. Result in inadequate parking capacity.
7. Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Consistent with California Government Code Section 65089, the Sacramento Transportation Authority (STA), acting as the County's Congestion Management Agency (CMA), was responsible for preparing, monitoring, and enforcing the County's Congestion Management Plan (CMP). In 1996, Sacramento County adopted a resolution (Resolution No. 96-1276) to be exempt from the CMP in accordance with Assembly Bill (AB) 2419 (Bowler), Section 65088.3. Therefore, threshold of significance (b) (above) is not applicable.

Conditions without and with the project have been compared to identify significant impacts according to the following criteria specific to the project area:

1) If a facility is projected to operate acceptably (i.e., LOS D or better for City roadway facilities or roadway facilities within the City's Planning Area) without the project and the project is expected to cause the facility to operate at an unacceptable LOS (LOS E or F), the impact is considered significant under thresholds of significance (a) above. In addition, if the project's traffic volume (at buildout) were to result in substantial increase in traffic volumes along Sunrise Boulevard beyond the 6,500 residential building lot threshold for allowed traffic volumes along Sunrise Boulevard prior to additional capacity improvements to the Sunrise Boulevard corridor as set forth in Zoning Condition 48 associated with the Sunridge Specific Plan.
2) If a facility is projected to operate unacceptably (i.e., LOS E or F) without the project, and the project is expected to cause an increase in volume-to-capacity (V/C) ratio greater than 0.05 for roadway segments and signalized intersections or an increase in delay greater than 5 seconds at a movement or approach at an unsignalized intersection, the impact is considered significant under thresholds of significance (a) and (b) above.
3) Failure to comply with the transportation and circulation policies and standards of the City of Rancho Cordova, Caltrans, and Sacramento County would result in a significant impact under thresholds of significance (f) and (g) above. In addition, the project is considered to have a significant effect on bike and pedestrian facilities if it would result in adverse effects to existing bikeways or pedestrian facilities that would discourage their use and result in safety issues (thresholds of significance (d) and (g) above.

The above significance criteria are based on existing traffic level of service standards of the City, Caltrans, and Sacramento County. Project impacts associated with emergency access (threshold of significance [e] above) is addressed in Section 4.11 (Public Services) of this document; and impacts associated with potential conflicts with air traffic (threshold of significance [c] above) is addressed in Section 4.1 (Land Use). As described in Section 4.1 (Land Use) no conflicts with existing land uses that would result in traffic conflicts are expected.

TRAVEL DEMAND FORECASTS

A Modified version of the SACMET regional travel demand forecasting (TDF) model (v.01) was used to develop daily, AM peak hour, and PM peak hour traffic volume forecasts for the study roadways and intersections for the following analysis scenarios. Assumptions regarding assumed roadway improvements and development conditions are provided later in this section.

- Baseline Conditions – Baseline conditions are defined as existing conditions with traffic from approved projects (i.e., projects with tentative map approval) in the study area, including 6,500 units developed in the Sunridge Specific Plan. City staff identified approved projects for inclusion in this scenario. In addition, this scenario incorporates roadway improvements that are under construction or are included in the City's 5-year TIP with an anticipated completion date of 2006.
- Baseline Plus Project Conditions – Baseline Plus Project conditions are defined as Baseline conditions with buildout of the Preserve at Sunridge.
- Interim Year (2014) Conditions – Interim Year (2014) Conditions are defined as existing traffic volumes with traffic from partial or full buildout of approved developments in Rancho Cordova with regional traffic growth to Year 2014. Approved projects in the Rancho Cordova area (identified by City staff) that are included in Interim Year Conditions. The 2014 conditions would include approved and entitled projects and Phase I of Rio del Oro.
- Interim Year (2014) Plus Project Conditions – Interim Year (2014) Plus Project Conditions are defined as Interim Year (2014) Conditions plus buildout of the Preserve at Sunridge.
- Cumulative (Year 2030) Conditions – Cumulative (Year 2030) Conditions are defined as traffic from Year 2030 development of the City of Rancho Cordova plus Year 2030 levels of development, regionally. Year 2025 SACMET regional household and job projections were factored to develop estimates for Year 2030 conditions outside the City of Rancho Cordova. Year 2030 growth projections within the City were provided by City staff.
- Cumulative (Year 2030) Plus Project Conditions – Cumulative (Year 2030) Plus Project Conditions are defined as Cumulative Conditions plus buildout of the Preserve at Sunridge.

For Cumulative (Year 2030) No Project and Cumulative (Year 2030) Plus Project Conditions, projections were developed with and without the extension of Hazel Avenue as a four-lane arterial from the current terminus (south of Folsom Boulevard) to Grant Line Road. This additional roadway scenario was considered based on the Circulation Plan of the Interim General Plan.

Land use and roadway network modifications are described below.

LAND USE MODIFICATIONS

Land use modifications included adding traffic analysis zone (TAZ) detail to the traffic model for the project and surrounding area. Ten TAZs were added to the traffic model to represent the project area. **Figure 4.4-4** shows SACMET traffic model land use inputs for the Preserve at Sunridge by TAZ. TAZs detail was also added to reflect other study-area developments, including the Sunridge Specific Plan projects, Suncreek Specific Plan, Villages of Zinfandel, Glenborough, Westborough, and Rio Del Oro Specific Plan.

ROADWAY NETWORK MODIFICATIONS

Roadway network modifications included adding new roads in the project area and creating new connections to the existing and planned roadway systems under Baseline, Interim Year (2014), and Cumulative (Year 2030) Conditions. Traffic model roadway network assumptions for Baseline, Interim Year (2014), and Cumulative (Year 2030) conditions are summarized below:

Baseline Conditions

- Airpark Drive – New two-lane roadway from Mather Boulevard to International Drive
- Chrysanthy Boulevard – New two-lane roadway from Sunrise Boulevard to Jaeger Road
- Coloma Road/Cordova Lane Intersection – Install Traffic Signal
- Data Drive/Disk Drive – Install Intersection
- Data Drive/Zinfandel Drive – Install Traffic Signal
- Douglas Drive – Widen to four lanes from Sunrise Boulevard to Americanos Boulevard
- International Drive/Prospect Park Drive Intersection – Install Intersection
- International Drive/Road B Intersection – Install Intersection
- Jaeger Road – New two-lane roadway from Douglas Road to Chrysanthy Boulevard
- Jaeger Road – New two-lane roadway from Chrysanthy Boulevard to Kiefer Boulevard
- Kilgore Road/Trade Center Drive Intersection – Install Traffic Signal
- Sunrise Boulevard – Widen to four lanes from Douglas Road to Kiefer Boulevard
- Sunrise Boulevard – Frontage improvements from Sunrise Park Drive to Douglas Road
- Sunrise Boulevard – Widen to six lanes from Douglas Road to White Rock Road
- Zinfandel Drive/Road A Intersection – Install Intersection

Figures 4.4-5 through **4.4-7** show roadway assumptions for the Baseline, Interim Year (2014, and Cumulative (Year 2030) conditions, respectively. Regional and local roadways assumed for Cumulative Conditions are consistent with improvements identified in the previous Metropolitan Transportation Plan (MTP) for year 2025 that were identified as fundable . However, it is noted that subsequent to the initiation of the environmental review of this project in 2004 that the Sacramento Area Council of Governments (SACOG) adopted a new MTP in July 2005 that no longer contains regional transportation projects as a result of the lapse in air quality conformity (associated with attainment efforts for federal Clean Air Act standards for ozone). Based on consultation with SACOG and Sacramento Metropolitan Air Quality Management District, this issue will be resolved after the approval of the Rate-of-Progress State Implementation Plan for Air Quality for the Sacramento Air Basin in early 2006 and the adoption of a new MTP containing the regional transportation projects identified in the 2025 MTP (Jester, 2005). Given these conditions, the regional and local improvements identified in the MTP for the year 2025 were still assumed. Roadway improvements identified in the MTP for construction prior to Year 2014 were assumed for Interim Year (2014) Conditions except for the extension of Zinfandel Drive south of International Drive (i.e., through the Villages of Zinfandel project) based on direction from City staff at the time this scenario was developed. However, it is acknowledged that this improvement is now within the City's five year TIP and is projected to be in place in the year 2009. For Interim Year (2014) conditions, Chrysanthy Boulevard was assumed constructed as a four-lane roadway through the project site. In addition, the extension of Zinfandel Drive south of International Drive was not assumed. Additionally, the Sunrise Reliever interchange at US-50 was assumed (given that this improvement is a requirement of the Sunridge Specific Plan at 6,500 residential units and is anticipated to be constructed by the City prior to 2014) along with roadways that provide direct access to development projects assumed for Interim and/or Cumulative Scenarios (outlined above), such as Jaeger Road and Americanos Boulevard in the Rio Del Oro Specific Plan area, were also assumed. It should be noted that several of these roadway improvements include improvements that are conditions of approval for the Sunridge Specific Plan and are included within the Sunridge Specific Plan Public Facilities Financing Plan as well as the existing City's five year TIP and the proposed CIP.

Vehicle-Trip Generation Estimates

The SACMET TDF model was used to develop the trip generation estimate for the Preserve at Sunridge. **Appendix 4.4** of this EIR contains the model run output from the SACMET TDF model for the proposed project. **Table 4.4-9** summarizes the total vehicle trips for the Preserve at Sunridge during AM peak hour, PM peak hour, and daily conditions. Total vehicle trips include the following trip types:

- Intra-zonal Trips – Trips that occur within a single TAZ, like a home-to-school trip during the AM peak hour in TAZ 1148 (see **Figure 4.4-4**).
- Internal Trips – Trips that occur within the project area, like a trip between a house in TAZ 1148 and the shopping center in TAZ 1143 (see **Figure 4.4-4**).
- External Trips – Trips that have one end in the project area and one end outside the project area.

TABLE 4.4-9
VEHICLE TRIP GENERATION SUMMARY FOR PRESERVE AT SUNRIDGE

Development	Total Vehicle Trips[1]		
	Peak Hour		Daily
	AM	PM	
Total Trips[1]	2,860	2,890	34,170

Notes: [1] Total vehicle trip summary based on 2001 Version of the SACMET TDF Model. Vehicle trips have been rounded to nearest 10 trips.
Source: Fehr & Peers, *2005.*

Traffic Volume Forecasts

Daily, AM peak hour, and PM peak hour traffic volume forecasts were developed for the analysis scenarios identified above using the following steps:

- Developed Baseline, Interim Year (2014) and Cumulative (Year 2030) "No Project" traffic volume forecasts.
- Added the Preserve at Sunridge to the Baseline, Interim Year, and Cumulative traffic models and developed scenario-specific project trip distributions using a select zone assignment method.
- Added project-only trips to the "No Project" traffic volume forecasts.

All traffic volume forecasts were adjusted to account for the difference between the base year traffic volume forecasts and existing counts by adding the growth in traffic between the base year and future year forecasts. **Figures 4.4-8** through **4.4-11** summarize daily roadway segment traffic volume forecasts and **Figures 4.4-12** through **4.4-19** summarize peak hour intersection turning movement forecasts for Baseline, Interim Year (2014), and Cumulative (Year 2030) conditions without and with the Preserve at Sunridge.

Insert Figure 4.4-4 – SACMET Model Land Use Inputs by TAZ

INSERT FIGURE 4.4-5 – BASELINE ROADWAY NETWORK

INSERT FIGURE 4.4-6 – YEAR 2014 ROADWAY NETWORK

INSERT FIGURE 4.4-7 – YEAR 2030 ROADWAY NETWORK

Insert Figure 4.4-8 – Baseline Plus Project Average Daily Traffic Volumes

Insert Figure 4.4-9 – Interim Year (2014) Average Daily Traffic Volumes

Insert Figure 4.4-10 – Cumulative (Year 2030) Without Hazel Average Daily Traffic Volumes

Insert Figure 4.4-11 – Cumulative (Year 2030) With Hazel Average Daily Traffic Volumes

Insert Figure 4.4-12 – Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Baseline No Project Conditions

Insert Figure 4.4-13 – Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Baseline Plus Project Conditions

Insert Figure 4.4-14 – Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Interim Year (2014) Conditions

Insert Figure 4.4-15 – Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Interim Year (2014) With Project Conditions

Insert Figure 4.4-16 – Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Cumulative (Year 2030) No Project Without Hazel Conditions

Insert Figure 4.4-17 – Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Cumulative (Year 2030) No Project With Hazel Conditions

Insert Figure 4.4-18 – Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Cumulative (Year 2030) With Project Without Hazel Conditions

Insert Figure 4.4-19 – Peak Hour Traffic Volumes, Lane Configurations, and Traffic Control – Cumulative (Year 2030) With Project With Hazel Conditions

PREVIOUS ENVIRONMENTAL REVIEW IN THE SDCP/SRSP EIR

The following summary of impacts and mitigation measures were identified in the CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project. The wording of these mitigation measures wording was slightly modified to reflect actual improvements/actions required and incorporated into the Sunridge Specific Plan Zoning Conditions and the Specific Plan Public Facilities Financing Plan. While these impacts and mitigation measures are primarily associated with the Sunridge Specific (which does not include the proposed project), these traffic impacts and mitigation measures involve the same roadway facilities that would be impacted by the project and a capacity limitation to area development impacts to the Sunrise Boulevard corridor (i.e., Zoning Condition 48). The reader is referred to these CEQA Findings for a complete description of the findings and conclusions associated with the approval of the Sunrise Douglas Community Plan and the Sunridge Specific Plan.

Impact *A significant number of trips will be generated by the Specific Plan under existing plus project conditions. Development of the Community Plan will generate a significant number of trips. These impacts are considered significant and unavoidable.*

Impact *The Specific Plan is expected to exacerbate traffic on freeway segments and ramps under existing conditions. This impact is considered to be significant and unavoidable.*

Impact *Development under the Specific Plan would exacerbate traffic on roadway segments under existing conditions. Some of these impacts are considered to be significant and unavoidable.*

Impact *Under existing conditions, development under the Specific Plan would exacerbate already unacceptable levels of traffic at some intersections and cause conditions at other intersections to deteriorate to a level that exceeds current standards. Some of those impacts are considered to be significant and unavoidable.*

Impact *A significant number of trips will be generated by development under the Specific Plan under cumulative conditions. The impact of these trips is considered to be significant and unavoidable.*

Impact *Traffic associated with development under the Specific Plan is expected to exacerbate future congested conditions on US Highway 50 and at several ramp locations. Mitigation measures can reduce the effects in part; however, the impact of additional congestion on certain freeway segments and ramps under cumulative conditions will remain significant and unavoidable.*

Impact *The effects of increased traffic associated with development under the Specific Plan on roadway segments under cumulative conditions are considered to be significant and unavoidable.*

Impact *Under cumulative conditions, development under the Specific Plan will exacerbate traffic at some project area intersections. These effects are considered significant and unavoidable.*

Impact *The impacts of increased traffic on the Sunrise Boulevard corridor from development within the Project area are considered significant and unavoidable.*

Impact *The impact of development in the project area on transit availability and usage is considered to be significant.*

Mitigation Measures

TC-1 *Development within the Specific Plan area shall be obligated to participate in fair share funding for freeway, transit, and rail improvements. This fair share obligation shall be met through the payment of Road and Transit Development Fees, and through the establishment and payment of fees into a Public Facilities Financing Plan.*

TC-2 *The project shall participate on a fair share basis in any program implemented by the County, Caltrans, or other local agencies to reduce vehicle travel on Sunrise Boulevard.*

TC-3 *Widen Sunrise Boulevard from White Rock Road to Douglas Road from four lanes to six lanes, and from Douglas Road to Jackson Highway from two lanes to four lanes. This improvement would increase capacity on Sunrise Boulevard to accommodate existing and project-generated traffic. This widening should occur when traffic volumes reach 90 percent of capacity of a four-lane facility, or 32,400 daily vehicles, and 90 percent of capacity of a two-lane facility or 16,200 daily vehicles.*

TC-4 *Widen Douglas Road from Americanos Road to access roads approximately 1,500 feet west of Sunrise Boulevard from two lanes to four lanes. This improvement would increase capacity on Douglas Road to accommodate primarily project-generated traffic. This widening should occur when traffic volumes reach 90 percent capacity for a two-lane facility, or 16,200 vehicles.*

TC-5 *On a "fair share" basis satisfactory to the County Transportation Department, widen Folsom Boulevard to six lanes between Mather Field Road and Coloma Road to accommodate existing and project generated traffic.*

TC-6 *Widen sections of Hazel Avenue from Folsom Boulevard to Winding Way, from its current four lanes to its ultimate width of six lanes to accommodate existing and project-generated traffic.*

TC-7 *Widen Jackson Highway from two lanes to four lanes from 1,000 feet east of Bradshaw Road to 1,000 feet west of Bradshaw Road (for intersection approach widening). This improvement would provide appropriate taper lengths for widening at the Jackson Highway/Bradshaw Road intersection, as well as increase capacity for existing and project traffic on Jackson Highway. [Included in Public Facilities Financing Plan.]*

TC-9 *The Jackson Highway/Bradshaw Road intersection shall be improved to include one left-turn lane, two through lanes, and one right-turn lane on the eastbound and westbound approaches. Improvements to the traffic signal shall include adequate clearance to accommodate the ultimate widening of*

Jackson Highway to 6 lanes. This improvement should improve operations at this intersection from LOS F to LOS D during the AM and PM peak hours. This improvement shall be implemented when the service level at this intersection begins to exceed Sacramento County standards. [Included in Public Facilities Financing Plan.]

TC-10 *At the intersection of Jackson Highway/Eagles Nest Road, construct a traffic signal with protected left turns on Jackson Highway. Installation of the traffic signal shall include adequate clearance to accommodate the ultimate widening of Jackson Highway to 4 lanes. This improvement should improve operations at this intersection from LOS F to LOS E during the AM peak hour, and from LOS F to LOS C during the PM peak hours. This improvement shall be implemented when the service level at this intersection begins to exceed Sacramento County standards. [Included in Public Facilities Financing Plan.]*

TC-11 *At the intersection of Jackson Highway and Excelsior Road, construct a traffic signal with protected left turns on Jackson Highway. Installation of the traffic signal shall include adequate clearance to accommodate the ultimate widening of Jackson Highway to four lanes. This improvement should improve operations at this intersection from LOS F to LOS E during the AM peak hour, and from LOS E to LOS C during the PM peak hour. This improvement shall be implemented when the service level at this intersection begins to exceed Sacramento County standards. [Included in Public Facilities Financing Plan.]*

TC-12 *At the intersection of Jackson Road/Sunrise Boulevard, construct an exclusive left-turn lane, two through lanes, and an exclusive right-turn lane on all approaches. In the eastbound approach, construct two exclusive left-turn lanes. This improvement should improve operations at this intersection from LOS F to LOS B during the AM peak hour, and from LOS F to LOS C during the PM peak hour. This improvement shall be implemented when the service level at this intersection begins to exceed Sacramento County standards. [Included in Public Facilities Financing Plan.]*

TC-13 *At the intersection of Mather Field Road and Folsom Boulevard, construct an additional through lane on the eastbound approach for a total of two through lanes and a shared through and right-turn lane. This improvement should improve operations at this intersection from LOS F to LOS E during the PM peak hour. This improvement shall be implemented when the service level at this intersection begins to exceed Sacramento County standards. [Included in Public Facilities Financing Plan.]*

TC-14 *The project proponents shall work with Sacramento County to implement programs, such as carpooling or transit incentives, to help reduce vehicle travel on congested facilities such as Sunrise Boulevard and White Rock Road in Sacramento County.*

TC-15 *The addition of project traffic will exacerbate operations at the Coloma Road/Sunrise Boulevard intersection, which currently operates at LOS F during the AM and PM peak hours. This intersection was recently improved by the County to include two left-turn lanes, a shared left/through lane, and exclusive through and right-turn lanes on the Coloma Road approaches. These improvements have resulted in better lane usage and more efficient*

operations at the intersection. However, no additional widening on Sunrise Boulevard is feasible. The project proponents shall work with Sacramento County to implement programs, such as carpooling and transit incentives, to help reduce vehicle travel on congested facilities such as Sunrise Boulevard in Sacramento County. [Board note: the only proposed mitigation is the proponents' participation in the County programs to reduce congestion.]

TC-16 *The addition of project traffic will exacerbate operations at the Zinfandel Drive/Sunrise Boulevard intersection, which currently operates at LOS F during the AM and PM peak hour. This intersection is currently built to its maximum configuration. There are no feasible mitigation measures to effectively increase capacity. Congestion levels without or with the Sunrise Douglas project will be high. However, some optional improvements could include modifying signal timing to improve operations (if feasible). The project proponents shall work with Sacramento County to implement programs, such as carpooling and transit incentives, to help reduce vehicle travel on congested facilities such as Sunrise Boulevard in Sacramento County. [Board note: the only proposed mitigation is the proponents' participation in the County programs to reduce congestion.]*

TC-17 *At the intersection of Florin Road and Sunrise Boulevard, construct a traffic signal with protected left turns on Sunrise Boulevard. This improvement should improve operations at this intersection from LOS F to LOS B during the AM peak hour, and from LOS F to LOS D during the PM peak hour. This improvement shall be implemented when the service level at this intersection begins to exceed Sacramento County standards. [This mitigation has already been accomplished.]*

TC-18 *All-way stop control was recently installed at the Sunrise Boulevard/Grant Line Road intersection. Construction of a traffic signal with protected left turns on Sunrise Boulevard and on Grant Line Road should improve operations at this intersection from LOS F to LOS B during the AM peak hour, and from LOS F to LOS E during the PM peak hour. This improvement shall be implemented when the service level at this intersection begins to exceed Sacramento County standards. [Included in Public Facilities Financing Plan.]*

TC-19 *At the intersection of Sunrise Boulevard/Folsom Boulevard, construct a free right- turn on the eastbound approach. Although this improvement will not improve operations at this intersection to acceptable levels, it will improve the V/C from 1.71 to 1.20 during the PM peak hour. This improvement shall be implemented when the service level at this intersection begins to exceed Sacramento County standards. [For reasons explained earlier, this proposal was made in error, as "[s]ince this intersection is currently built to its ultimate capacity, there are no feasible mitigation measures to effectively increase capacity."]*

TC-20 *Minor improvements to signal timing, striping, and left turn restriction along Sunrise Boulevard may be useful in helping some locations operate more efficiently. These shall be examined and implemented where feasible. (Note – this measure was not adopted but was subsumed within Zoning Condition 38)*

TC-21 *If feasible at the intersection of Mather Field Road and International Drive under future conditions, on a fair share basis determined by the County Transportation Department, construct dual left-turn lanes on the westbound approach, and a free right-turn lane on the northbound approach.*

TC-22 *At the intersection of Zinfandel Drive and Douglas Road, construct an additional through lane on the northbound and southbound approaches for a total of three through lanes on each of these approaches. This improvement would improve operations at this intersection from LOS F to LOS E during the PM peak hour. This improvement shall be implemented when the service level at this intersection begins to exceed Sacramento County standards. [Included in the Mather Public Facilities Financing Plan.]*

TC-23 *At the intersection of Sunrise Boulevard and Douglas Road, construct a free right turn for the westbound to northbound movement. This would not improve operations during the PM peak hour from LOS F to LOS E, but would reduce the V/C ratio from 1.46 to 1.21. This improvement shall be implemented when the service level at this intersection begins to exceed Sacramento County standards.*

TC-24 *The addition of project traffic would exacerbate unacceptable operations at the intersection of White Rock Road and Sunrise Boulevard, which is expected to operate at LOS F during the AM and PM peak hours. This intersection would be built to its maximum configuration with the widening of Sunrise Boulevard and White Rock Road. There are no feasible mitigation measures to effectively increase capacity. However, some optional improvements could include modifying signal timing or restricting left turns. The project proponents shall work with Sacramento County to implement programs, such as carpooling and transit incentives, to help reduce vehicle travel on congested facilities such as Sunrise Boulevard in Sacramento County. [Included in Public Facilities Financing Plan.]*

TC-25 *The addition of project traffic would exacerbate unacceptable operations at the intersection of Zinfandel Drive and Sunrise Boulevard, which is expected to operate at LOS F during the AM and PM peak hours. Since this intersection is currently built to its ultimate configuration, there are no feasible mitigation measures to effectively increase capacity. However, some optional improvements could include modifying signal timing or restricting left turns. The project proponents shall work with Sacramento County to implement programs, such as carpooling and transit incentives, to help reduce vehicle travel on congested facilities such as Sunrise Boulevard in Sacramento County. [Board note: the only proposed mitigation is the proponents' participation in the County's congestion relief program.]*

TC-26 *At the intersection of White Rock Road and Grant Line Road, construct a traffic signal. This improvement would also include localized widening on the White Rock Road approaches to provide exclusive left-turn lanes. This would improve PM peak hour operations from LOS F to LOS C. This improvement shall be implemented when the service level at this intersection begins to exceed Sacramento County standards. [Included in Public Facilities Financing Plan.]*

TC-27 *The addition of project traffic would exacerbate operations at the intersection of Folsom Boulevard and Sunrise Boulevard, which is expected to operate at LOS F during the AM and PM peak hours. Since this intersection is currently built to its ultimate configuration, there are no feasible mitigation measures to effectively increase capacity. However, some optional improvements could include modifying signal timing or restricting left turns. The project proponents shall work with Sacramento County to implement programs, such as carpooling and transit incentives, to help reduce vehicle travel on congested facilities such as Sunrise Boulevard in Sacramento County. [Board note: the only proposed mitigation is the proponents' participation in the congestion relief programs. The commentary portion of this measure also confirms the infeasibility of Measure TC-19.]-*

TC-28 *Development in the Specific Plan and Community Plan shall contribute fair-share funding toward the future construction of a 6-lane extension of Jaeger Road from Douglas Road to US 50. The connection at US 50 would provide southerly access only.*

TC-30 *Implement Mitigation Measure PS-10 relating to funding the private shuttle system's long-term operating and maintenance costs.*

TC-31 *Amend the General Plan Transportation Diagram to show Americanos Road north of Douglas Road as a post-2010 thoroughfare. (Note – this measure was implemented through the adoption of an amendment of General Plan Transportation Diagram by the Board.)*

Baseline Conditions

Baseline operations of the study area roadways, intersections, freeway facilities, and bicycle/pedestrian facilities are discussed below.

STUDY ROADWAY SEGMENTS

The daily roadway segments traffic volumes shown on **Figure 4.4-8** were compared to the roadway segment thresholds summarized in **Table 4.4-**1 to analyze traffic operations on the study area roadway segments. **Table 4.4-10** presents the Baseline conditions roadway segment operations without and with the proposed project. Baseline conditions analysis includes additional study roadway segments on Douglas Road and Sunrise Boulevard. Under Baseline conditions, five of the 30 study roadway segments will operate unacceptably (LOS F).

TABLE 4.4-10
ROADWAY LEVEL OF SERVICE – BASELINE CONDITIONS

Roadway Segment	Lanes	Baseline No Project Conditions			Baseline Plus Project Conditions		
		Vol	V/C	LOS	Vol	V/C	LOS
1. SR-16 – Bradshaw Road to Excelsior Road	2	14,800	0.82	D	15,100	0.84	D
2. SR-16 – Excelsior Road to Eagles Nest Road	2	12,100	0.67	B	12,700	0.71	C
3. SR-16 – Sunrise Boulevard to Grant Line Road	2	16,000	0.89	D	16,100	0.89	D
4. Excelsior Road – SR-16 to Kiefer Boulevard	2	3,900	0.22	A	3,900	0.22	A
5. Kiefer Boulevard – Grant Line Road to North of SR-16[1]	2	1,900	0.11	B	2,000	0.12	B
6. Mather Boulevard – Femoyer Street to Douglas Road	2	17,400	0.97	E	**20,400**	**1.13**	**F**

7.	Douglas Road – Mather Boulevard to Sunrise Boulevard	2	18,200	1.01	F	**21,500**	**1.19**	**F**
8.	International Drive – South White Rock Road to Zinfandel Drive	4	13,700	0.38	A	13,900	0.39	A
9.	International Drive – Zinfandel Drive to Kilgore Road	4	8,900	0.25	A	9,100	0.25	A
10.	White Rock Road – Zinfandel Drive to Sunrise Boulevard	6	23,200	0.43	A	24,400	0.45	A
11.	White Rock Road – Sunrise Boulevard to Grant Line Road	2	8,200	0.46	A	8,300	0.46	A
12.	Folsom Boulevard – Zinfandel Drive to Sunrise Boulevard	4	20,300	0.56	A	20,400	0.57	A
13.	Folsom Boulevard – Sunrise Boulevard to Hazel Avenue	2	13,300	0.74	C	13,400	0.74	C
14.	Mather Field Road – Folsom Boulevard to US-50 Westbound Ramps	4	27,000	0.75	C	27,300	0.76	C
15.	Mather Field Road – US-50 Eastbound Ramps to International Drive	6	41,000	0.76	C	43,400	0.80	D
16.	Zinfandel Drive – Folsom Boulevard to US-50 Westbound Ramps	4	24,400	0.68	B	24,600	0.68	B
17.	Zinfandel Drive – US-50 Eastbound Ramps to White Rock Road	6	49,000	0.91	E	50,000	0.93	E
18.	Zinfandel Drive – White Rock Road to International Drive	6	23,000	0.43	A	23,000	0.43	A
19.	Sunrise Boulevard – Gold Country Boulevard to Coloma Road	6	77,600	1.44	F	79,400	1.47	F
20.	Sunrise Boulevard – Coloma Road to US-50 Westbound Ramps	6	85,000	1.57	F	87,100	1.61	F
21.	Sunrise Boulevard – US-50 Eastbound Ramps to Folsom Boulevard	6	58,600	1.09	F	61,200	1.13	F
22.	Sunrise Boulevard – Folsom Boulevard to White Rock Road	6	49,500	0.92	E	**52,800**	**0.98**	**E**
23.	Sunrise Boulevard – White Rock Road to Douglas Road	6	36,700	0.68	B	43,300	0.80	D
24.	Sunrise Boulevard – SR-16 to Grant Line Road	2	15,000	0.83	D	16,000	0.89	D
25.	Hazel Avenue – Winding Way to US-50 Westbound Ramps[2]	4	53,200	1.33	F	53,500	1.34	F
26.	Grant Line Road – White Rock Road to Douglas Road	2	8,900	0.49	A	10,400	0.58	A
27.	Grant Line Road –Douglas Road to SR-16	2	7,100	0.39	A	7,300	0.41	A
28.	Grant Line Road – SR-16 to Sunrise Boulevard	2	6,100	0.34	A	6,300	0.35	A
29.	Douglas Road – Sunrise Boulevard to Jaeger Road	4	21,400	0.59	A	31,700	0.88	D
30.	Douglas Road – Americanos Boulevard to Grant Line Road	2	5,700	0.32	A	7,300	0.41	A
31.	Sunrise Boulevard – Douglas Road to Kiefer Boulevard	4	25,000	0.69	B	26,000	0.72	C
32.	Sunrise Boulevard – Kiefer Boulevard to SR-16	2	23,100	1.16	F	**24,900**	**1.25**	**F**

Notes: [1] Not expected to be a through roadway for Baseline Conditions.
[2] Assumed to have high access control.
*Shaded areas indicate deficiency. **Bold** indicates a violation of the City's LOS standard, a change of LOS from E to F and/or a 0.05 or greater volume to capacity ratio change.*
Source: Fehr & Peers, 2005.

Impact 4.4.1 Implementation of the project under Baseline conditions would result in the worsening of already deficient LOS and/or an increase of 0.05 or greater of the volume-to-capacity ratio on certain deficiently operating roadways located within the project area. This would be a **significant** impact.

Implementation of the proposed project under Baseline conditions will result in the following impacts to study area roadways (see Table 4.4-10):

- The addition of project traffic will add about 3,000 vehicles per day to Mather Boulevard between Femoyer Street and Douglas Road and will cause the LOS to change from LOS E to LOS F. Portions of this roadway facility are within both the City and unincorporated portion of Sacramento County.
- The addition of project traffic will add about 3,300 vehicles per day to Douglas Road between Mather Boulevard and Sunrise Boulevard, and cause an increase in the V/C ratio of 0.18, which will exceed the City's 0.05 threshold for roadway segments operating at LOS E or F under "No Project" conditions. Portions of this roadway facility are within both the City and unincorporated portion of Sacramento County.

- The addition of project traffic will add about 3,300 vehicles per day to Sunrise Boulevard between Folsom Boulevard and White Rock Road, and cause an increase in the V/C ratio of 0.06, which will exceed the City's 0.05 threshold for roadway segments operating at LOS E or F under "No Project" conditions. Portions of this roadway facility are within both the City and unincorporated portion of Sacramento County.
- The addition of project traffic will add about 1,800 vehicles per day to Sunrise Boulevard between Kiefer Boulevard and SR-16, and cause an increase in the V/C ratio of 0.09, which will exceed the City's 0.05 threshold for roadway segments operating at LOS E or F under "No Project" conditions. Portions of this roadway facility are within both the City and unincorporated portion of Sacramento County.

Mitigation Measures

MM 4.4.1a Widen Femoyer Street from one to two lanes in each direction between International Drive and Mather Boulevard, construct Mather Boulevard between Femoyer Street and the planned extension of Zinfandel Drive (south of the Villages of Zinfandel development) as a four-lane roadway, and construct Zinfandel Drive as a four-lane roadway from Mather Boulevard to Douglas Road. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and the project's development agreement. However, these improvements shall be in place prior to LOS E operational conditions unless otherwise agreed to by the City. Any agreement by the City waiving the LOS E implementation trigger would require that the particular transportation improvement be constructed as soon as implementation/construction becomes practicable.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

These improvements are consistent with the City's Interim General Plan Circulation Plan. A portion of Zinfandel Drive (south of the Villages of Zinfandel development) would be in Sacramento County. The extension of Zinfandel Drive is currently within the City's TIP that is anticipated to be constructed in 2008/09, while the construction of a two-lane Mather Boulevard connection to Zinfandel Drive is also in the TIP and is anticipated to be constructed in 2007/08. Given that the majority of these improvements are included in the City's TIP (which incorporates roadway improvements conceptually approved by Sacramento County [Mather Field and Villages of Zinfandel original approvals and Public Facilities Financing Plans]), these improvements are considered feasible and would ultimately mitigate the impact to this facility to **less than significant**. However, due to these roadway facilities location in both the City and County and potential timing issues in obtaining permits for wetland fill under Section 404 of the Clean Water Act, this impact is considered **significant and unavoidable** in the short-term.

These roadway improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated

that the construction of these roadway improvements could directly impact wetland resources and associated grassland habitat area as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

MM 4.4.1b Widen the segment of Douglas Road between the planned extension of Zinfandel Drive (referenced in MM 4.4.1a) and Sunrise Boulevard from one to two lanes in each direction. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and the project's development agreement. However, these improvements shall be in place prior to LOS E operational conditions unless otherwise agreed to by the City. Any agreement by the City waiving the LOS E implementation trigger would require that the particular transportation improvement be constructed as soon as implementation/construction becomes practicable.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

These improvements are consistent with the City's Interim General Plan Circulation Plan. A portion of Douglas Road is in Sacramento County. The widening of Douglas Road to six lanes is currently within the City's TIP that is anticipated to be constructed in 2007/09. Given that these improvements are included in the City's TIP (which incorporates roadway improvements conceptually approved by Sacramento County [Mather Field and Villages of Zinfandel original approvals and Public Facilities Financing Plans]), these improvements are considered feasible and would ultimately mitigate the impact to this facility to **less than significant**. However, due to these roadway facilities location in both the City and County and potential timing issues in obtaining permits for wetland fill under Section 404 of the Clean Water Act, this impact is considered **significant and unavoidable** in the short-term.

These roadway improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could directly impact the Northern California TRACON site as well as wetland resources in the area as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

MM 4.4.1c Construct improvements identified in mitigation measures MM 4.4.1a and MM 4.4.1b and construct the Zinfandel Drive Extension between International Drive and Mather Boulevard as a four-lane roadway. This improvement will reduce the daily traffic volume on the segment of Sunrise Boulevard between Folsom Boulevard and White Rock Road by about 1,700 vehicles per day, which would reduce the V/C ratio to within the 0.05 of the V/C ratio under "No Project" conditions, which would satisfy the City's significance threshold for roadways. However, the LOS would remain at E.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

These improvements are consistent with the City's Interim General Plan Circulation Plan. The widening of Zinfandel Drive is currently within the City's TIP that is anticipated to be constructed in 2008/09, while the construction of a two-lane Mather Boulevard connection to Zinfandel Drive is also in the TIP and is anticipated to be constructed in 2007/08. Given that these improvements are included in the City's TIP, these improvements are considered feasible. However, this improvement would not fully mitigate traffic impacts to Sunrise Boulevard (Folsom Boulevard to White Rock Road) to the City's LOS D standard. Thus, the impact to this facility is considered **significant and unavoidable**.

These roadway improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements would occur in an area already disturbed by development. Construction-related environmental effects may include, but are not limited to, construction traffic impacts, noise and air quality impacts, and water quality impacts. The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

MM 4.4.1d Widen the segment of Sunrise Boulevard between Kiefer Boulevard and SR-16 from one to two lanes in each direction. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and the project's development agreement. However, these improvements shall be in place prior to LOS E operational conditions unless otherwise agreed to by the City. Any agreement by the City waiving the LOS E implementation trigger would require that the particular transportation improvement be constructed as soon as implementation/construction becomes practicable.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

These improvements are consistent with the City's Interim General Plan Circulation Plan. A portion of Sunrise Boulevard is in Sacramento County. The widening of this portion of Sunrise Boulevard to four lanes is currently within the City's TIP that is anticipated to be constructed in 2006 and is currently in the design phase. Given that these improvements are included in the City's TIP (which incorporates roadway improvements conceptually approved by Sacramento County [Mather Field and Sunridge original approvals and Public Facilities Financing Plans]), these improvements are considered feasible and would ultimately mitigate the impact to this facility to **less than significant**. However, due to these roadway facilities location in both the City and County and potential timing issues in obtaining permits for wetland fill under Section 404 of the Clean Water Act, this impact is considered **significant and unavoidable** in the short-term.

These roadway improvements are currently in the design phase. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could directly impact wetland resources in the area as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Study Intersections

The AM and PM peak hour intersection turning movement forecasts shown on **Figure 4.4-12** and **Figure 4.4-13** were used to analyzed traffic operations at the study intersection under Baseline conditions. **Table 4.4-11** presents Baseline intersection operations without and with the proposed project. The Baseline conditions analysis includes the intersections of Jaeger Road and Americanos Boulevard on Douglas Road. Under Baseline conditions, 11 of the 28 study intersections will operate unacceptably (LOS E or F) during the AM peak hour and 15 of the 28 study intersections will operate unacceptable (LOS E or F) during the PM peak hour.

TABLE 4.4-11
INTERSECTION LEVEL OF SERVICE – BASELINE CONDITIONS

Intersection		Control	Baseline No Project Conditions				Baseline Plus Project Conditions			
			AM Peak		PM Peak		AM Peak		PM Peak	
			V/C[1] or Delay[2]	LOS[3]	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS
1.	SR-16/Excelsior Road	Signalized	1.00	E	0.99	E	1.03	F	1.05	F
2.	SR-16/Eagles Nest Road	Side-Street Stop	>50	F	>50	F	>50	F	>50	F
3.	SR-16/Sunrise Boulevard	Signalized	1.15	F	1.11	F	1.19	F	1.15	F
4.	SR-16/Grant Line Road	Signalized	1.19	F	1.30	F	1.26	F	1.35	F
5.	Florin Road/Sunrise Boulevard	Signalized	0.58	A	0.81	D	0.63	B	0.85	D
6.	Grant Line Road/Sunrise Boulevard	Signalized	0.81	D	0.93	E	0.86	D	0.96	E
7.	Grant Line Road/Kiefer Boulevard	All -Way Stop	11	B	13	B	12	B	16	C
8.	Douglas Road/Grant Line Road	Side-Street Stop	49	E	26	D	>50	F	48	E
9.	Douglas Road/Sunrise Boulevard	Signalized	1.41	F	1.20	F	1.86	F	1.33	F
10.	Mather Field Road/Folsom Boulevard	Signalized	0.81	D	1.02	F	0.81	D	1.02	F
11.	Mather Field Road/US-50 Westbound Ramps	Signalized	0.59	A	0.66	B	0.60	A	0.67	B
12.	Mather Field Road/US-50 Eastbound Ramps	Signalized	0.95	E	0.71	C	0.97	E	0.75	C
13.	Mather Field Road/International Drive	Signalized	0.62	B	0.78	C	0.66	B	0.82	D
14.	Zinfandel Drive/International Drive	Signalized	0.38	A	0.46	A	0.39	A	0.47	A
15.	Zinfandel Drive/White Rock Road	Signalized	0.67	B	1.01	F	0.68	B	1.05	F
16.	Zinfandel Drive/US-50 Eastbound Ramps	Signalized	1.22	F	1.35	F	1.22	F	1.37	F
17.	Zinfandel Drive/US-50 Westbound Ramps	Signalized	0.52	A	0.60	A	0.52	A	0.61	B
18.	Sunrise Boulevard/White Rock Road	Signalized	1.33	F	1.43	F	1.45	F	1.68	F
19.	Sunrise Boulevard/Folsom Boulevard	Signalized	0.75	C	0.98	E	0.78	C	0.99	E
20.	Sunrise Boulevard/US-50 Eastbound Ramps	Signalized	0.64	B	0.69	B	0.66	B	0.71	C
21.	Sunrise Boulevard/US-50 Westbound Ramps	Signalized	**0.65**	**B**	**0.81**	**D**	0.69	B	0.82	D
22.	Sunrise Boulevard/Zinfandel Drive	Signalized	**1.17**	**F**	**2.17**	**F**	1.18	F	2.18	F
23.	Hazel Avenue/Folsom Boulevard	Signalized	**0.79**	**C**	**0.89**	**D**	0.79	C	**0.89**	**D**
24.	Hazel Avenue/US-50 Eastbound Ramps	Signalized	**0.63**	**B**	**1.03**	**F**	0.63	B	1.04	F
25.	Hazel Avenue/US-50 Westbound Ramps	Signalized	**1.26**	**F**	**0.97**	**E**	1.27	F	0.98	E
26.	White Rock Road/Grant Line Road	Side-Street Stop	**25**	**C**	**>50**	**F**	29	D	**>50**	**F**
27.	Douglas Road/Jaeger Road	Signalized	**0.46**	**A**	**0.52**	**A**	0.73	C	0.86	D
28.	Douglas Road/Americanos Boulevard	Signalized	**0.34**	**A**	**0.32**	**A**	0.38	A	0.42	A

Notes: [1] *V/C (volume-to-capacity) ratio is shown for signalized intersections.*
[2] *Delay for side-street stop unsignalized intersection reported for worst-case approach in seconds per vehicle.*
[3] *LOS = level of service*
Shaded areas indicate unacceptable operations. ***Bold*** *indicates a violation of the City's LOS standard, a change of LOS from E to F and/or a0.05 or greater volume to capacity ratio or 5 second or greater delay change.*
Source: Fehr & Peers, *2005*

Impact 4.4.2 Implementation of the project will result in the worsening of already deficient LOS and/or an increase of 0.05 volume-to-capacity ratio at signalized intersections or a 5 second or greater delay at unsignalized intersections at study intersections under Baseline conditions resulting in a **significant** impact.

The following intersections would be significantly impacted:

- SR-16/Excelsior Road. The intersection will operate unacceptably at LOS E with a V/C ratio of 0.99 in the PM peak hour under Baseline conditions. The addition of project traffic will increase the V/C ratio at the intersection by more than 0.05 in the PM peak hour. This intersection is located outside the City.

- SR-16/Eagles Nest Road. The intersection will operate unacceptably at LOS F with a delay greater than 50 seconds per vehicle for the southbound approach in the AM and PM peak hour under Baseline conditions. The addition of project traffic will increase delay on this approach by more than 5 seconds during the AM and PM peak hours. This intersection is located outside the City.

- SR-16/Grant Line Road. The intersection will operate unacceptably at LOS F with a V/C ratio of 1.19 in the AM peak hour under Base Year conditions. The addition of project traffic will increase the V/C ratio at the intersection by more than 0.05 in the AM peak hour. This intersection is partially located within the City.

- Douglas Road/Grant Line Road. Implementation of the project will cause LOS F operations at this intersection with a delay greater than 50 seconds per vehicle in the AM peak hour and will cause LOS E operations in the PM peak hour. This intersection is partially located within the City.

- Douglas Road/Sunrise Boulevard. The intersection will operate unacceptably at LOS F under Baseline conditions during the AM and PM peak hours with a V/C ratio of 1.18 and 1.09, respectively. The addition of project traffic will increase the V/C ratio by more than 0.05 during the AM and PM peak hours. This intersection is partially located within the City.

- Sunrise Boulevard/White Rock Road. The intersection will operate unacceptably at LOS F during the AM and PM peak hours with a V/C ratio of 1.33 and 1.43, respectively, under Baseline conditions. The addition of project traffic will increase the V/C ratio by more than 0.05 during the AM and PM peak hours. This intersection is partially located within the City.

- Grant Line Road/White Rock Road. The intersection will operate unacceptably at LOS F with a delay greater than 50 seconds per vehicle in the PM peak hour under Baseline conditions. The addition of project traffic will increase the delay at the intersection by more than 5 seconds during the PM peak hour. This intersection is located outside the City.

Mitigation Measures

SR-16/Excelsior Road

MM 4.4.2a Widen the northbound and southbound approaches to the SR-16/Excelsior Road intersection to provide one exclusive left-turn lane and a shared through/right-turn lane on each approach with protected left-turn phasing. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this*

improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Caltrans and Sacramento County.

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This intersection improvement is not within the City's TIP. However, improvements to this intersection are contained within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. The CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project identified that physical improvement of this intersection was feasible. Implementation of this mitigation measure would assist in reducing traffic impacts to this intersection and would provide operations that meet or exceed city standards for LOS. However, this intersection is outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could directly impact wetland resources and associated grassland habitat area as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

SR-16/Eagles Nest Road

MM 4.4.2b Install a traffic signal at the SR-16/Eagles Nest Road intersection (No modification of the approach lane configurations are needed). This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Caltrans and Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This intersection improvement is not within the City's TIP. However, improvements to this intersection are contained within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. The CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project identified that physical improvement of this intersection was feasible. Implementation of this mitigation measure would

assist in reducing traffic impacts to this intersection and would provide operations that meet or exceed city standards for LOS. However, this intersection is outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could directly impact wetland resources and associated grassland habitat area as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

SR-16/Grant Line Road

MM 4.4.2c Widen the northbound and southbound approaches to the SR-16/Grant Line Road intersection to provide one exclusive left-turn lane and a shared through/right-turn lane on each approach with protected left-turn phasing. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Caltrans and Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This intersection improvement is not within the City's TIP. However, improvements to this intersection are contained within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. Implementation of this mitigation measure would assist in reducing traffic impacts to this intersection and would provide operations that meet or exceed city standards for LOS. However, this intersection is outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Douglas Road/Grant Line Road

MM 4.4.2d Install a traffic signal at the Douglas Road/Grant Line Road intersection (No modification of the approach lane configurations are needed). This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This intersection improvement is not within the City's TIP or within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. Implementation of this mitigation measure would assist in reducing traffic impacts to this intersection. However, this intersection is outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could directly impact wetland resources and associated grassland habitat area as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, utility relocation impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Douglas Road/Sunrise Boulevard

MM 4.4.2e Widen Sunrise Boulevard between Douglas Road and just south of Chrysanthy Boulevard (to provide transition from the six and four-lane sections) from two to three lanes in each directions and widen the northbound, southbound, eastbound, and westbound approaches to the Douglas Road/Sunrise Boulevard intersection to provide the following lane configurations:

- Two left-turn lanes, three through lanes, and one right-turn lane on the northbound approach
- Two left-turn lane, three through lanes, and one right-turn lane on the southbound approach
- Two left-turn lane, two through lanes, and one right-turn lane on the eastbound approach

- Two left-turn lanes, one through lane, a shared through/right-turn lane, and one right-turn lane on the westbound approach

This improvement will reduce the impact of the project at this intersection; however, the intersection will still operate at LOS F.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This intersection improvement is not within the City's TIP. However, improvements to this intersection are contained within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. While implementation of this mitigation measure would assist in reducing traffic impacts to this intersection, the intersection would still not meet City LOS D standards. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, the intersection area has already been partially disturbed by development activities. Anticipated that the construction of intersection improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Sunrise Boulevard/White Rock Road

MM 4.4.2f Implement Mitigation Measures MM 4.4.1a, MM4.4.1b, and MM4.4.1c and construct the extension of International Drive between Kilgore Road and Sunrise Boulevard as a four-lane roadway. This improvement would require installation of a traffic signal and widening of Sunrise Boulevard to accommodate two left-turn pockets on the northbound approach and a separate right-turn lane on the southbound approach. This improvement will reduce the impact of the project at this intersection; however, the intersection will still operate at LOS F.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

These improvements are consistent with the City's Interim General Plan Circulation Plan. The extension of International Drive to Sunrise Boulevard as a four-lane facility is currently within the City's TIP that is anticipated to be constructed in 2009. While implementation of this mitigation measure would assist in reducing traffic impacts to this intersection, the intersection would still not meet City LOS D standards. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could directly impact the Folsom South Canal as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Grant Line Road/White Rock Road

MM 4.4.2g Install a traffic signal and widen the northbound approach to provide an exclusive left-turn lane and a through lane. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This intersection improvement is not within the City's TIP. However, improvements to this intersection are contained within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. The CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project identified that physical improvement of this intersection was feasible. Implementation of this mitigation measure would assist in reducing traffic impacts to this intersection and would provide operations that meet or exceed city standards for LOS. However, this intersection is outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could result in construction-

related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Sunrise Boulevard Corridor

Impact 4.4.3 Implementation of the project will exacerbate unacceptable LOS conditions along the Sunrise Boulevard corridor in excess of the 6,500 residential building lot threshold set forth in Zoning Condition 48 associated with the Sunridge Specific Plan. This is a **significant** impact.

As previously noted above, the Sunrise Douglas Community Plan/Sunridge Specific Plan Final EIR and CEQA Findings of Fact and Statement of Overriding Considerations note that development in the project area would result in significant traffic congestion within the Sunrise Boulevard corridor. As part of approval of the Sunridge Specific Plan, the Sacramento County Board of Supervisors adopted Zoning Condition 48 that establishes a residential dwelling lot cap of 6,500 units until additional capacity for the corridor is under construction. These improvements include the provision of at least two continuous lanes of the Sunrise Boulevard reliever thoroughfare and a new US 50 interchange (or alternative thoroughfare alignment), six traffic lanes on Sunrise Boulevard (Douglas Road to SR-16), four lanes on Douglas Road (Folsom South Canal to Grant Line Road), four traffic lanes on Pyramid Boulevard (Sunrise Boulevard to Americanos Boulevard), four lanes on Americanos Boulevard (Douglas Road to Pyramid Boulevard), four lanes on SR-16 (Bradshaw Road to Sunrise Boulevard) and second phase improvements to the intersections of SR-16/Bradshaw Road, SR-16/Excelsior Road, SR-16/Eagles Nest Road. The City has determined that the environmental review of all projects subsequent to the Sunridge Specific Plan must assess how new projects may cause traffic conditions on Sunrise Boulevard to further deteriorate beyond the conditions associated Zoning Condition 48.

The following summarizes an analysis of study-area roadway segment operations to provide a system-wide view of how planned improvements identified in the City's Circulation Element would affect traffic operations on the Sunrise Boulevard corridor and neighboring facilities under Baseline conditions.

The system-wide analysis included the development of daily traffic volume forecasts for the study-area roadways for the following six improvement scenarios:

- Scenario 1 – Includes the construction of a six-lane extension of International Drive between Kilgore Road and Sunrise Boulevard. A portion of this improvement is identified under Mitigation Measure MM 4.4.2f.

- Scenario 2 – Includes Scenario 1 plus four lanes Douglas Road from Sunrise Boulevard to Zinfandel Drive (identified under Mitigation Measure MM 4.4.1b), four lanes on Zinfandel Drive from Douglas Road to Mather Boulevard (identified under Mitigation Measure MM 4.4.1a), and four lanes on Mather Boulevard between Zinfandel Drive and Industrial Drive (identified under Mitigation Measure MM 4.4.1a). Please note that Scenario 2 does not

include the extension of Zinfandel Drive between Industrial Drive and Mather Boulevard through the Villages of Zinfandel Development.

- Scenario 3 – Includes Scenario 2 plus a four-lane extension of Zinfandel Drive between International Drive and Mather Boulevard (identified under Mitigation Measure MM 4.4.1c).

- Scenario 4 – Includes Scenario 3 with only two lanes on Mather Boulevard between Zinfandel Drive and International Drive.

- Scenario 5 – Includes Scenario 4 without the International Drive extension (Scenario 1) between Kilgore Road and Sunrise Boulevard

- Scenario 6 – Includes only the Sunrise Boulevard Reliever (as a four-lane roadway) and interchange at US-50.

Once developed, the volume-to-capacity (V/C) ratio and level of service (LOS) were computed for each improvement scenario. **Table 4.4-12** compares the Baseline traffic volume forecasts shown in **Table 4.4-10** to the traffic volumes with the improvement scenarios. For each improvement scenario, **Table 4.4-12** shows the number of travel lanes that changed from Baseline conditions, the daily traffic volume, V/C ratio, and LOS. In addition, **Table 4.4-12** has the following color formatting to identify the change in daily traffic volumes compared to Baseline Plus Project conditions (highlighted in yellow):

- Green – Identifies an decrease in daily traffic volume of 500 or more vehicles per day

- Orange – Identifies an increase in daily traffic volumes of 500 or more vehicles per day

Most of the roadway segments have a change in volume compared to Baseline Plus Project conditions. The color formatting is used to identify where the changes are most significant.

With Scenario 1, traffic volume increases most on Sunrise Boulevard from Douglas Road to International Drive, International Drive, and Mather Field Road. The largest decreases occur on Sunrise Boulevard from White Rock Road to International Drive, Mather Boulevard (i.e., Zinfandel Drive and Mather Boulevard), White Rock Road, and Zinfandel Drive from White Rock Road to US-50. Traffic volumes on Sunrise Boulevard north of White Rock Road do not change substantially. This improvement would provide some improvement to the Sunrise Boulevard/White Rock Road intersection.

The trends with Scenarios 2, 3, 4 and 5 are similar. The decrease in Traffic on Sunrise Boulevard between Douglas Road and White Rock Road ranges from about 5,300 to 6,600 vehicles per day with the improvements to Mather Boulevard and Zinfandel Drive. North of White Rock Road, the traffic volume decrease ranges from about 1,300 to 1,700 vehicles per day. There is nominal decrease (about 500 vehicles per day) north of Folsom Boulevard. Traffic increases most on Zinfandel Drive, International Drive, Douglas Road (west of Sunrise Boulevard), Mather Boulevard, and Mather Field Road (south of US-50) (with the exception of Scenario 5). These improvements will increase the use of the US-50/Mather Field Road and US-50/Zinfandel Drive interchanges. Although not shown in **Table 4.4-12**, northbound Zinfandel Drive south of US-50 in the AM peak hour is better utilized with Scenario 3 compared to Baseline Plus Project conditions.

Scenario 6 results in the largest decrease in daily traffic volumes on Sunrise Boulevard. Traffic volumes decrease by about 6,600 vehicles per day between Folsom Boulevard and US-50 and

by about 12,800 vehicles per day between Douglas Road and White Rock Road. The Sunrise Reliever would serve about 21,000 vehicles per day north of White Rock Road.

As indicated in the above analysis, provision of the Sunrise Boulevard Reliever and its associated interchange with US 50 provides the most improvement of traffic conditions along Sunrise Boulevard. However, implementation of the Sunrise Boulevard Reliever is projected to be the most costly of these scenarios and will require the following major actions at a minimum:

- Caltrans approval of the new interchange on US 50.
- Acquisition of right-of-way through several currently undeveloped properties (e.g., Rio del Oro Specific Plan area and Westborough area).
- Approval of wetland fill permits under Section 404 of the Clean Water Act from the US Army Corps of Engineers.

As previously noted, the City is currently undertaking an improvement phasing study that will identify the timing for potential roadway improvements (consistent with the City's proposed capital improvement program) to ease congestion on Sunrise Boulevard. This is expected to include roadway improvement options to provide additional traffic capacity for the Sunrise Boulevard corridor.

Mitigation Measure

MM 4.4.3 The project applicant shall participate with the City in the development of roadway capacity improvements for the Sunrise Boulevard corridor, which may include a combination of roadway improvements analyzed in Scenarios 1 through 6 of the Draft EIR as well as other additional roadway improvements that may be identified in the City's traffic improvement phasing study.

Timing/Implementation: *The project's fair-share participation in these improvements and the associated timing/phasing of these improvements and potential phasing of project site development shall be identified in project conditions of approval and/or the project's development agreement.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

The general environmental effects of improvements associated with Scenarios 1 through 5 are identified under mitigation measures MM 4.4.1a through c and MM 4.4.2f. In regards to Scenario 6, a portion of the improvement (interchange improvements and associated roadway connection to White Rock Road) is within the City's TIP, but is currently not a fully funded project. This improvement is also contained within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions.

Implementation of this mitigation measure would assist in reducing traffic congestion along Sunrise Boulevard. However, Sunrise Boulevard would continue to operate deficiently even with this improvement. Given this condition, this impact is considered **significant and unavoidable**.

The environmental effects of the Sunrise Boulevard Reliever and associated interchange are currently being evaluated in Rancho Cordova Parkway Interchange (formerly known as the Sunrise Reliever) Draft EIR (in process, Notice of Preparation was released September 9, 2005), the Rio del Oro Specific Plan Draft EIR/EIS (to be released in the fall of 2005) associated with the extension of Jaeger Road (Douglas Road to White Rock Road) that would provide connection to the Rancho Cordova Parkway, the Sunrise Douglas Community Plan/Sunridge Specific Plan Final EIR associated with the ultimate improvement of Jaeger Road, and the Anatolia III Major Roads, Sewer Main and Water Transmission Main Projects Mitigated Negative Declaration associated with improvements to Jaeger Road (four-lane facility). Based on the review of these environmental documents and notices of preparation, the following environmental effects are anticipated: visual resource impacts, air quality and noise (construction and operation), biological resources including impacts to special-status species known to occur in the area and wetland resources, geology and soils, cultural resources, hazards, water quality and drainage, traffic impacts to local roadways and US 50, and potential conflicts with utilities. The reader is referred to these environmental documents and notices.

Freeway Facilities

Baseline condition freeway operations for freeway segments, ramp junctions, and weaving sections are presented below.

Freeway Segments

Table 4.4-13 summarizes peak hour freeway segment LOS. The analysis indicates that the westbound segment of US-50 east of Hazel in the AM and PM peak hours and the segment west of Mather Field in the PM peak hour would operate at LOS F under Baseline conditions. All other segments operate acceptably LOS E or better based on the HCM methodology. However, the Caltrans District 3 *Highway Congestion Monitoring Program (HICOMP) for Sacramento Metropolitan Area*, Fall 2004 identifies congested (LOS F) conditions on the following US-50 segments during the AM and PM peak hours:

AM Peak Hour
- Folsom Boulevard to Hazel Avenue (westbound)
- Zinfandel Drive to Bradshaw Road (westbound)

The HCM methodology indicates westbound US-50 operation at LOS F east of Hazel Avenue in the AM peak hour, which is consistent with the HICOMP report. West of Zinfandel Drive, the HCM methodology indicates LOS E operation.

PM Peak Hour
- Zinfandel Drive to Folsom Boulevard (eastbound)
- Zinfandel Drive to Bradshaw Road (westbound)

The HCM methodology indicates eastbound US-50 operation at LOS E between Zinfandel Drive and Hazel Avenue and LOS D east of Hazel Avenue. Westbound, the HCM methodology indicates LOS E and F operation west of Zinfandel Drive.

Although generally consistent, the different results are due to the differences in analysis methodology. The LOS results in the HICOMP report are based on field measurements using a "floating car" method, which includes the affect of downstream bottlenecks that cause vehicle queues that impact upstream operations. The HCM methodology does not account for downstream conditions.

Freeway Ramp Merge/Diverge and Weaving Analysis

The results of the freeway merge/diverge/weave analyses are summarized in **Table 4.4-14**. The following merge/diverge/weave maneuvers would operate at LOS F, where demand exceeds capacity based on the HCM methodology:

- Eastbound US-50/Mather Field Road Direct Off-Ramp – AM and PM peak hours
- Eastbound US-50/Sunrise Boulevard Direct Off-Ramp – PM peak hour only
- Westbound US-50/Hazel Avenue Direct Off-Ramp – AM peak hour only
- Westbound US-50/Zinfandel Drive Direct On-Ramp – AM and PM peak hours
- Westbound US-50/Mather Field Loop/Direct On-Ramp – AM and PM peak hours.

Based on the HICOMP, all US-50 ramp merge/diverge/weave sections that are located in the congested segments identified above would also operate at LOS F.

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TABLE 4.4-13
FREEWAY SEGMENT LEVEL OF SERVICE – BASELINE CONDITIONS

Segment	Number of Lanes[3]	Baseline No Project Conditions				Baseline Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS[2]	Density[1]	LosS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
Eastbound US-50									
West of Mather Field Road	4	-	F	42	E	-	F	45	E
Mather Field Road to Zinfandel Drive	4	34	D	40	E	34	D	40	E
Zinfandel Drive to Sunrise Boulevard	4	24	C	36	E	24	C	36	E
Sunrise Boulevard to Sunrise Reliever	3	27	D	41	E	27	D	41	E
Sunrise Reliever to Hazel Avenue	3	27	D	41	E	27	D	41	E
East of Hazel Avenue	3	25	C	33	D	25	C	33	D
WESTBOUND US-50									
East of Hazel Avenue	2	-	F	-	F	-	F	-	F
Hazel Avenue to Sunrise Reliever	3	37	E	26	D	37	E	26	D
Sunrise Reliever to Sunrise Boulevard	3	37	E	26	D	37	E	26	D
Sunrise Boulevard to Zinfandel Drive	4	35	D	25	C	35	D	25	C
Zinfandel Drive to Mather Field Road	4	38	E	40	E	39	E	40	E
West of Mather Field Road	2	40	E	-	F	43	E	-	F

Notes: [1] Density in passenger cars per mile per lane.
[2] LOS = Level of Service.
[3] Exclude HOV lanes.
Shaded areas indicate deficiency where calculation indicates demand exceeds capacity.
Source: Fehr & Peers, 2005.

TABLE 4.4-14
MERGE/DIVERGE/WEAVE LEVEL OF SERVICE – BASELINE CONDITIONS

Ramp	Merge, Diverge, or Weave	Baseline No Project Conditions				Baseline With Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
Eastbound US-50									
Mather Field Road Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Mather Field Road Loop On-Ramp	Merge	23	C	24	C	23	C	24	C
Mather Field Road Direct On-Ramp	Merge	23	C	23	C	23	C	23	C
Zinfandel Drive Direct Off-Ramp	Diverge	24	C	19	B	25	C	20	B
Zinfandel Drive Loop On-Ramp	Merge	20	B	25	C	20	C	25	C
Zinfandel Drive Direct On-Ramp	Merge	20	B	25	C	20	B	25	C
Sunrise Boulevard Direct Off-Ramp	Diverge	23	C	-	F	23	C	-	F
Sunrise Boulevard Loop/Direct On-Ramp	Merge	28	C	36	E	28	D	37	E
Hazel Avenue Direct Off-Ramp	Diverge	16	B	25	C	16	B	25	C
Hazel Avenue Loop/Direct On-Ramp	Weave	N/A	C	N/A	D	N/A	C	N/A	D
AeroJet Direct Off-Ramp									
WESTBOUND US-50									
Hazel Avenue Direct Off-Ramp	Diverge	-	F	37	E	-	F	37	E
Hazel Avenue Loop On-Ramp	Merge	37	E	30	D	37	E	30	D
Sunrise Boulevard Direct Off-Ramp	Diverge	22	C	15	B	22	C	15	B
Zinfandel Drive Direct Off-Ramp	Diverge	38	E	29	D	38	E	29	D
Zinfandel Drive Loop On-Ramp	Merge	29	D	28	C	29	D	28	C
Zinfandel Drive Direct On-Ramp	Merge	-	F	-	F	-	F	-	F
Mather Field Direct Off-Ramp	Diverge	38	E	37	E	38	E	37	E
Mather Field Road Loop/Direct On-Ramp	Merge	-	F	-	F	-	F	-	F

Notes: [1] *Density in passenger cars per mile per lane for merge/diverge analysis only.*
[2] *LOS = Level of Service. LOS computed using HCS 2000 software for the merge/diverge analysis consistent with HCM 2000 methodologies. Weave analysis evaluated zusing the Leisch Method for Weaving Analysis.*
Shaded areas indicate deficiency where calculation indicates demand exceeds capacity.
N/A = Not Applicable.
Source: Fehr & Peers, *2005.*

Impact 4.4.4 Implementation of the project will exacerbate unacceptable operations on eastbound and westbound US-50 under Baseline conditions. This is considered a **significant** impact.

As identified in **Tables 4.4-13** and –**14**, the proposed project would contribute to projected unacceptable operations of US-50 under Baseline conditions.

Mitigation Measure

MM 4.4.4 Implement the following improvements to the US-50 corridor:

- Installation of ramp metering on the Mather Field Road and Zinfandel Drive eastbound loop on-ramps.
- Installation of ramp metering on the Mather Field Road Zinfandel Drive eastbound direct on-ramp.
- Construction of an auxiliary lane prior to the Mather Field Road eastbound off-ramp.
- Construction of an auxiliary lane after the Mather Field Road eastbound direct on-ramp.
- Construction of an auxiliary lane after the Zinfandel Drive eastbound direct on-ramp.
- Coordination of traffic signal timing at freeway interchanges with adjacent City intersections to minimize impact of vehicles queue spillback onto US-50.
- Construction of various parallel facilities to US-50 including improvements to SR-16, the extension of International Drive to Sunrise Boulevard, and the extension of Kiefer Boulevard to Sunrise Boulevard.
- The extension of HOV lanes from Sunrise Boulevard to Downtown Sacramento (or an interim project to Watt Avenue).
- HOV enhancements to existing interchanges such as bypass lanes at existing metered on-ramps.

Timing/Implementation: *The project's fair-share participation in these improvements shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Caltrans and Sacramento County (as necessary).*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

The City of Rancho Cordova is in the process of developing the Circulation Element of the General Plan and the City's new CIP, which is currently anticipated to include many of the projects identified above. The City new CIP and Nexus Study will establish a mechanism for funding citywide improvements outlined in the City's General Plan. As outlined in Section 4.2.1, Caltrans is conducting the U.S. Highway 50 HOV Lane Project Plus Community Enhancement Project, which will evaluate the extension of eastbound and westbound HOV lane on US-50 to Downtown Sacramento in an EIR. However, several of these improvements are outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given these conditions, this impact is considered **significant and unavoidable**.

These improvements have not been fully designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, construction-related nighttime lighting impacts, visual resource impacts, cultural resource impacts, and biological resource impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Transit System

Impact 4.4.5 Implementation of the project will increase demand for transit service in the City of Rancho Cordova. This is considered a **potentially significant** impact.

The project would increase demand for transit services in the project area. However, as noted in Section 3.0 (Project Description), the project design includes a mix of residential densities, commercial uses and pedestrian and bicycle facilities to promote options for movement beyond the use of motor vehicles.

Mitigation Measure

MM 4.4.5 The project shall participate in capital improvements for transit service as well as operational services.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Regional Transit (as necessary).*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

Implementation of the proposed project is not expected to disrupt or interfere with existing or planned transit operations. Implementation of this mitigation would result in a **less than significant** impact.

Bicycle & Pedestrian System

Impact 4.4.6 Implementation of the project will increase demand for bicycle and pedestrian facilities in the City of Rancho Cordova. This is considered a **less than significant** impact.

All major arterial and collector streets within the project would be designed to accommodate planned bikeways and pedestrian sidewalks. Therefore, implementation of the proposed project will not disrupt or interfere with existing or planned bikeways and pedestrian facilities in the study area. Therefore, this is less than significant.

Mitigation Measures

None required.

Interim Year (2014) Conditions

Interim Year (2014) operations of the study area roadways, intersections, freeway facilities, and bicycle/pedestrian facilities are discussed below. The Interim Year (2014) conditions analysis includes the following study roadway segments and intersection not analyzed under Existing conditions. These improvements were added given that they are anticipated as a result of the development of other projects in the area (e.g., extension of Jaeger Road north of Douglas Road associated with Phase 1 of the Rio del Oro Specific Plan) or are identified as funded and/or required improvements under the City's current CIP or the approved Sunridge Specific Plan.

Additional Interim Year (2014) Roadway Segments

29. Sunrise Reliever – US-50 to Easton Valley Parkway
30. Sunrise Reliever – Easton Valley Parkway to White Rock Road
31. Jaeger Road – White Rock Road to Douglas Road
32. Americanos Boulevard – White Rock Road to Douglas Road
34. Douglas Road – Americanos Boulevard to Grant Line Road (4 lane facility)
36. Sunrise Boulevard – Kiefer Boulevard to SR-16 (4 lane facility)

Additional Interim Year (2014) Intersections

27. Sunrise Boulevard/Kiefer Boulevard
28. Eagles Nest Road/Kiefer Boulevard
29. Sunrise Boulevard/International Drive

Study Roadway Segments

The daily roadway segments traffic volumes shown on **Figure 4.4-9** were compared to the roadway segment thresholds summarized in **Table 4.4-1** to analyze traffic operations on the study area roadway segments. **Table 4.4-15** presents the Interim Year (2014) roadway segment operations without and with the proposed project. Under Interim Year (2014) conditions, seven of the 30 study roadway segments will operate unacceptably (LOS F).

TABLE 4.4-15
ROADWAY LEVEL OF SERVICE – INTERIM YEAR (2014) CONDITIONS

Roadway Segment	Lanes	Interim Year (2014) Conditions			Interim Year (2014) Plus Project Conditions		
		Vol	V/C	LOS	Vol	V/C	LOS
1. SR-16 – Bradshaw Road to Excelsior Road	2	26,600	1.48	F	26,900	1.49	F
2. SR-16 – Excelsior Road to Eagles Nest Road	2	16,700	0.93	E	16,800	0.93	E
3. SR-16 – Sunrise Boulevard to Grant Line Road	4	17,100	0.48	A	17,200	0.48	A
4. Excelsior Road – SR-16 to Kiefer Boulevard	2	13,900	0.77	C	14,300	0.79	C
5. Kiefer Boulevard – Grant Line Road to North of SR-16[1]	2	5,300	0.31	C	5,700	0.34	C
6. Mather Boulevard – Femoyer Street to Douglas Road	2	20,400	1.13	F	22,900	1.27	F
7. Douglas Road – Mather Boulevard to Sunrise Boulevard	6	25,600	0.47	A	28,200	0.52	A
8. International Drive – South White Rock Road to Zinfandel Drive	4	12,000	0.33	A	12,200	0.34	A
9. International Drive – Zinfandel Drive to Kilgore Road	4	16,900	0.47	A	17,400	0.48	A
10. White Rock Road – Zinfandel Drive to Sunrise Boulevard	6	23,600	0.44	A	23,900	0.44	A
11. White Rock Road – Sunrise Boulevard to Grant Line Road	4	9,000	0.25	A	9,100	0.25	A
12. Folsom Boulevard – Zinfandel Drive to Sunrise Boulevard	4	20,300	0.56	A	20,300	0.56	A
13. Folsom Boulevard – Sunrise Boulevard to Hazel Avenue	4	13,300	0.37	A	13,300	0.37	A
14. Mather Field Road – Folsom Boulevard to US-50 Westbound Ramps	4	26,400	0.73	C	26,500	0.74	C
15. Mather Field Road – US-50 Eastbound Ramps to International Drive	6	36,000	0.67	B	38,100	0.71	C
16. Zinfandel Drive – Folsom Boulevard to US-50 Westbound Ramps	4	22,700	0.63	B	22,800	0.63	B
17. Zinfandel Drive – US-50 Eastbound Ramps to White Rock Road	6	46,400	0.86	D	46,900	0.87	D
18. Zinfandel Drive – White Rock Road to International Drive	6	23,300	0.43	A	23,500	0.44	A
19. Sunrise Boulevard – Gold Country Boulevard to Coloma Road	6	75,800	1.40	F	77,000	1.43	F
20. Sunrise Boulevard – Coloma Road to US-50 Westbound Ramps	6	83,000	1.54	F	84,400	1.56	F
21. Sunrise Boulevard – US-50 Eastbound Ramps to Folsom Boulevard	6	52,100	0.96	E	53,300	0.99	E
22. Sunrise Boulevard – Folsom Boulevard to White Rock Road	6	37,500	0.69	B	38,800	0.72	C
23. Sunrise Boulevard – White Rock Road to Douglas Road	4	35,200	0.98	E	37,300	1.04	F
24. Sunrise Boulevard – SR-16 to Grant Line Road	4	25,500	0.71	C	26,300	0.73	C
25. Hazel Avenue – Winding Way to US-50 Westbound Ramps[2]	6	73,500	1.23	F	74,100	1.24	F
26. Grant Line Road – White Rock Road to Douglas Road	2	14,400	0.80	D	15,100	0.84	D
27. Grant Line Road –Douglas Road to SR-16	2	13,200	0.73	C	13,600	0.76	C
28. Grant Line Road – SR-16 to Sunrise Boulevard	2	11,200	0.62	B	11,600	0.64	B
29. Sunrise Reliever – US-50 to Easton Valley Parkway[3]	6	47,000	0.78	C	48,600	0.81	D
30. Sunrise Reliever – Easton Valley Parkway to White Rock Road[3]	6	40,000	0.67	B	41,400	0.69	B
31. Jaeger Road – White Rock Road to Douglas Road	6	41,300	0.76	C	43,500	0.81	D
32. Americanos Boulevard – White Rock Road to Douglas Road	4	11,100	0.31	A	12,200	0.34	A
33. Douglas Road – Sunrise Boulevard to Jaeger Road	4	25,200	0.70	C	30,400	0.84	D
34. Douglas Road – Americanos Boulevard to Grant Line Road	4	2,600	0.07	A	2,700	0.08	A
35. Sunrise Boulevard – Douglas Road to Kiefer Boulevard	4	44,300	1.23	F	45,700	1.27	F
36. Sunrise Boulevard – Kiefer Boulevard to SR-16	4	40,000	1.11	F	41,100	1.14	F

Notes: [1] Not expected to be a through roadway for Interim Year Conditions.
[2] Assumed to have high access control.
[3] Assumed expressway with high access control.
Shaded areas indicate deficiency. ***Bold*** *indicates impact.*
Source: Fehr & Peers, 2005.

Impact 4.4.7 Implementation of the project under Interim Year (2014) conditions would result in the worsening of already deficient LOS and/or an increase of 0.05 or greater of the volume-to-capacity ratio on deficiently operating roadways located within the project area. This would be a **significant** impact.

Implementation of the project will exacerbate unacceptable (LOS E and F) operations on Mather Boulevard between Femoyer Street and Douglas Road and on Sunrise Boulevard

between White Rock Road and Douglas Road under Interim Year (2014) conditions. The segment of Mather Boulevard will operate unacceptably at LOS F with a volume-to-capacity (V/C) ratio of 1.13 under Interim Year (2014) conditions. The addition of project traffic will add 2,500 vehicles per day to this segment and will cause an increase in the V/C ratio of 0.14, which will exceed the City's 0.05 threshold for roadway segments operating at LOS E or F under "No Project" conditions. Similarly, the segment of Sunrise Boulevard will operate unacceptably at LOS E with a volume-to-capacity (V/C) ratio of 0.98 under Interim Year (2014) conditions. The addition of project traffic will add about 2,000 vehicles per day to this segment and will cause an increase in the V/C ratio of 0.06, which will exceed the City's 0.05 threshold for roadway segments operating at LOS E or F under "No Project" conditions.

Mitigation Measure

MM 4.4.7 Widen Sunrise Boulevard from White Rock Road to just south of Douglas Road from two to three lanes in each direction. This improvement would require modification to the Sunrise Boulevard/Douglas Road intersection. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and the project's development agreement. However, these improvements shall be in place prior to LOS E operational conditions unless otherwise agreed to by the City. Any agreement by the City waiving the LOS E implementation trigger would require that the particular transportation improvement be constructed as soon as implementation/construction becomes practicable.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

Implement Mitigation Measure MM 4.4.1a

This improvement is not within the City's five year TIP, but is identified in the City's Interim General Plan Circulation Plan. These improvements are also contained within the Sunridge Specific Plan zoning conditions. The CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project identified that physical widening of this section of Sunrise Boulevard was feasible. Implementation of this mitigation measure and Mitigation Measure MM 4.4.1a would ultimately mitigate the impact to this facility to **less than significant**. However, due to anticipated right-of-way acquisition needs and potential timing issues in obtaining permits for wetland fill under Section 404 of the Clean Water Act, this impact is considered **significant and unavoidable** in the short-term.

These roadway improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air

quality impacts, water quality and drainage impacts, cultural resource impacts, and biological resource impacts including potential impacts to wetland resources). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Study Intersections

The AM and PM peak hour intersection turning movement forecasts shown on **Figure 4.4-14** and **Figure 4.4-15** were used to analyzed traffic operations at the study intersection under Interim Year (2014) conditions. **Table 4.4-16** presents the Interim Year (2014) intersection operations without and with the proposed project. Under Interim Year (2014) conditions, 12 of the 29 study intersections will operate unacceptably (LOS E or F) during the AM peak hour and 14 of the 29 study intersections will operate unacceptable (LOS E or F) during the PM peak hour.

TABLE 4.4-16
INTERSECTION LEVEL OF SERVICE – INTERIM (YEAR 2014) CONDITIONS

Intersection	Control	Interim Year (2014) Conditions				Interim Year (2014) Plus Project Conditions			
		AM Peak		PM Peak		AM Peak		PM Peak	
		V/C[1] or Delay[2]	LOS[3]	V/C or Delay	LOS	V/C or Delay	LOS	V/C or Delay	LOS
1. SR-16/Excelsior Road	Signalized	1.64	F	1.30	F	1.67	F	1.32	F
2. SR-16/Eagles Nest Road	Signalized	0.60	A	0.46	A	0.60	B	0.46	A
3. SR-16/Sunrise Boulevard	Signalized	1.05	F	0.91	E	1.07	F	0.93	E
4. SR-16/Grant Line Road	Signalized	1.20	F	1.18	F	1.24	F	1.20	F
5. Florin Road/Sunrise Boulevard	Signalized	0.74	C	0.87	D	0.77	C	0.90	D
6. Grant Line Road/Sunrise Boulevard	Signalized	1.54	F	1.68	F	1.60	F	1.72	F
7. Grant Line Road/Kiefer Boulevard	All -Way Stop	>50	F	>50	F	>50	F	>50	F
8. Douglas Road/Grant Line Road	Side-Street Stop	>50	F	27	D	>50	F	32	D
9. Douglas Road/Sunrise Boulevard	Signalized	1.32	F	1.39	F	1.43	F	1.43	F
10. Mather Field Road/Folsom Boulevard	Signalized	0.74	C	0.88	D	0.74	C	0.88	D
11. Mather Field Road/US-50 Westbound Ramps	Signalized	0.55	A	0.59	A	0.55	A	0.59	A
12. Mather Field Road/US-50 Eastbound Ramps	Signalized	0.81	D	0.63	B	0.82	D	0.67	B
13. Mather Field Road/International Drive	Signalized	0.71	C	0.80	C	0.76	C	0.82	D
14. Zinfandel Drive/International Drive	Signalized	0.54	A	0.55	A	0.56	A	0.55	A
15. Zinfandel Drive/White Rock Road	Signalized	0.70	B	1.03	F	0.73	C	1.04	F
16. Zinfandel Drive/US-50 Eastbound Ramps	Signalized	0.92	E	1.12	F	0.92	E	1.14	F
17. Zinfandel Drive/US-50 Westbound Ramps	Signalized	0.49	A	0.53	A	0.49	A	0.53	A
18. Sunrise Boulevard/White Rock Road	Signalized	0.81	D	0.77	C	0.82	D	0.79	C
19. Sunrise Boulevard/Folsom Boulevard	Signalized	0.77	C	0.78	C	0.78	C	0.78	C
20. Sunrise Boulevard/US-50 Eastbound Ramps	Signalized	0.55	A	0.62	B	0.56	A	0.63	B
21. Sunrise Boulevard/US-50 Westbound Ramps	Signalized	0.67	B	0.97	E	0.70	B	0.98	E
22. Sunrise Boulevard/Zinfandel Drive	Signalized	1.13	F	1.98	F	1.13	F	1.98	F
23. Hazel Avenue/Folsom Boulevard	Signalized	1.78	F	1.77	F	1.78	F	1.77	F
24. Hazel Avenue/US-50 Eastbound Ramps	Signalized	0.82	D	1.25	F	0.83	D	1.26	F
25. Hazel Avenue/US-50 Westbound Ramps	Signalized	1.55	F	1.19	F	1.56	F	1.20	F
26. White Rock Road/Grant Line Road	Signalized	0.58	A	0.71	C	0.61	B	0.74	C
27. Sunrise Boulevard/Kiefer Boulevard	Signalized	0.84	D	0.76	C	0.86	D	0.79	C
28. Eagles Nest Road/Kiefer Boulevard	Signalized	0.42	A	0.25	A	0.45	A	0.27	A
29. Sunrise Boulevard/International Drive	Signalized	1.85	F	1.91	F	1.98	F	2.02	F

Notes: [1] V/C (volume-to-capacity) ratio is shown for signalized intersections.
[2] Delay for side-street stop unsignalized intersection reported for worst-case approach in seconds per vehicle.
[3] LOS = level of service
Shaded areas indicate unacceptable operations. Bold indicates project impact.
Source: Fehr & Peers, 2005.

Impact 4.4.8 Implementation of the project in the worsening of already deficient LOS and/or an increase of 0.05 volume-to-capacity ratio at signalized intersections or a 5 second or greater delay at unsignalized intersections at under Interim Year (2014) conditions resulting in a **significant** impact.

- Grant Line Road/Sunrise Boulevard. The intersection will operate unacceptably at LOS F with a V/C ratio of 1.54 and 1.68 in the AM and PM peak hours, respectively under Interim

Year (2014) conditions. The addition of project traffic will increase the V/C ratio at the intersection by more than 0.05 during the AM peak hour. This intersection is outside the City.

- Grant Line Road/Kiefer Boulevard. The intersection will operate unacceptably at LOS F with a delay >50 seconds per vehicle in the AM and PM peak hours, respectively, under Interim Year (2014) conditions. The addition of project traffic will increase delay at the intersection by more than 5 seconds during the AM and PM peak hours. This intersection is partially located within the City.
- Douglas Road/Grant Line Road. The intersection will operate unacceptably at LOS F during the AM peak hour under Interim Year (2014) conditions with a delay >50 seconds per vehicle. The addition of project traffic will increase delay at the intersection by more than 5 seconds during the AM peak hour. This intersection is partially located within the City.
- Douglas Road/Sunrise Boulevard. The intersection will operate unacceptably at LOS F under Interim Year (2014) conditions during the AM and PM peak hours with a V/C ratio of 1.32 and 1.39, respectively. The addition of project traffic will increase the V/C ratio by more than 0.05 during the AM peak hour. This intersection is within the City.
- Sunrise Boulevard/International Drive. The intersection will operate unacceptably at LOS F during the AM and PM peak hours with a V/C ratio of 1.85 and 1.91, respectively, under Interim Year (2014) conditions. The addition of project traffic will increase the V/C ratio by more than 0.05 during the AM and PM peak hours. This intersection is within the City.

Mitigation Measure

Grant Line Road/Sunrise Boulevard

MM 4.4.8a Widen the eastbound approach to the Grant Line Road/Sunrise Boulevard intersection and construct a second eastbound to northbound left-turn lane. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This intersection improvement is not within the City's five year TIP. However, partial improvements to this intersection are contained within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. Implementation of this mitigation measure would assist in reducing traffic impacts to this intersection and would provide operations that meet or exceed city standards for LOS. However, this intersection is outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and biological resource impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Grant Line Road/Kiefer Boulevard

MM 4.4.8b Install a traffic signal at the Grant Line Road/Kiefer Boulevard intersection with protected left-turn phasing on all approaches. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This intersection improvement is not within the City's five year TIP or within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. Implementation of this mitigation measure would assist in reducing traffic impacts to this intersection and would provide operations that meet or exceed city standards for LOS. However, portions of this intersection are outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and biological resource impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Douglas Road/Grant Line Road

MM 4.4.8c Install a traffic signal at the Douglas Road/Grant Line Road intersection as identified under Mitigation Measure MM 4.4.2d and widen the northbound an southbound approaches to include the following lane configurations:

- One left-turn lane and a separate through lane on the northbound approach
- One right-turn lane and a separate through lane on the southbound approach.

This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This intersection improvement is not within the City's five year TIP or within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. Implementation of this mitigation measure would assist in reducing traffic impacts to this intersection and would provide operations that meet or exceed city standards for LOS. However, portions of this intersection are outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could directly impact wetland resources and associated grassland habitat area as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, utility relocation impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Douglas Road/Sunrise Boulevard

MM 4.4.8d In addition to the improvements identified in under Mitigation Measures MM 4.4.2e, the westbound approach of the Douglas Road/Sunrise Boulevard intersection shall consist of two left-turn lanes, two through lanes, and one right-turn lane.

This improvement will reduce the impact of the project at this intersection; however, the intersection will still operate at LOS F.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This intersection improvement is not within the City's five year TIP. However, improvements to this intersection are contained within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. While implementation of this mitigation measure would assist in reducing traffic impacts to this intersection, the intersection would still not meet City LOS D standards. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, the intersection area has already been partially disturbed by development activities. It is anticipated that the construction of intersection improvements could result in additional construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Sunrise Boulevard/International Drive

MM 4.4.8e In addition to the improvements identified under mitigation measures MM 4.4.1a, MM 4.4.1b, MM 4.4.1c and MM 4.4.2f, widen the northbound and eastbound approaches to the Sunrise Boulevard/International Drive intersection to include the following lane configurations:

- Two left-turn lanes, three through lanes, and one right-turn lane on the northbound approach
- One left-turn lane, one through lane, and two right-turn lanes on the eastbound approach

This improvement would reduce the impact of the project at this intersection; however, the LOS would remain F.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

These improvements are consistent with the City's Interim General Plan Circulation Plan. The extension of International Drive to Sunrise Boulevard as a four-lane facility is currently within the City's five year TIP that is anticipated to be constructed in 2009. While implementation of this mitigation measure would assist in reducing traffic impacts to this intersection, the intersection would still not meet City LOS D standards. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could directly impact the Folsom South Canal as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Freeway Facilities

Interim Year (2014) condition freeway operations for freeway segments, ramp junctions, and weaving sections are presented below.

Freeway Segments

Table 4.4-17 summarizes peak hour freeway segment LOS. The analysis indicates that the westbound study freeway segments of US-50 in the AM peak hour will operate unacceptably at LOS F. In the PM peak hour westbound, unacceptable LOS F operations will occur east of Hazel Avenue and west of Mather Field Road. In the eastbound direction, unacceptable LOS F conditions will occur west of Mather Field Road in the AM and PM peak hours and east of Sunrise Boulevard in the PM peak hour.

Freeway Ramp Merge/Diverge and Weaving Analysis

The results of the freeway merge/diverge/weave analyses are summarized in **Table 4.4-18**. The following merge/diverge/weave maneuvers in the eastbound direction of US-50 would operate at LOS F, where demand exceeds capacity based on the HCM methodology:

- Eastbound US-50/Mather Field Road Direct Off-Ramp – AM and PM peak hours
- Eastbound US-50/Mather Field Road Direct On-Ramp – PM peak hour only
- Eastbound US-50/Zinfandel Drive Direct Off-Ramp – PM peak hour only
- Eastbound US-50/Sunrise Boulevard Loop/Direct On-Ramp – PM peak hour only
- Eastbound US-50/Hazel Avenue Direct Off-Ramp – PM peak hour only

Westbound, all of the ramp merge/diverge influence areas would operate unacceptably at LOSF in the AM peak hour due to capacity constraints on the mainline. In the PM peak hour, the following merge/diverge/weave maneuvers would operate at LOS F:

- Westbound US-50/ Hazel Avenue Direct Off-Ramp
- Westbound US-50/Zinfandel Drive Direct On-Ramp
- Westbound US-50/Mather Field Road Loop/Direct On-Ramp

Because the HCM methodology does not account for downstream conditions, the results presented in **Table 4.4-17** and **4.4-18** may be worse than reported for study segments upstream of bottleneck locations (due to vehicle queue spillback) and may be better than reported for study segments downstream of bottleneck locations (due to the metering of traffic).

TABLE 4.4-17
FREEWAY SEGMENT LEVEL OF SERVICE – INTERIM YEAR (2014) CONDITIONS

Segment	Number of Lanes	Interim Year (2014) Conditions				Interim Year (2014) Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
Eastbound US-50									
West of Mather Field Road	4	-	F	-	F	-	F	-	F
Mather Field Road to Zinfandel Drive	4	37	E	35	E	37	E	-	F
Zinfandel Drive to Sunrise Boulevard	3	25	C	37	E	25	C	38	E
Sunrise Boulevard to Sunrise Reliever	3	36	E	-	F	36	E	-	F
Sunrise Reliever to Hazel Avenue	3	36	E	-	F	36	E	-	F
East of Hazel Avenue	3	35	D	-	F	34	D	-	F
Westbound US-50									
East of Hazel Avenue	2	-	F	-	F	-	F	-	F
Hazel Avenue to Sunrise Reliever	3	-	F	37	E			37	E
Sunrise Reliever to Sunrise Boulevard	3	-	F	37	E	-	F	37	E
Sunrise Boulevard to Zinfandel Drive	4	-	F	25	C	-	F	25	C
Zinfandel Drive to Mather Field Road	4	-	F	39	E	-	F	39	E
West of Mather Field Road	4	-	F	-	F	-	F	-	F

Notes: [1] Density in passenger cars per mile per lane.
[2] LOS = Level of Service.
Excludes HOV lanes.
Shaded areas indicate deficiency where calculation indicates demand exceeds capacity.
Source: Fehr & Peers, 2005.

TABLE 4.4-18
MERGE/DIVERGE/WEAVE LEVEL OF SERVICE – INTERIM YEAR (2014) CONDITIONS

Ramp	Merge, Diverge, or Weave	Interim Year (2014) Conditions				Interim Year (2014) Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
Eastbound US-50									
Mather Field Road Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Mather Field Road Loop On-Ramp	Merge	25	C	26	C	25	C	27	C
Mather Field Road Direct On-Ramp	Merge	25	C	-	F	25	C	-	F
Zinfandel Drive Direct Off-Ramp	Diverge	25	C	-	F	25	C	-	F
Zinfandel Drive Loop On-Ramp	Merge	22	C	27	C	22	C	27	C
Zinfandel Drive Direct On-Ramp	Merge	22	C	26	C	22	C	27	C
Sunrise Boulevard Direct Off-Ramp	Diverge	14	B	20	C	14	B	26	C
Sunrise Boulevard Loop/Direct On-Ramp	Merge	30	D	-	F	35	C	-	F
Sunrise Reliever Direct Off-Ramp	Diverge	27	C	-	F	29	D	-	F
Sunrise Reliever Direct On-Ramp	Merge	31	D	-	F	29	D	-	F
Hazel Avenue Direct Off-Ramp	Diverge	22	C	-	F	22	C	-	F
Hazel Avenue Loop/Direct On-Ramp AeroJet Direct Off-Ramp	Weave	N/A	D	N/A	E	N/A	D	N/A	E
Westbound US-50									
Hazel Avenue Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Hazel Avenue Loop On-Ramp	Merge	-	F	37	E	-	F	37	E
Sunrise Reliever Direct Off-Ramp	Diverge	-	F			-	F		
Sunrise Reliever Loop On-Ramp	Merge	-	F			-	F		
Sunrise Boulevard Direct Off-Ramp	Diverge	-	F	23	C	-	F	22	C
Zinfandel Drive Direct Off-Ramp	Diverge	-	F	19	B	-	F	19	B
Zinfandel Drive Loop On-Ramp	Merge	-	F	20	C	-	F	28	D
Zinfandel Drive Direct On-Ramp	Merge	-	F	-	F	-	F	-	F
Mather Field Direct Off-Ramp	Diverge	-	F	38	E	-	F	38	E
Mather Field Road Loop/Direct On-Ramp	Merge	-	F	-	F	-	F	-	F

Notes: [1] Density in passenger cars per mile per lane for merge/diverge analysis only.
[2] LOS = Level of Service. LOS computed using HCS 2000 software for the merge/diverge analysis consistent with HCM 2000 methodologies. Weave analysis evaluated using the Leisch Method for Weaving Analysis.
Shaded areas indicate unacceptable operation.
N/A = Not Applicable.
Source: Fehr & Peers, 2005.

Impact 4.4.9 Implementation of the project will exacerbate unacceptable operations on eastbound and westbound US-50 under Interim Year (2014) conditions. This is considered a **significant** impact.

As identified in **Table 4.4-17** and **Table 4.4-18**, the proposed project would contribute to projected unacceptable operations of US-50 under Interim Year (2014) conditions as well as result in LOS F operations during the PM peak hour for eastbound US 50 between Mather Field Road to Zinfandel Drive.

Mitigation Measure

Implementation of Mitigation Measure MM 4.4.4 would assist in minimizing this impact and would provide operations that meet or exceed city standards for LOS. The City of Rancho Cordova is in the process of developing the Circulation Element of the General Plan and the City's new CIP, which is currently anticipated to include many of the projects identified in Mitigation Measure MM 4.4.4. The new City CIP and Nexus Study will establish a mechanism for funding citywide improvements outlined in the City's General Plan. As outlined in Section 4.2.1, Caltrans is conducting the U.S. Highway 50 HOV Lane Project Plus Community Enhancement Project, which will evaluate the extension of eastbound and westbound HOV lane on US-50 to Downtown Sacramento in an EIR. However, several of these improvements are outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given these conditions, this impact is considered **significant and unavoidable**.

These improvements have not been fully designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, construction-related nighttime lighting impacts, visual resource impacts, cultural resource impacts, and biological resource impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Transit System

Impact 4.4.10 Implementation of the project will increase demand for transit service in the City of Rancho Cordova under Interim Year (2014) conditions. This is considered a **potentially significant** impact.

The project would increase demand for transit services in the project area. However, as noted in Section 3.0 (Project Description), the project design includes a mix of residential densities, commercial uses and pedestrian and bicycle facilities to promote options for movement beyond the use of motor vehicles.

Mitigation Measure

Implementation of the proposed project is not expected to disrupt or interfere with existing or planned transit operations. Implementation of Mitigation Measure MM 4.4.5 would mitigate the impact to **less than significant**.

Bicycle & Pedestrian System

Impact 4.4.11 Implementation of the project will increase demand for bicycle and pedestrian facilities in the City of Rancho Cordova under Interim Year (2014) conditions. This is considered a **less than significant** impact.

All major arterial and collector streets within the project would be designed to accommodate planned bikeways and pedestrian sidewalks. Therefore, implementation of the proposed project will not disrupt or interfere with existing or planned bikeways and pedestrian facilities in the study area. Therefore, this impact is less than significant.

Mitigation Measure

None required.

Cumulative (Year 2030) Conditions

This section of the report identifies impacts and mitigation measures associated with buildout of the Preserve at Sunridge under Cumulative (Year 2030) Conditions. First, the project impacts are identified as they relate to the standards of significance and then mitigation measures are identified.

The Cumulative (Year 2030) conditions analysis includes the following study roadway segments and intersection not analyzed under Existing conditions. These improvements were added given that they are anticipated as a result of the development of other projects in the area (e.g., extension of Jaeger Road north of Douglas Road associated with the Rio del Oro Specific Plan) or are identified as funded and/or required improvements under the City's current CIP, the approved Sunridge Specific Plan and transportation improvements under the 2025 MTP that are fundable (see **Appendix 4.4**).

Additional Cumulative (Year 2030) Roadway Segments

27. Douglas Road – Sunrise to Jaeger Road (4 lane facility)
28. Douglas Road – Americanos Boulevard to Grant Line Road (4 lane facility)
29. Douglas Road – Jaeger Road to Americanos Boulevard (4 lane facility)
30. Chrysanthy Boulevard – Sunrise Boulevard to Jaeger Road (4 lane facility)
31. Chrysanthy Boulevard – Jaeger Road to Americanos Boulevard (4 lane facility)
32. Kiefer Boulevard – Eagles Nest Road to Sunrise Boulevard (2 lane facility)
33. Kiefer Boulevard – Sunrise Boulevard to Jaeger Road (2 lane facility)
34. Eagles Nest Road (Zinfandel Drive) – Mather Boulevard to Douglas Road (6 lane facility)
35. Eagles Nest Road – Douglas Road to Kiefer Boulevard (4 lane facility)
36. Eagles Nest Road – Kiefer Boulevard to SR-16 (4 lane facility)
37. Sunrise Boulevard – Douglas Road to Chrysanthy Boulevard (6 lane facility)
38. Sunrise Boulevard – Chrysanthy Boulevard to Kiefer Boulevard (6 lane facility)
39. Sunrise Boulevard – Kiefer Boulevard to SR-16 (4 lane facility)

40. Sunrise Reliever – US-50 to Easton Valley Parkway (6 lane facility)
41. Sunrise Reliever – Easton Valley Parkway to White Rock Road (6 lane facility)
42. Jaeger Road – White Rock Road to Douglas Road (6 lane facility)
43. Jaeger Road – Douglas Road to Chrysanthy Boulevard (4 lane facility)
44. Jaeger Road – Chrysanthy Boulevard to Kiefer Boulevard (4 lane facility)
45. Americanos Boulevard – White Rock Road to Douglas Road (4 lane facility)
46. Americanos Boulevard – Douglas Road to Chrysanthy Boulevard (4 lane facility)

Additional Cumulative (Year 2030) Intersections

27. Sunrise Boulevard/Kiefer Road
28. Eagles Nest Road/Kiefer Road
29. Sunrise Boulevard/International Drive
30. Sunrise Reliever/White Rock Road
31. Sunrise Reliever/US-50 Eastbound Ramps
32. Sunrise Reliever/ US-50 Westbound Ramps
33. Douglas Road/Jaeger Road
34. Douglas Road/Americanos Boulevard
35. Chrysanthy Boulevard/Sunrise Boulevard
36. Chrysanthy Boulevard/Jaeger Road
37. Chrysanthy Boulevard/Americanos Boulevard
38. Kiefer Boulevard/Jaeger Road
39. White Rock Road/Americanos Boulevard

Study Roadway Segments

The daily roadway segments traffic volumes shown on **Figures 4.4-10** and **4.4-11** were compared to the roadway segment thresholds summarized in **Table 4.4-1** to analyze traffic operations on the study area roadway segments. **Tables 4.4-19** and **4.4-20** present Cumulative (Year 2030) roadway segment operations without and with the Hazel Avenue Extension, respectively. Under Cumulative (Year 2030) conditions, 23 of the 46 study roadway segments will operate unacceptably (LOS E or F) without the Hazel Avenue Extension and 22 of the 46 study roadway segments will operate unacceptably (LOS E or F) with the Hazel Avenue Extension.

Impacts and mitigation measures for Cumulative (Year 2030) Conditions are described below. The Cumulative analysis includes two scenarios, without and with the Hazel Avenue Extension.

TABLE 4.4-19
ROADWAY SEGMENT LEVELS OF SERVICE – CUMULATIVE (2030) CONDITIONS WITHOUT HAZEL AVENUE EXTENSION

Roadway Segment	Lanes	Cumulative Conditions			Cumulative Plus Project Conditions		
		Vol	V/C	LOS	Vol	V/C	LOS
1. SR-16 – Bradshaw Road to Excelsior Road	4	27,600	0.77	C	27,800	0.77	C
2. SR-16 – Excelsior Road to Eagles Nest Road	4	21,700	0.60	B	22,000	0.61	B
3. SR-16 – Sunrise Boulevard to Grant Line Road	4	23,100	0.64	B	23,300	0.65	B
4. Excelsior Road – SR-16 to Kiefer Boulevard	2	17,000	0.94	E	17,100	0.95	E
5. Kiefer Boulevard – Grant Line Road to North of SR-16	2	10,400	0.61	E	10,700	0.63	E
6. Mather Boulevard – Femoyer Street to Zinfandel Drive	2	21,400	1.19	F	23,100	1.28	F
7. Douglas Road – Zinfandel Drive to Sunrise Boulevard	6	38,300	0.71	C	40,700	0.75	C
8. International Drive – South White Rock Road to Zinfandel Drive	4	23,600	0.66	B	23,900	0.66	B
9. International Drive – Zinfandel Drive to Kilgore Road	4	27,700	0.77	C	27,800	0.77	C
10. White Rock Road – Zinfandel Drive to Sunrise Boulevard	6	37,900	0.70	C	38,100	0.71	C
11. White Rock Road – Sunrise Boulevard to Grant Line Road	2	17,300	0.96	E	17,300	0.96	E
12. Folsom Boulevard – Zinfandel Drive to Sunrise Boulevard	4	24,600	0.68	B	24,600	0.68	B
13. Folsom Boulevard – Sunrise Boulevard to Hazel Avenue	4	15,600	0.43	A	15,600	0.43	A
14. Mather Field Road – Folsom Boulevard to US-50 Westbound Ramps	4	27,300	0.76	C	27,500	0.76	C
15. Mather Field Road – US-50 Eastbound Ramps to International Drive	6	47,600	0.88	D	49,200	0.91	E
16. Zinfandel Drive – Folsom Boulevard to US-50 Westbound Ramps	4	24,400	0.68	B	24,500	0.68	B
17. Zinfandel Drive – US-50 Eastbound Ramps to White Rock Road	6	75,000	1.39	F	75,500	1.40	F
18. Zinfandel Drive – White Rock Road to International Drive	6	35,500	0.66	B	35,800	0.66	B
19. Sunrise Boulevard – Gold Country Boulevard to Coloma Road	6	91,200	1.69	F	92,000	1.70	F
20. Sunrise Boulevard – Coloma Road to US-50 Westbound Ramps	6	105,700	1.96	F	106,600	1.97	F
21. Sunrise Boulevard – US-50 Eastbound Ramps to Folsom Boulevard	6	61,900	1.15	F	62,800	1.16	F
22. Sunrise Boulevard – Folsom Boulevard to White Rock Road	6	53,900	1.00	E	55,000	1.02	F
23. Sunrise Boulevard – White Rock Road to Douglas Road	6	55,400	1.03	F	57,100	1.06	F
24. Sunrise Boulevard – SR-16 to Grant Line Road	4	41,200	1.14	F	41,800	1.16	F
25. Hazel Avenue – Winding Way to US-50 Westbound Ramps	6	102,800	1.90	F	103,200	1.91	F
26. Grant Line Road – White Rock Road to Douglas Road	2	23,300	1.29	F	23,900	1.33	F
27. Grant Line Road – Douglas Road to SR-16	4	23,300	0.65	B	23,700	0.66	B
28. Grant Line Road – SR-16 to Sunrise Boulevard	2	15,700	0.87	D	16,100	0.89	D
29. Douglas Road – Sunrise Boulevard to Jaeger Road	4	37,600	1.04	F	39,900	1.11	F
30. Douglas Road – Americanos Boulevard to Grant Line Road	4	21,600	0.60	B	22,300	0.62	B
31. Douglas Road – Jaeger Road to Americanos Boulevard	4	22,800	0.63	B	23,400	0.65	B
31. Chrysanthy Boulevard – Sunrise Boulevard to Jaeger Road	4	16,200	0.45	A	21,800	0.61	B
32. Chrysanthy Boulevard – Jaeger Road to Americanos Boulevard	4	23,300	0.65	B	32,800	0.91	E
33. Kiefer Boulevard – Eagles Nest Road to Sunrise Boulevard	2	21,600	1.20	F	21,900	1.22	F
34. Kiefer Boulevard – Sunrise Boulevard to Jaeger Road	2	19,200	1.07	F	19,400	1.08	F
35. Eagles Nest Road (Zinfandel Drive) – Mather Boulevard to Douglas Road	6	43,800	0.81	D	46,200	0.86	D
36. Eagles Nest Road – Douglas Road to Kiefer Boulevard	4	17,000	0.47	A	17,200	0.48	A
37. Eagles Nest Road – Kiefer Boulevard to SR-16	4	10,900	0.30	A	10,900	0.30	A
38. Sunrise Boulevard – Douglas Road to Chrysanthy Boulevard	6	82,200	1.37	F	86,100	1.44	F
39. Sunrise Boulevard – Chrysanthy Boulevard to Kiefer Boulevard	6	68,300	1.14	F	69,600	1.16	F
40. Sunrise Boulevard – Kiefer Boulevard to SR-16	4	64,000	1.60	F	64,900	1.62	F
41. Sunrise Reliever – US-50 to Easton Valley Parkway 1	6	81,300	1.36	F	82,400	1.37	F
42. Sunrise Reliever – Easton Valley Parkway to White Rock Road1	6	74,100	1.24	F	75,300	1.26	F
43. Jaeger Road – White Rock Road to Douglas Road	6	49,100	0.91	E	50,400	0.93	E
44. Jaeger Road – Douglas Road to Chrysanthy Boulevard	4	35,400	0.98	E	43,300	1.20	F
45. Jaeger Road – Chrysanthy Boulevard to Kiefer Boulevard	4	13,600	0.38	A	16,000	0.44	A
46. Americanos Boulevard – White Rock Road to Douglas Road	4	27,700	0.77	C	28,500	0.79	C
47. Americanos Boulevard – Douglas Road to Chrysanthy Boulevard	4	27,600	0.77	C	29,200	0.81	D

Notes: [1] Assumed expressway with high access control.
*Shaded areas indicate deficiency. **Bold** indicates impact.*
Source: Fehr & Peers, 2005.

Table 4.4-20
Roadway Segment Levels of Service – Cumulative (2030) Conditions With Hazel Avenue Extension

Roadway Segment	Lanes	Cumulative With Hazel Avenue Extension Conditions			Cumulative Plus Project With Hazel Avenue Extension Conditions		
		Vol	V/C	LOS	Vol	V/C	LOS
1. SR-16 – Bradshaw Road to Excelsior Road	4	27,600	0.77	C	27,800	0.77	C
2. SR-16 – Excelsior Road to Eagles Nest Road	4	22,000	0.61	B	22,300	0.62	B
3. SR-16 – Sunrise Boulevard to Grant Line Road	4	23,000	0.64	B	23,200	0.64	B
4. Excelsior Road – SR-16 to Kiefer Boulevard	2	16,700	0.93	E	16,800	0.93	E
5. Kiefer Boulevard – Grant Line Road to North of SR-16	2	10,600	0.62	E	11,000	0.65	E
6. Mather Boulevard – Femoyer Street to Zinfandel Drive	2	21,000	1.17	F	22,700	1.26	F
7. Douglas Road – Zinfandel Drive to Sunrise Boulevard	6	37,900	0.70	C	40,300	0.75	C
8. International Drive – South White Rock Road to Zinfandel Drive	4	22,700	0.63	B	22,900	0.64	B
9. International Drive – Zinfandel Drive to Kilgore Road	4	27,100	0.75	C	27,200	0.76	C
10. White Rock Road – Zinfandel Drive to Sunrise Boulevard	6	38,900	0.72	C	39,000	0.72	C
11. White Rock Road – Sunrise Boulevard to Grant Line Road	2	18,700	1.04	F	18,800	1.04	F
12. Folsom Boulevard – Zinfandel Drive to Sunrise Boulevard	4	24,400	0.68	B	24,400	0.68	B
13. Folsom Boulevard – Sunrise Boulevard to Hazel Avenue	4	15,100	0.42	A	15,100	0.42	A
14. Mather Field Road – Folsom Boulevard to US-50 Westbound Ramps	4	27,300	0.76	C	27,500	0.76	C
15. Mather Field Road – US-50 Eastbound Ramps to International Drive	6	46,200	0.86	D	47,700	0.88	D
16. Zinfandel Drive – Folsom Boulevard to US-50 Westbound Ramps	4	24,300	0.68	B	24,400	0.68	B
17. Zinfandel Drive – US-50 Eastbound Ramps to White Rock Road	6	76,000	1.41	F	76,500	1.42	F
18. Zinfandel Drive – White Rock Road to International Drive	6	35,500	0.66	B	35,900	0.66	B
19. Sunrise Boulevard – Gold Country Boulevard to Coloma Road	6	90,900	1.68	F	91,700	1.70	F
20. Sunrise Boulevard – Coloma Road to US-50 Westbound Ramps	6	105,000	1.94	F	106,000	1.96	F
21. Sunrise Boulevard – US-50 Eastbound Ramps to Folsom Boulevard	6	62,000	1.15	F	63,000	1.17	F
22. Sunrise Boulevard – Folsom Boulevard to White Rock Road	6	52,900	0.98	E	54,100	1.00	F
23. Sunrise Boulevard – White Rock Road to Douglas Road	6	55,100	1.02	F	56,800	1.05	F
24. Sunrise Boulevard – SR-16 to Grant Line Road	4	41,100	1.14	F	41,700	1.16	F
25. Hazel Avenue – Winding Way to US-50 Westbound Ramps	6	103,600	1.92	F	104,000	1.93	F
26. Grant Line Road – White Rock Road to Douglas Road	2	25,500	1.42	F	26,200	1.46	F
27. Grant Line Road – Douglas Road to SR-16	4	23,000	0.64	B	23,400	0.65	B
28. Grant Line Road – SR-16 to Sunrise Boulevard	2	15,300	0.85	D	15,700	0.87	D
29. Douglas Road – Sunrise Boulevard to Jaeger Road	4	37,800	1.05	F	40,100	1.11	F
30. Douglas Road – Americanos Boulevard to Grant Line Road	4	21,300	0.59	A	21,900	0.61	B
31. Douglas Road – Jaeger Road to Americanos Boulevard	4	21,900	0.61	B	22,500	0.63	B
32. Chrysanthy Boulevard – Sunrise Boulevard to Jaeger Road	4	14,800	0.41	A	20,500	0.57	A
33. Chrysanthy Boulevard – Jaeger Road to Americanos Boulevard	4	23,100	0.64	B	32,600	0.91	E
34. Kiefer Boulevard – Eagles Nest Road to Sunrise Boulevard	2	21,400	1.19	F	21,800	1.21	F
34. Kiefer Boulevard – Sunrise Boulevard to Jaeger Road	2	19,300	1.07	F	19,500	1.08	F
35. Eagles Nest Road (Zinfandel Drive) – Mather Boulevard to Douglas Road	6	42,900	0.79	C	45,300	0.84	D
36. Eagles Nest Road – Kiefer Boulevard to SR-16	4	11,100	0.31	A	11,100	0.31	A

Roadway Segment	Lanes	Cumulative With Hazel Avenue Extension Conditions			Cumulative Plus Project With Hazel Avenue Extension Conditions		
		Vol	V/C	LOS	Vol	V/C	LOS
37. Sunrise Boulevard – Douglas Road to Chrysanthy Boulevard	6	80,700	1.35	F	**84,700**	**1.41**	**F**
38. Sunrise Boulevard – Chrysanthy Boulevard to Kiefer Boulevard	6	68,200	1.14	F	69,500	1.16	F
39. Sunrise Boulevard – Kiefer Boulevard to SR-16	4	63,800	1.60	F	64,700	1.62	F
40. Sunrise Reliever – US-50 to Easton Valley Parkway 1	6	79,400	1.32	F	80,300	1.34	F
41. Sunrise Reliever – Easton Valley Parkway to White Rock Road1	6	71,800	1.20	F	72,800	1.21	F
42. Jaeger Road – White Rock Road to Douglas Road	6	47,800	0.89	D	**49,000**	**0.91**	**E**
43. Jaeger Road – Douglas Road to Chrysanthy Boulevard	4	36,600	1.02	F	**44,300**	**1.23**	**F**
44. Jaeger Road – Chrysanthy Boulevard to Kiefer Boulevard	4	13,600	0.38	A	15,900	0.44	A
45. Americanos Boulevard – White Rock Road to Douglas Road	4	23,600	0.66	B	24,300	0.68	B
46. Americanos Boulevard – Douglas Road to Chrysanthy Boulevard	4	26,700	0.74	C	28,300	0.79	C

Notes: [1] Assumed expressway with high access control.
Shaded areas indicate deficiency. ***Bold*** *indicates impact.*
Source: Fehr & Peers, 2005.

Study Roadway Segments

Impact 4.4.12 Implementation of the project would result in the worsening of already deficient LOS and/or an increase of 0.05 or greater of the volume-to-capacity ratio on deficiently operating roadways as well as trigger some roadways to exceed the City's LOS D standards located within the project area under Cumulative (Year 2030) Conditions with both the Hazel Avenue Extension Scenarios. This is considered a **significant** impact.

- Implementation of the project will exacerbate unacceptable operations on Mather Boulevard between Femoyer Street and Zinfandel Drive. This segment of Mather Boulevard will operate unacceptably at LOS F with a volume-to-capacity (V/C) ratio of 1.19 and 1.17 without and with the Hazel Avenue Extension, respectively. The addition of project traffic will cause the V/C ratio to increase by more than 0.05. This roadway is partially within the City and the unincorporated portion of Sacramento County.

- Implementation of the project will cause LOS E operations on Mather Field Road between the US-50 Eastbound Ramps and International Drive under Cumulative (Year 2030) conditions without the Hazel Avenue Extension. This roadway is within the City.

- Implementation of the project will exacerbate unacceptable operations on Douglas Road between Sunrise Boulevard and Jaeger Road under Cumulative (Year 2030) conditions with both Hazel Avenue Extension scenarios. This segment of Douglas Road will operate unacceptably at LOS F with a volume-to-capacity (V/C) ratio of 1.04 and 1.05 without and with the Hazel Avenue Extension, respectively, under Cumulative (Year 2030) conditions. The addition of project traffic will cause the V/C ratio to increase by more than 0.05. This roadway is within the City.

- Implementation of the project will cause LOS E operations on Chrysanthy Boulevard between Jaeger Road and Americanos Boulevard under Cumulative (Year 2030) conditions with both Hazel Avenue Extension scenarios. This roadway is within the City.

- Implementation of the project will exacerbate unacceptable operations on Sunrise Boulevard between Douglas Road and Chrysanthy Boulevard under Cumulative (Year 2030) conditions with both Hazel Avenue Extension scenarios. This segment of Sunrise Boulevard will operate unacceptably at LOS F with a volume-to-capacity (V/C) ratio of 1.37 and 1.35 without and with the Hazel Avenue Extension, respectively, under Cumulative (Year 2030) conditions. The addition of project traffic will cause the V/C ratio to increase by more than 0.05. This roadway is partially within the City and the unincorporated portion of Sacramento County.

- Implementation of the project will cause LOS E operations on Jaeger Road between White Rock Road and Douglas Boulevard under Cumulative (Year 2030) conditions with the Hazel Avenue Extension scenario. This roadway is within the City.

- Implementation of the project will exacerbate unacceptable operations on Jaeger Road between Douglas Road and Chrysanthy Boulevard. This segment of Jaeger Road will operate unacceptably at LOS E with a volume-to-capacity (V/C) ratio of 0.98 and at LOS F with a V/C ratio of 1.02 without and with the Hazel Avenue Extension, respectively, under Cumulative (Year 2030) conditions. The addition of project traffic will cause the V/C ratio to increase by more than 0.05. This roadway is within the City.

Mitigation Measure

Implementation of Mitigation Measure MM 4.4.1a would reduce impacts to Mather Boulevard to **less than significant**.

MM 4.4.12a Construct the extension of Hazel Avenue from US-50 to Grant Line Road to a width of two lanes each way. This improvement lies outside the City of Rancho Cordova. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP. Implementation of this mitigation measure would assist in reducing traffic impacts and would provide operations that meet or exceed city standards for LOS. However, this roadway is outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to Mather Field Road are considered **significant and unavoidable**.

These roadway improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could conflict with existing facilities and operations at the Aerojet/Gencorp site and could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and biological resource impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

MM 4.4.12b Widen the segment of Douglas Road (from Sunrise Boulevard to Jaeger Road) from two to three lanes in each direction. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. However, these improvements shall be in place prior to LOS E operational conditions unless otherwise agreed to by the City. Any agreement by the City waiving the LOS E implementation trigger would require that the particular transportation improvement be constructed as soon as implementation/construction becomes practicable.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP, but is consistent with the City's Interim General Plan Circulation Plan. Improvements to this roadway are contained within the Sunridge Specific Plan Public Facilities Financing Plan. Implementation of these improvements would ultimately mitigate the impact to this facility to **less than significant**. However, due to potential timing issues in obtaining permits for wetland fill under Section 404 of the Clean Water Act, this impact is considered **significant and unavoidable** in the short-term.

Based on review of existing available environmental documentation, field review and review of aerial photography, the roadway area has already been partially disturbed by development activities. It is anticipated that the construction of improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts

of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

MM 4.4.12c Widen the segment of Chrysanthy Boulevard (Jaeger Road to Americanos Boulevard) from two to three lanes in each direction. This improvement will provide LOS D or better operations. This mitigation measure may not ultimately required if additional traffic analysis associated with the City of Rancho Cordova Interim General Plan Circulation Plan in the project area determine that this additional widening is unnecessary to maintain LOS D or better conditions.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. However, these improvements shall be in place prior to LOS E operational conditions unless otherwise agreed to by the City. Any agreement by the City waiving the LOS E implementation trigger would require that the particular transportation improvement be constructed as soon as implementation/construction becomes practicable.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP and is not consistent with the City's Interim General Plan Circulation Plan. This improvement is within the proposed project site and is expected be implemented as part of site development. Implementation of these improvements would reduce the impact to **less than significant**.

The environmental effects of the construction of Chrysanthy Boulevard associated with the development of the Sunrise Douglas Community Plan were globally addressed in the Sunrise Douglas Community Plan/Sunridge Specific Plan Final EIR. It is anticipated that the construction of intersection improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

MM 4.4.12d Widen Grant Line Road from one to two lanes each way between Sunrise Boulevard and SR-16 and between Douglas Road and White Rock Road and implement Mitigation Measure MM 4.4.12a. This improvement would reduce the impact of the project on Sunrise Boulevard corridor; however, the LOS would remain F.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP, but is consistent with the City's Interim General Plan Circulation Plan. Implementation of this mitigation measure would assist in reducing traffic impacts. However, this roadway is partially outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition and the fact that Sunrise Boulevard would still operate at LOS F, impacts to this roadway are considered **significant and unavoidable**.

These roadway improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, utility relocation impacts and biological resource impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

MM 4.4.12e Widen the segment of Jaeger Road (from White Rock Road to Douglas Road) from two to three lanes in each direction. This improvement will provide LOS D or better operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. However, these improvements shall be in place prior to LOS E operational conditions unless otherwise agreed to by the City. Any agreement by the City waiving the LOS E implementation trigger would require that the particular transportation improvement be constructed as soon as implementation/construction becomes practicable.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP, but is consistent with the City's Interim General Plan Circulation Plan. Implementation of these improvements would ultimately reduce

the impact to Jaeger Road (from Douglas Road to Chrysanthy Boulevard) **less than significant**. However, due to potential timing issues in obtaining permits for wetland fill under Section 404 of the Clean Water Act, this impact is considered **significant and unavoidable** in the short-term. Impacts to Jaeger Road (from White Rock Road to Douglas Road) (under the With Hazel Avenue Extension Scenario) would remain **significant and unavoidable**.

The environmental effects of the construction of Jaeger Road associated with the development of the Sunrise Douglas Community Plan were globally addressed in the Sunrise Douglas Community Plan/Sunridge Specific Plan Final EIR and the Anatolia III Major Roads, Sewer Main and Water Transmission Main Projects Mitigated Negative Declaration associated with improvements to Jaeger Road (four-lane facility). It is anticipated that the construction of intersection improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

MM 4.4.12f Widen Jaeger Road (from Douglas Road to Chrysanthy Boulevard) from two to three lanes in each direction. This improvement would not improve the operation of the Sunrise Boulevard corridor.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP, but is consistent with the City's Interim General Plan Circulation Plan. Given the fact that Sunrise Boulevard would still operate at LOS F, even with implementation of this mitigation measure, impacts to this roadway are considered **significant and unavoidable**.

The environmental effects of the expansion of Sunrise Boulevard associated with the development of the Sunrise Douglas Community Plan were globally addressed in the Sunrise Douglas Community Plan/Sunridge Specific Plan Final EIR and the Anatolia III Major Roads, Sewer Main and Water Transmission Main Projects Mitigated Negative Declaration. It is anticipated that the construction of intersection improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Study Intersections

The AM and PM peak hour intersection turning movement forecasts shown on **Figure 4.4-16 through Figure 4.4-19** were used to analyzed traffic operations at the study intersection under Cumulative (Year 2030) conditions**. Tables 4.4-21** and **4.4-22** present the Cumulative (Year 2030) intersection operations without and with the Hazel Avenue Extension, respectively. Under Cumulative (Year 2030) conditions (without the Hazel Avenue Extension), 29 of the 39 study intersections will operate unacceptably (LOS E or F). With the Hazel Avenue Extension, 30 of the 39 study intersection will operate unacceptably (LOS E or F).

Impact 4.4.13 Implementation of the project will result in the worsening of already deficient LOS, an increase of 0.05 volume-to-capacity ratio at signalized intersections, cause a 5 second or greater delay at unsignalized intersections as well as trigger some intersections to exceed the City's LOS D standards at study area intersections under Cumulative (Year 2030) Conditions with both the Hazel Avenue Extension Scenarios. This is considered a **significant** impact.

- Implementation of the project will cause LOS E operations at the SR-16/Excelsior Road intersection under Cumulative (Year 2030) conditions without the Hazel Avenue Extension. This intersection is located outside of the City.

- Implementation of the project will cause LOS E operations at the Grant Line Road/Sunrise Boulevard intersection under Cumulative (Year 2030) conditions with the Hazel Avenue Extension. This intersection is located outside of the City.

- Implementation of the project will exacerbate unacceptable operations at the Grant Line Road/Kiefer Boulevard intersection. The intersection will operate unacceptably at LOS F with delay greater than 50 seconds per vehicle in the AM and PM peak hours, respectively, under Cumulative (Year 2030) conditions with both Hazel Avenue Extension scenarios. The addition of project traffic will increase delay at the intersection by more than 5 seconds during the AM and PM peak hours. This intersection is located partially within the City and the unincorporated area of Sacramento County.

- Implementation of the project will exacerbate unacceptable operations at the Douglas Road/Grant Line Road intersection under Cumulative (Year 2030) conditions with both Hazel Avenue Extension scenarios. The addition of project traffic will increase delay at the intersection by more than 5 seconds during the AM and PM peak hours. This intersection is located partially within the City and the unincorporated area of Sacramento County.

- Implementation of the project will exacerbate unacceptable operations at the Douglas Road/Sunrise Boulevard intersection under Cumulative (Year 2030) conditions without the Hazel Avenue Extension (PM peak only) and with the Hazel Avenue Extension (AM and PM peak). The addition of project traffic will increase V/C ratio by more than 0.05 during the identified analysis periods. This intersection is located within the City.

- Implementation of the project would exacerbate unacceptable LOS F operations at the Sunrise Boulevard/International Drive intersection under Cumulative (Year 2030) conditions with both the Hazel Avenue Extension scenarios. This intersection is located within the City.

- Implementation of the project would exacerbate unacceptable LOS F operations at the Douglas Road/Jaeger Road intersection under Cumulative (Year 2030) conditions with both the Hazel Avenue Extension scenarios. This intersection is located within the City.

- Implementation of the project would exacerbate unacceptable LOS F operations at the Douglas Road/Americanos Boulevard intersection under Cumulative (Year 2030) conditions with the Hazel Avenue Extension. This intersection is located within the City.

- Implementation of the project would exacerbate unacceptable LOS F operations at the Chrysanthy Boulevard/Sunrise Boulevard intersection under Cumulative (Year 2030) conditions with both the Hazel Avenue Extension scenarios. This intersection is located partially within the City and the unincorporated area of Sacramento County.

- Implementation of the project would cause unacceptable LOS F operations at the Chrysanthy Boulevard/Jaeger Road intersection under Cumulative (Year 2030) conditions with both the Hazel Avenue Extension scenarios. This intersection is located within the City.

Implementation of the project will cause exacerbate unacceptable LOS F (V/C greater than 2.00) operations at the Jaeger Road/White Rock Road intersection under Cumulative (Year 2030) conditions with both the Hazel Avenue Extension scenarios. This intersection is located within the City.

Mitigation Measure

SR-16/Excelsior Road

MM 4.4.13a Widen the eastbound approach to the SR-16/Excelsior Road intersection and provide two eastbound to northbound left-turn lanes, which would require widening a Excelsior Road north of SR-16 to provide a lane transition from two to one lane. This improvement would reduce the impact of the project at this intersection and provide LOS D operations. This intersection lies outside the City of Rancho Cordova city limits.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

TABLE 4.4-21
INTERSECTION LEVELS OF SERVICE – CUMULATIVE (2030) CONDITIONS WITHOUT HAZEL AVENUE EXTENSION

Intersection	Control	Cumulative Conditions				Cumulative Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		V/C or Delay[1,2]	LOS[3]	V/C or Delay[1,2]	LOS[3]	V/C or Delay[1,2]	LOS[3]	V/C or Delay[1,2]	LOS[3]
1. SR-16/Excelsior Road	Signalized	0.90	D	0.70	C	0.91	E	0.71	C
2. SR-16/Eagles Nest Road	Signalized	0.77	C	0.74	C	0.79	C	0.75	C
3. SR-16/Sunrise Boulevard	Signalized	1.13	F	1.19	F	1.14	F	1.21	F
4. SR-16/Grant Line Road	Signalized	0.72	C	0.61	B	0.73	C	0.61	B
5. Florin Road/Sunrise Boulevard	Signalized	1.07	F	1.04	F	1.09	F	1.06	F
6. Grant Line Road/Sunrise Boulevard	Signalized	0.91	E	0.60	B	0.92	E	0.61	B
7. Grant Line Road/Kiefer Boulevard	All-Way Stop	> 50	F	>50	F	> 50	F	>50	F
8. Douglas Road/Grant Line Road	Side-Street Stop	> 50	F	>50	F	> 50	F	>50	F
9. Douglas Road/Sunrise Boulevard	Signalized	1.25	F	1.96	F	1.30	F	2.08	F
10. Mather Field Road/Folsom Boulevard	Signalized	0.83	D	0.95	E	0.83	D	0.95	E
11. Mather Field Road/US-50 Westbound Ramps	Signalized	0.63	B	0.63	B	0.63	B	0.63	B
12. Mather Field Road/US-50 Eastbound Ramps	Signalized	0.94	E	0.80	D	0.95	E	0.84	D
13. Mather Field Road/International Drive	Signalized	0.79	C	1.09	F	0.81	D	1.10	F
14. Zinfandel Drive/International Drive[4]	Signalized	0.85	D	0.82	D	0.86	D	0.83	D
15. Zinfandel Drive/White Rock Road	Signalized	1.20	F	1.38	F	1.21	F	1.40	F
16. Zinfandel Drive/US-50 Eastbound Ramps	Signalized	1.28	F	1.49	F	1.30	F	1.50	F
17. Zinfandel Drive/US-50 Westbound Ramps	Signalized	0.63	B	0.59	A	0.64	B	0.59	A
18. Sunrise Boulevard/White Rock Road	Signalized	1.32	F	1.07	F	1.34	F	1.08	F
19. Sunrise Boulevard/Folsom Boulevard	Signalized	1.53	F	1.64	F	1.54	F	1.66	F
20. Sunrise Boulevard/US-50 Eastbound Ramps	Signalized	0.64	B	0.69	B	0.65	B	0.69	B
21. Sunrise Boulevard/US-50 Westbound Ramps	Signalized	0.88	D	1.23	F	0.89	D	1.24	F
22. Sunrise Boulevard/Zinfandel Drive	Signalized	1.27	F	2.17	F	1.27	F	2.19	F
23. Hazel Avenue/Folsom Boulevard	Signalized	1.54	F	2.01	F	1.54	F	2.01	F
24. Hazel Avenue/US-50 Eastbound Ramps	Signalized	1.42	F	1.70	F	1.43	F	1.70	F
25. Hazel Avenue/US-50 Westbound Ramps	Signalized	2.06	F	1.51	F	2.07	F	1.51	F
26. White Rock Road/Grant Line Road	Signalized	0.99	E	0.92	E	1.03	F	0.94	E
27. Sunrise Boulevard/Kiefer Boulevard	Signalized	1.34	F	1.16	F	1.36	F	1.17	F
28. Eagles Nest Road/Kiefer Road	Signalized	1.17	F	1.08	F	1.18	F	1.08	F
29. Sunrise Boulevard/International	Signalized	1.23	F	1.46	F	1.30	F	1.53	F
31. Sunrise Reliever/US-50 Eastbound Ramps	Signalized	1.22	F	1.62	F	1.23	F	1.64	F
32. Sunrise Reliever/US-50 Westbound Ramps	Uncontrolled	-	-	-	-	-	-	-	-
33. Douglas Road/Jaeger Road	Signalized	1.27	F	1.12	F	1.36	F	1.30	F
34. Douglas Road/Americanos Boulevard	Signalized	1.47	F	1.30	F	1.52	F	1.31	F
30. Sunrise Reliever/White Rock Road	Signalized	2.27	F	2.33	F	2.28	F	2.34	F
35. Chrysanthy Boulevard/Sunrise Boulevard	Signalized	1.52	F	1.02	F	1.70	F	1.12	F
36. Chrysanthy Boulevard/Jaeger Road	Signalized	0.84	D	0.56	A	1.14	F	0.76	C
37. Chrysanthy Boulevard/Americanos Boulevard	Signalized	0.70	B	0.60	B	0.74	C	0.74	C
38. Kiefer Boulevard/Jaeger Road	Signalized	0.76	C	0.65	B	0.79	C	0.68	B
39. White Rock Road/Americanos Boulevard	Signalized	1.36	F	1.74	F	1.38	F	1.76	F

Notes: [1] *V/C (volume-to-capacity) ratio is shown for signalized intersections. Delay is shown for unsignalized intersections.*
[2] *Delay for side-street stop unsignalized intersections reported for worst-case approach, for all-way stop intersections average intersection delay reported in seconds per vehicle.*
[3] *LOS = level of service*
Shaded areas indicate deficiency. ***Bold*** *indicates impact.*
Source: Fehr & Peers, *2005.*

TABLE 4.4-22
INTERSECTION LEVELS OF SERVICE – CUMULATIVE (2030) CONDITIONS WITH HAZEL AVENUE EXTENSION

Intersection	Control	Cumulative With Hazel Avenue Extension Conditions				Cumulative Plus Project With Hazel Avenue Extension Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		V/C or Delay[1,2]	LOS[3]	V/C or Delay[1,2]	LOS[3]	V/C or Delay[1,2]	LOS[3]	V/C or Delay[1,2]	LOS[3]
1. SR-16/Excelsior Road	Signalized	0.91	E	0.72	C	0.92	E	0.73	C
2. SR-16/Eagles Nest Road	Signalized	0.84	D	0.72	C	0.85	D	0.73	C
3. SR-16/Sunrise Boulevard	Signalized	1.17	F	1.20	F	1.18	F	1.22	F
4. SR-16/Grant Line Road	Signalized	0.72	C	0.61	B	0.74	C	0.61	B
5. Florin Road/Sunrise Boulevard	Signalized	1.07	F	1.00	E	1.08	F	1.02	F
6. Grant Line Road/Sunrise Boulevard	Signalized	0.88	D	0.61	B	**0.90**	**E**	0.62	B
7. Grant Line Road/Kiefer Boulevard	All-Way Stop	> 50	F	>50	F	**> 50**	**F**	**>50**	**F**
8. Douglas Road/Grant Line Road	Side-Street Stop	> 50	F	>50	F	**> 50**	**F**	**>50**	**F**
9. Douglas Road/Sunrise Boulevard	Signalized	1.36	F	2.06	F	**1.43**	**F**	**2.19**	**F**
10. Mather Field Road/Folsom Boulevard	Signalized	0.80	D	0.93	E	0.80	D	0.93	E
11. Mather Field Road/US-50 Westbound Ramps	Signalized	0.66	B	0.63	B	0.66	B	0.63	B
12. Mather Field Road/US-50 Eastbound Ramps	Signalized	0.95	E	0.82	D	0.96	E	0.85	D
13. Mather Field Road/International Drive	Signalized	0.74	C	1.10	F	0.77	C	1.12	F
14. Zinfandel Drive/International Drive	Signalized	0.92	E	0.96	E	0.93	E	0.99	E
15. Zinfandel Drive/White Rock Road	Signalized	1.27	F	1.31	F	1.27	F	1.33	F
16. Zinfandel Drive/US-50 Eastbound Ramps	Signalized	1.29	F	1.44	F	1.30	F	1.46	F
17. Zinfandel Drive/US-50 Westbound Ramps	Signalized	0.60	B	0.57	A	0.61	B	0.57	A
18. Sunrise Boulevard/White Rock Road	Signalized	1.30	F	0.97	E	1.32	F	0.99	E
19. Sunrise Boulevard/Folsom Boulevard	Signalized	1.53	F	1.84	F	1.54	F	1.85	F
20. Sunrise Boulevard/US-50 Eastbound Ramps	Signalized	0.64	B	0.69	B	0.64	B	0.69	B
21. Sunrise Boulevard/US-50 Westbound Ramps	Signalized	0.87	D	1.23	F	0.88	D	1.24	F
22. Sunrise Boulevard/Zinfandel Drive	Signalized	1.26	F	2.16	F	1.26	F	2.17	F
23. Hazel Avenue/Folsom Boulevard	Signalized	1.67	F	2.04	F	1.67	F	2.04	F
24. Hazel Avenue/US-50 Eastbound Ramps	Signalized	1.40	F	1.66	F	1.41	F	1.67	F
25. Hazel Avenue/US-50 Westbound Ramps	Signalized	2.05	F	1.54	F	2.05	F	1.55	F
26. White Rock Road/Grant Line Road	Signalized	1.31	F	1.17	F	1.35	F	1.19	F
27. Sunrise Boulevard/Kiefer Boulevard	Signalized	1.34	F	1.23	F	1.36	F	1.24	F
28. Eagles Nest Road/Kiefer Road	Signalized	1.18	F	1.08	F	1.19	F	1.09	F
29. Sunrise Boulevard/International	Signalized	1.49	F	1.55	F	**1.56**	**F**	**1.63**	**F**
30. Sunrise Reliever/White Rock Road	Signalized	2.24	F	2.34	F	2.25	F	2.35	F
31. Sunrise Reliever/US-50 Eastbound Ramps	Signalized	1.20	F	1.61	F	1.21	F	1.64	F
32. Sunrise Reliever/US-50 Westbound Ramps	Uncontrolled	-	-	-	-	-	-	-	-
33. Douglas Road/Jaeger Road	Signalized	1.15	F	1.14	F	**1.24**	**F**	**1.29**	**F**
34. Douglas Road/Americanos Boulevard	Signalized	1.44	F	1.28	F	**1.50**	**F**	1.29	F
35. Chrysanthy Boulevard/Sunrise Boulevard	Signalized	1.55	F	1.02	F	1.73	F	1.12	F
36. Chrysanthy Boulevard/Jaeger Road	Signalized	0.79	C	0.58	A	1.09	F	0.75	C
37. Chrysanthy Boulevard/Americanos Boulevard	Signalized	0.70	B	0.59	A	0.75	C	0.74	C
38. Kiefer Boulevard/Jaeger Road	Signalized	0.71	C	0.65	B	0.75	C	0.68	B
39. White Rock Road/Americanos Boulevard	Signalized	1.30	F	1.72	F	1.32	F	1.74	F

Notes: [1] *V/C (volume-to-capacity) ratio is shown for signalized intersections. Delay is shown for unsignalized intersections.*
[2] *Delay for side-street stop unsignalized intersections reported for worst-case approach, for all-way stop intersections average intersection delay reported in seconds per vehicle.*
[3] *LOS = level of service*
Shaded areas indicate deficiency. ***Bold*** *indicates impact.*
Source: Fehr & Peers, *2005.*

This intersection improvement is not within the City's five year TIP. However, improvements to this intersection are contained within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. The CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project identified that physical improvement of this intersection was feasible. Implementation of this mitigation measure would assist in reducing traffic impacts to this intersection and would provide operations that meet or exceed city standards for LOS. However, this intersection is outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could directly impact wetland resources and associated grassland habitat area as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Grant Line Road/Kiefer Boulevard

Implementation of Mitigation Measure MM 4.4.8b would improve this intersection to LOS D operations. This intersection improvement is not within the City's five year TIP or within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. Implementation of this mitigation measure would assist in reducing traffic impacts to this intersection. However, portions of this intersection are outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

Douglas Road/Grant Line Road

MM 4.4.13b Associated with the implementation of Mitigation Measures MM 4.4.2d and MM 4.4.8c, provide a protected left-turn phasing on the northbound approach at the Douglas Road/Grant Line Road intersection. This improvement would reduce the impact of the project at this intersection and provide LOS B operations.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Sacramento County.*

Enforcement/Monitoring: City of Rancho Cordova Public Works Department.

This intersection improvement is not within the City's five year TIP or within the Sunridge Specific Plan Public Facilities Financing Plan and zoning conditions. Implementation of this mitigation measure would assist in reducing traffic impacts to this intersection and would provide operations that meet or exceed city standards for LOS. However, this intersection is outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

These intersection improvements have not been designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could directly impact wetland resources and associated grassland habitat area as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, utility relocation impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Douglas Road/Sunrise Boulevard

MM 4.4.13c In addition to implementation of Mitigation Measures MM 4.4.12a and d, construct an at-grade intersection enhancements (e.g., three separate left-turn lanes and two separate right-turn lanes). This improvement would improve operations at the intersection; however, the LOS would remain F during the AM and PM peak hours with V/C ratios near 2.00 during the PM peak hour.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP. Implementation of these improvements would reduce the impact to Douglas Road, but would not meet the City's LOS D standard. Thus, this impact would be **significant and unavoidable**.

Based on review of existing available environmental documentation, field review and review of aerial photography, the roadway area has already been partially disturbed by development activities. It is anticipated that the construction of improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Sunrise Boulevard/International Drive

MM 4.4.13d In addition to the implementation of the intersection improvements identified under Mitigation Measure MM 4.4.8e, the eastbound approach of the Sunrise Boulevard/International Drive intersection shall be modified to consist of two left-turn lanes, a shared through/right-turn lane, and one right-turn lane on the eastbound approach.

This improvement would reduce the impact of the project at this intersection; however, the LOS would remain F.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

The extension of International Drive to Sunrise Boulevard as a four-lane facility is currently within the City's five year TIP as a fully funded project that is anticipated to be constructed in 2009. While implementation of this mitigation measure would assist in reducing traffic impacts to this intersection, the intersection would still not meet City LOS D standards. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could directly impact the Folsom South Canal as well as result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Douglas Road/Jaeger Road

MM 4.4.13e In addition to the implementation of Mitigation Measure MM 4.4.12b, construct the following lane configurations at the intersection:

- Two left-turn lanes, three through lanes, and one right-turn lane on all approaches.

This improvement would reduce the impact of the project at this intersection; however, the LOS would remain F. The addition of a second eastbound right-turn lane would provide LOS D operations during the PM peak hour; however, the second right-turn lane would increase pedestrian crossing distance.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this*

improvement shall be identified in project conditions of approval and/or the project's development agreement.

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP. Improvements to this intersection are contained within the Sunridge Specific Plan Public Facilities Financing Plan. Implementation of these improvements would minimize the impact to this intersection, but would not meet the City's LOS D standards. Thus, this impact is considered **significant and unavoidable**.

Based on review of existing available environmental documentation, field review and review of aerial photography, this area has already been partially disturbed by development activities. It is anticipated that the construction of improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Douglas Road/Americanos Boulevard

MM 4.4.13f In addition to the implementation of Mitigation Measure MM 4.4.12b, construct the following lane configurations at the Douglas Road/Americanos Boulevard intersection:

- Two left-turn lanes, two through lanes, and one right-turn lane on the northbound and southbound approaches
- Two left-turn lanes, three through lanes, and one right-turn lane on the eastbound approach
- Two left-turn lanes, three through lanes, and two right-turn lane on the westbound approach
- Widening of Douglas Road east of Americanos Boulevard to accommodate a lane transition from six to four lanes
- The addition of three northbound and southbound through lanes with transition to four lanes.

Intersection operations would be improved to LOS E.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP. Implementation of these improvements would minimize the impact to this intersection, but would not meet the City's LOS D standards. Thus, this impact is considered **significant and unavoidable**.

Based on review of existing available environmental documentation, field review and review of aerial photography, the improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Chrysanthy Boulevard/Sunrise Boulevard

MM 4.4.13g In addition to the implementation of Mitigation Measures MM 4.4.12a and d, widen the westbound approach to provide the following lane configurations at the intersection:

- Three through lanes and one right-turn lane on the northbound approach
- Two left-turn lanes and three through lanes on the southbound approach
- Two left-turn lanes and two right-turn lanes on the westbound approach

This improvement would reduce the impact of the project at this intersection; however, the LOS would remain F during the AM peak hour and LOS E during the PM peak hour.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements shall be coordinated with Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP. Improvements to this intersection are contained within the Sunridge Specific Plan Public Facilities Financing Plan. Implementation of these improvements would minimize the impact to this intersection, but would not meet the City's LOS D standards. Thus, this impact is considered **significant and unavoidable**.

Based on review of existing available environmental documentation, field review and review of aerial photography, this area has already been partially disturbed by development activities. It is anticipated that the construction of improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air

quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Chrysanthy Boulevard/Jaeger Road

MM 4.4.13h In addition to the implementation of Mitigation Measure MM 4.4.12e, provide the following lane configurations at the intersection:

- Two left-turn lanes, three through lanes, and one right-turn lane on the northbound and southbound approaches
- Two left-turn lanes, two through lanes, and one right-turn lane on the eastbound and approach
- Two left-turn lanes, two through lanes, and two right-turn lanes on the westbound approaches

This improvement would require widening Jaeger Road south of Chrysanthy Boulevard to accommodate a lane transition from six total lanes to four total lanes. The intersection would operate at LOS C with this improvement.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. However, these improvements shall be in place prior to LOS E operational conditions unless otherwise agreed to by the City. Any agreement by the City waiving the LOS E implementation trigger would require that the particular transportation improvement be constructed as soon as implementation/construction becomes practicable.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP, but is consistent with the City's Interim General Plan Circulation Plan. Implementation of these improvements would ultimately mitigate the impact to this facility to **less than significant**. However, due to potential timing issues in obtaining permits for wetland fill under Section 404 of the Clean Water Act, this impact is considered **significant and unavoidable** in the short-term.

The environmental effects of the construction of roadways associated with the development of the Sunrise Douglas Community Plan were globally addressed in the Sunrise Douglas Community Plan/Sunridge Specific Plan Final EIR and the Anatolia III Major Roads, Sewer Main and Water Transmission Main Projects Mitigated Negative Declaration associated with improvements to

Jaeger Road (four-lane facility). It is anticipated that the construction of intersection improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Sunrise Reliever (Jaeger Road)/White Rock Road

MM 4.4.13i Widen White Rock Road from one lane in each direction to three lanes in each direction to the east and west of the Jaeger Road/White Rock Road intersection and provide the following lane configurations at the intersection:

- Two left-turn lanes, three through lanes, and one right-turn lane on the northbound and southbound approaches
- Two left-turn lanes, three through lanes, and two right-turn lanes on the eastbound and westbound approaches

This improvement would also require improvements at the Americanos and Grant Line Road intersection to accommodate the number of through lanes on White Rock Road. This improvement would reduce the impact of the project at this intersection; however, the LOS would remain F.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement.*

Enforcement/Monitoring**:** *City of Rancho Cordova Public Works Department.*

Implementation of these improvements would minimize the impact to this intersection, but would not meet the City's LOS D standards. Thus, this impact is considered **significant and unavoidable**.

Based on review of existing available environmental documentation, field review and review of aerial photography, this area has already been partially disturbed by development activities. It is anticipated that the construction of improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Grant Line Road/Sunrise Boulevard

MM 4.4.13j In addition to the implementation of Mitigation Measure MM 4.4.12d, the following lane configurations shall be made at the Grant Line Road/Sunrise Boulevard intersection:

- One left-turn lane, one through lane, and one shared through/right-turn lane on the westbound approach.

This improvement would provide operations of LOS D or better.

Timing/Implementation: *The project's fair-share participation in this improvement and the associated timing of this improvement shall be identified in project conditions of approval and/or the project's development agreement. Improvements to this intersection shall be coordinated with Sacramento County.*

Enforcement/Monitoring: *City of Rancho Cordova Public Works Department.*

This improvement is not within the City's five year TIP. Implementation of these improvements would mitigate the impact to this intersection and would provide operations that meet or exceed city standards for LOS. However, this intersection is partially outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given this condition, impacts to this intersection are considered **significant and unavoidable**.

It is anticipated that the construction of improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, cultural resource impacts, wetland resource impacts and special-status plant and animal species impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Freeway Facilities

Cumulative (Year 2030) condition freeway segments, ramp junctions, and weaving section operations are presented below.

Freeway Segments

Tables 4.4-23 and 4.4-24 summarizes peak hour freeway segment LOS without and with the Hazel Avenue Extension. The HCM analysis indicates that all of the freeway segments in the westbound and eastbound directions during the AM and PM peak hours will operate unacceptably at LOS F except for Zinfandel Drive to Sunrise Boulevard (eastbound) and Sunrise Boulevard to Zinfandel Drive (westbound). These segments will likely also operate unacceptably due the upstream and downstream bottlenecks that the HCM methodology does not account for.

Freeway Ramp Merge/Diverge and Weaving Analysis

The results of the freeway merge/diverge/weave analyses are summarized in **Tables 4.4-25 and 4.4-26** without and with the Hazel Avenue Extension. All of the merge/diverge/weave maneuvers in both directions of US-50 will operate at LOS F based on the HCM methodology due to capacity constraints on the mainline

TABLE 4.4-23
FREEWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE CONDITIONS WITHOUT HAZEL AVENUE EXTENSION

Segment	Number of Lanes	Cumulative Conditions				Cumulative Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
Eastbound US-50									
West of Mather Field Road	4	-	F	-	F	-	F	-	F
Mather Field Road to Zinfandel Drive	4	-	F	-	F	-	F	-	F
Zinfandel Drive to Sunrise Boulevard	3	32	D	37	E	31	D	37	E
Sunrise Boulevard to Sunrise Reliever	3	-	F	-	F	-	F	-	F
Sunrise Reliever to Hazel Avenue	3	-	F	-	F	-	F	-	F
East of Hazel Avenue	3	-	F	-	F	-	F	-	F
WESTBOUND US-50									
East of Hazel Avenue	2	-	F	-	F	-	F	-	F
Hazel Avenue to Sunrise Reliever	3	-	F	-	F	-	F	-	F
Sunrise Reliever to Sunrise Boulevard	3	-	F	-	F	-	F	-	F
Sunrise Boulevard to Zinfandel Drive	4	39	E	33	D	40	E	33	D
Zinfandel Drive to Mather Field Road	4	-	F	-	F	-	F	-	F
West of Mather Field Road	4	-	F	-	F	-	F	-	F

Notes: [1] *Density in passenger cars per mile per lane.*
[2] *LOS = Level of Service.*
Excludes HOV lanes.
Shaded areas indicate deficiency where calculation indicates demand exceeds capacity.
Source: Fehr & Peers, *2005.*

TABLE 4.4-24
FREEWAY SEGMENT LEVEL OF SERVICE – CUMULATIVE CONDITIONS WITH HAZEL AVENUE EXTENSION

Segment	Number of Lanes	Cumulative Conditions				Cumulative Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
Eastbound US-50									
West of Mather Field Road	4	-	F	-	F	-	F	-	F
Mather Field Road to Zinfandel Drive	4	-	F	-	F	-	F	-	F
Zinfandel Drive to Sunrise Boulevard	3	31	D	42	E	31	D	42	E
Sunrise Boulevard to Sunrise Reliever	3	-	F	-	F	-	F	-	F
Sunrise Reliever to Hazel Avenue	3	-	F	-	F	-	F	-	F
East of Hazel Avenue	3	-	F	-	F	-	F	-	F
Westbound US-50									
East of Hazel Avenue	2	-	F	-	F	-	F	-	F
Hazel Avenue to Sunrise Reliever	3	-	F	-	F	-	F	-	F
Sunrise Reliever to Sunrise Boulevard	3	-	F	-	F	-	F	-	F
Sunrise Boulevard to Zinfandel Drive	4	38	E	32	D	38	E	32	D
Zinfandel Drive to Mather Field Road	4	-	F	-	F	-	F	-	F
West of Mather Field Road	4	-	F	-	F	-	F	-	F

Notes: [1] Density in passenger cars per mile per lane.
[2] LOS = Level of Service.
Excludes HOV lanes.
Shaded areas indicate deficiency where calculation indicates demand exceeds capacity.
Source: Fehr & Peers, 2005.

TABLE 4.4-25
MERGE/DIVERGE/WEAVE LEVEL OF SERVICE – CUMULATIVE CONDITIONS (NO HAZEL AVENUE EXTENSION)

Ramp	Merge, Diverge, or Weave	Cumulative Conditions				Cumulative Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
Eastbound US-50									
Mather Field Road Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Mather Field Road Loop On-Ramp	Merge	-	F	-	F	-	F	-	F
Mather Field Road Direct On-Ramp	Merge	-	F	-	F	-	F	-	F
Zinfandel Drive Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Zinfandel Drive Loop On-Ramp	Merge	-	F	-	F	-	F	-	F
Zinfandel Drive Direct On-Ramp	Merge	-	F	-	F	-	F	-	F
Sunrise Boulevard Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Sunrise Boulevard Loop/Direct On-Ramp	Merge	-	F	-	F	-	F	-	F
Sunrise Reliever Direct Off-Ramp[3]	Diverge	-	F	-	F	-	F	-	F
Sunrise Reliever Direct On-Ramp[3]	Merge	-	F	-	F	-	F	-	F
Hazel Avenue Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Hazel Avenue Loop/Direct On-Ramp	Weave	-	F	-	F	-	F	-	F
AeroJet Direct Off-Ramp									
WESTBOUND US-50									
Hazel Avenue Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Hazel Avenue Loop On-Ramp	Merge	-	F	-	F	-	F	-	F
Sunrise Reliever Direct Off-Ramp[3]	Diverge	-	F	-	F	-	F	-	F
Sunrise Reliever Loop On-Ramp[3]	Merge	-	F	-	F	-	F	-	F
Sunrise Boulevard Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Zinfandel Drive Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Zinfandel Drive Loop On-Ramp	Merge	-	F	-	F	-	F	-	F
Zinfandel Drive Direct On-Ramp	Merge	-	F	-	F	-	F	-	F
Mather Field Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Mather Field Road Loop/Direct On-Ramp	Merge	-	F	-	F	-	F	-	F

Notes:
Density in passenger cars per mile per lane for merge/diverge analysis only.
LOS = Level of Service. LOS computed using HCS 2000 software for the merge/diverge analysis consistent with HCM 2000 methodologies. Weave analysis evaluated using the Leisch Method for Weaving Analysis.
Shaded areas indicate unacceptable operations.
Source: Fehr & Peers, *2005.*

TABLE 4.4-26
MERGE/DIVERGE/WEAVE LEVEL OF SERVICE – CUMULATIVE CONDITIONS WITH HAZEL AVENUE EXTENSION

Ramp	Merge, Diverge, or Weave	Cumulative Conditions				Cumulative Plus Project Conditions			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]	Density[1]	LOS[2]
Eastbound US-50									
Mather Field Road Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Mather Field Road Loop On-Ramp	Merge	-	F	-	F	-	F	-	F
Mather Field Road Direct On-Ramp	Merge	-	F	-	F	-	F	-	F
Zinfandel Drive Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Zinfandel Drive Loop On-Ramp	Merge	-	F	-	F	-	F	-	F
Zinfandel Drive Direct On-Ramp	Merge	-	F	-	F	-	F	-	F
Sunrise Boulevard Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Sunrise Boulevard Loop/Direct On-Ramp	Merge	-	F	-	F	-	F	-	F
Sunrise Reliever Direct Off-Ramp[3]	Diverge	-	F	-	F	-	F	-	F
Sunrise Reliever Direct On-Ramp[3]	Merge	-	F	-	F	-	F	-	F
Hazel Avenue Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Hazel Avenue Loop/Direct On-Ramp	Weave	-	F	-	F	-	F	-	F
AeroJet Direct Off-Ramp									
Westbound US-50									
Hazel Avenue Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Hazel Avenue Loop On-Ramp	Merge	-	F	-	F	-	F	-	F
Sunrise Reliever Direct Off-Ramp[3]	Diverge	-	F	-	F	-	F	-	F
Sunrise Reliever Loop On-Ramp[3]	Merge	-	F	-	F	-	F	-	F
Sunrise Boulevard Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Zinfandel Drive Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Zinfandel Drive Loop On-Ramp	Merge	-	F	-	F	-	F	-	F
Zinfandel Drive Direct On-Ramp	Merge	-	F	-	F	-	F	-	F
Mather Field Direct Off-Ramp	Diverge	-	F	-	F	-	F	-	F
Mather Field Road Loop/Direct On-Ramp	Merge	-	F	-	F	-	F	-	F

Notes: [1] *Density in passenger cars per mile per lane for merge/diverge analysis only.*
[2] *LOS = Level of Service. LOS computed using HCS 2000 software for the merge/diverge analysis consistent with HCM 2000 methodologies. Weave analysis evaluated using the Leisch Method for Weaving Analysis.*
Shaded areas indicate unacceptable operations.
N/A = Not Applicable.
Source: Fehr & Peers, 2005.

Impact 4.4.14 Implementation of the project will exacerbate unacceptable operations on eastbound and westbound US-50 under cumulative conditions. This is considered a **significant** impact.

As noted in **Tables 4.4-23** through **–26**, the project would contribute to the projected deficient operation of US 50 in the project area.

Mitigation Measure

Implementation of Mitigation Measure MM 4.4.4 would assist in minimizing this impact. The City of Rancho Cordova is in the process of developing the Circulation Element of the General Plan and the City's new CIP, which is currently anticipated to include many of the projects identified in Mitigation Measure MM 4.4.4. The new City CIP and Nexus Study will establish a mechanism for funding citywide improvements outlined in the City's General Plan. As outlined in Section 4.4.1, Caltrans is conducting the U.S. Highway 50 HOV Lane Project Plus Community Enhancement Project, which will evaluate the extension of eastbound and westbound HOV lanes on US-50 to Downtown Sacramento in an EIR. However, several of these improvements are outside of the City's jurisdiction and the City cannot ensure that these improvements would be completed. Given these conditions, this impact is considered **significant and unavoidable**.

These improvements have not been fully designed. Based on review of existing available environmental documentation, field review and review of aerial photography, it is anticipated that the construction of these roadway improvements could result in construction-related environmental effects (including, but not limited to, construction traffic impacts, noise and air quality impacts, water quality and drainage impacts, construction-related nighttime lighting impacts, visual resource impacts, cultural resource impacts, and biological resource impacts). The site-specific impacts of these roadway improvements will be assessed pursuant to CEQA requirements when specific improvement plans are developed. This environmental review will be completed prior to final approval of the improvements identified in this mitigation measure.

Transit System

Impact 4.4.15 Implementation of the project will increase demand for transit service in the City of Rancho Cordova under cumulative conditions. This is considered a **significant** impact.

The project would increase demand for transit services in the project area. However, as noted in Section 3.0 (Project Description), the project design includes a mix of residential densities, commercial uses and pedestrian and bicycle facilities to promote options for movement beyond the use of motor vehicles.

Mitigation Measure

Implementation of the proposed project is not expected to disrupt or interfere with existing or planned transit operations. Implementation of Mitigation Measure MM 4.4.5 would mitigate the impact to **less than significant.**

Bicycle & Pedestrian System

Impact 4.4.16 Implementation of the project will increase demand for bicycle and pedestrian facilities in the City of Rancho Cordova under cumulative conditions. This is considered a **less than significant** impact.

All major arterial and collector streets within the project would be designed to accommodate planned bikeways and pedestrian sidewalks. Therefore, implementation of the proposed project will not disrupt or interfere with existing or planned bikeways and pedestrian facilities in the study area. Therefore, this is less than significant.

Mitigation Measure

None required.

REFERENCES

Highway Capacity Manual (Transportation Research Board, 2000)

Manual of Uniform Traffic Control Devices (FHWA, 2003)

Guide for the Preparation of Traffic Impact Studies, Caltrans, 2002.

Caltrans website (www.dot.ca.gov)

Trip Generation, 7th Edition (Institute of Transportation Engineers, 2003)

Caltrans District 3 Highway Congestion Monitoring Program (HICOMP) for Sacramento Metropolitan Area, Fall 2004

U.S. Highway 50 HOV Lane Project Plus Community Enhancement Project. (http://www.dot.ca.gov/dist3/projects/Sac50HOV/index.htm)

Regional Transit website (http://www.sacrt.com/)

Sacramento County General Plan, December 1993

City of Rancho Cordova Interim General Plan

The 2010 Sacramento City/County Bikeway Master Plan, 1991

Transit Master Plan 20-year Plan, Regional Transit, 1993

Public Facilities Financing Plan for Sunridge Specific Plan – Final Draft Report, 1999

City of Rancho Cordova Capital Improvement Program (CIP) (2005 – 2010)

This section describes the existing noise levels, construction-related impacts, and both direct and indirect noise impacts associated with the Preserve at Sunridge project. This section includes mitigation measures to reduce or eliminate any identified significant noise related impacts and is based upon analysis Bollard Acoustical Consultants, Inc., which was conducted in March 2005.

4.5.1 EXISTING SETTING

SETTING

The City of Rancho Cordova is in the process of developing a General Plan. Therefore, this analysis will seek to achieve compliance of the Noise Element of the Rancho Cordova General Plan. Where project-related noise levels are predicted to exceed established Noise Element standards, noise reduction measures are evaluated and appropriate mitigation is identified.

ENVIRONMENTAL SETTING

Noise Fundamentals and Terminology

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and hence are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in levels (dB) correspond closely to human perception of relative loudness. **Table 4.5-1** illustrates common noise levels associated with various sources.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighing network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given noise environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (Leq), which corresponds to a steady-state A-weighted sound level containing the same total energy as a time-varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptor, Ldn, and shows very good correlation with community response to noise.

The Day-night Average Level (Ldn) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.)

hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because Ldn represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

TABLE 4.5-1
TYPICAL A-WEIGHTED SOUND LEVELS OF COMMON NOISE SOURCES

Loudness Ratio Level	A-Weighted Sound Level (dBA)	
128	130	Threshold of pain
64	120	Jet aircraft take-off at 100 feet
32	110	Riveting machine at operators position
16	100	Shot-gun at 200 feet
8	90	Bulldozer at 50 feet
4	80	Diesel locomotive at 300 feet
2	70	Commercial jet aircraft interior during flight
1	60	Normal conversation speech at 5-10 feet
½	50	Open office background level
¼	40	Background level within a residence
1/8	30	Soft whisper at 2 feet
1/16	20	Interior of recording studio

Source: Bollard Acoustical Consultants, March 2005.

Existing Land Uses in the Project Vicinity

There are several planned and approved projects adjacent to the proposed project. The Sunridge Park and Sunridge Park Lot J are adjacent to the project's northern boundary and the proposed SunCreek Specific Plan is immediately south and west of the site. The Security Park Industrial complex is located approximately ½ mile north of the site on the north side of Douglas Road. There are proposed low-density residential, medium-density residential, and commercial/mixed use projects to the east of the proposed project site. These projects include, but are not limited to, the Grant Line 208, Pappas, and Grant Line 220 developments, which are

in the Sunridge East project area. The Anatolia developments and the proposed Sunridge 250 project are adjacent to the site's northwestern and western boundaries.

Existing Noise Environment in the Project Vicinity

A combination of visual and noise level measurement surveys, use of existing acoustical literature, and application of accepted noise prediction methodologies were used to quantify the existing and projected future ambient noise environments in the project study area.

The existing ambient noise levels in the immediate project vicinity are typical of suburban areas affected primarily by distant traffic noise source and occasional aircraft events. No significant noise producing commercial or industrial noise sources were identified in the immediate project environment. The Mather Airport Comprehensive Land Use Plan was updated in 2004, which also updated the noise contours for the noise contours for the airport. The project site is located outside of the existing and proposed 60 dB Ldn/CNEL contours for Mather Airport.

To quantify the existing ambient noise environment in the project vicinity, Bollard Acoustical Consultants, Inc. conducted a short-term ambient noise level measurement survey at four locations on the project site and continuous 24-hour measurements at one location, on March 1, 2005. The noise measurement locations are shown on **Figure 4.5-1**.

Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meters were used for the noise level measurement survey. The meters were calibrated before and after use with an LDL Model CA200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

The sound level meter was programmed to record the maximum and average noise levels at each measurement site during the survey. The ambient noise level measurement results are provided in **Table 4.5-2**. The results of the continuous noise level measurements are shown in **Figure 4.5-2**.

TABLE 4.5-2
AMBIENT NOISE MONITORING RESULTS FOR THE PRESERVE AT SUNRIDGE PROJECT SITE

Site	Location	Duration (min)	Measured Sound Level, dBA	
			Average (Leq)	Maximum (Lmax)
1	Southwest corner of project site	15	51	56
2	Southeast corner of project site	15	49	55
3	Northwest corner of project site	15	38	45
4	Northeast corner of project site	15	37	45
A	Near SW corner of Project Site	24-hr.	48-56	47-79

Source: Bollard and Brennan, March 2005.

4.5.2 REGULATORY FRAMEWORK

LOCAL

Rancho Cordova General Plan

The City of Rancho Cordova's Interim General Plan contains a noise element with goals, policies, and actions related to noise. Upon incorporation in July 2003, the City of Rancho Cordova adopted the existing Sacramento County General Plan to serve as the City's interim General Plan and guide development in the City until the formal adoption of its own General Plan. The Interim General Plan does not include new noise related policies or goals differing from those set forth in the existing Sacramento County General Plan Noise Element standards. An evaluation of the project's consistency with applicable General Plan policies is provided in **Appendix 4.0 Table 4.5.**

City of Rancho Cordova Noise Standards

The City of Rancho Cordova's Noise Element establishes noise standards for the purposes of evaluating noise impacts related to new projects. The Noise Element establishes acceptable noise level criteria for both transportation and non-transportation noise sources. **Table 4.5-3** provides the noise level performance criteria for typical stationary noise sources for new projects affected by or including non-transportation noise sources.

TABLE 4.5-3
RANCHO CORDOVA NOISE ELEMENT PERFORMANCE STANDARDS FOR TYPICAL STATIONARY NOISE SOURCES

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Leq	55	45

Note: The standards above will apply generally to noise sources that are not tonal, impulsive, or repetitive in nature. Typical noise sources in this category would include HVAC systems, cooling towers, fans, blowers, etc.

The standards shown in **Table 4.5-4** apply to noises which are tonal in nature, impulsive or repetitive, or which consist primarily of speech or music (e.g., humming sounds, outdoor speaker systems, etc.) Typical sources in this category include: pile drivers, drive-through speaker boxes, punch presses, steam valves, and transformer stations. It should be noted that the standards in **Table 4.5-3** and **Table 4.5-4** do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

TABLE 4.5-4
RANCHO CORDOVA STANDARDS FOR STATIONARY NOISE SOURCES, WHICH ARE TONAL, IMPULSIVE, REPETITIVE, OR CONSIST PRIMARILY OF SPEECH OR MUSIC

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly Leq	50	40

Note: The City may impose noise level standards, which are more or less restrictive than those specified based upon determination of existing low or high ambient noise levels.

Table 4.5-5 illustrates the Rancho Cordova Noise Element standards for the maximum noise exposure to transportation related noise sources.

INSERT FIGURE 4.5-1 NOISE MEASUREMENT LOCATIONS

INSERT FIGURE 4.5-2 24 HOUR NOISE MEASUREMENT RESULTS

TABLE 4.5-5
RANCHO CORDOVA STANDARDS FOR THE MAXIMUM ALLOWABLE EXPOSURE TO TRANSPORTATION NOISE SOURCES

Land Use	Outdoor Activity Areas1 Ldn/CNEL, dB	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB2
Residential	60[3]	45	-
Residential subject to noise from railroad tracks, aircraft overflights, or similar noise sources which produce clearly identifiable, discrete noise events (the passing of a single train, as opposed to relatively steady noise sources such as roadways	60[3]	40[5]	-
Transient Lodging	60[4]	45	-
Hospitals, Nursing Homes	60[3]	45	-
Theatres, Auditoriums, Music Halls	-	-	35
Churches, Meeting Halls	60[3]	-	40
Office Buildings	-	-	45
Schools, Libraries, Museums	-	-	45
Playgrounds, Neighborhood Parks	70	-	-

Notes: 1. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.
2. As determined for a typical worst-case hour during periods of use.
3. Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.
4. In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.
5. The intent of this noise standard is to provide increased protection against sleep disturbance for residences located near railroad tracks. .

4.5.3 PROJECT IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

These significance thresholds are based on Appendix G to the State CEQA Guidelines (2005), the City of Rancho Cordova Noise Ordinance, and professional judgment. Based on these sources, implementation of the project would result in significant noise impacts if the project would result in any of the following:

1. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

2. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.

3. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Where ambient noise levels without the project are below the applicable noise standards, the project-related noise level increase considered significant is 5 dB. Where ambient levels without the project already exceed the applicable standards, a significant increase is defined as 3 dB.

4. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project, defined as 5 dB.

5. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the area to excessive noise levels.

In addition to the above standards of significance, this DEIR considers exposure of persons to noise levels in excess of standards established in the City of Rancho Cordova General Plan. Specifically, exterior or interior noise levels of 60 and 45 Ldn, respectively, for traffic and railroad noise, and noise level standards contained in **Table 4.5-5**.

METHODOLOGY

A combination of use of existing literature and application of accepted noise prediction and sound propagation algorithm, were used to predict changes in ambient noise levels resulting from development within the Preserve at Sunridge project Area. Specific noise sources evaluated in this section include traffic, construction, and common noise sources associated with the types of land use designations proposed within the project area. Potential noise impacts of each of these major noise sources are described below.

Traffic Noise Prediction Model

To describe noise levels due to traffic, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD 77 108) was used. The FHWA model is the analytical method currently favored for highway traffic noise prediction by most state and local agencies, including the California Department of Transportation (Caltrans). The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA model was developed to predict hourly as well as cumulative (future plus project conditions) Leq values for free-flowing traffic conditions. To predict Ldn values, it is necessary to determine the day/night distribution of traffic and adjust the traffic volume input data to yield an equivalent hourly traffic volume.

Peak Hour traffic volumes were obtained from the traffic study prepared for this project. The FHWA Model inputs and results for all project scenarios are contained in the appendices. **Table 4.5-6a** and **Table 4.5-6b** show the predicted project and no-project traffic noise levels at a reference distance of 75 feet from the roadway centerlines for baseline and near term conditions.

TABLE 4.5-6A
BASELINE TRAFFIC NOISE LEVELS
PRESERVE AT SUNRIDGE PROJECT - CITY OF RANCHO CORDOVA, CALIFORNIA

Roadway	Segment Description	75' From Roadways Centerline (dB)		
		No -Project	Project	Change
SR-16	Excelsior Road to Eagles Nest Road	66	67	+1
	Sunrise Boulevard to Grant Line Road	68	68	0
Kiefer Blvd.	Grant Line to SR-16	58	58	0
Mather Blvd.	Femoyer Street to Douglas Road	68	69	+1
Douglas Road	Mather Boulevard to Sunrise Boulevard	68	69	+1
	Sunrise Boulevard to Jager Road	69	70	+1
	Americanos Boulevard to Grant Line Road	63	64	+1
International Dr.	South White Rock to Zinfandel Drive	67	67	0
	Zinfandel Drive to Kilgore Road	65	65	0
White Rock Rd.	Zinfandel Drive to Sunrise Boulevard	69	69	0
	Sunrise Boulevard to Grant Line Road	65	65	0
Folsom Blvd.	Zinfandel Drive to Sunrise Boulevard	69	69	0
	Sunrise Boulevard to Hazel Avenue	67	67	0
Mather Field Rd.	Folsom Boulevard to US-50 WB Ramps	70	70	0
	US-50 EB Ramps to International Drive	72	72	0
Zinfandel Dr.	Folsom Boulevard to US-50 WB Ramps	69	69	0
	US-50 EB Ramps to White Rock Road	72	72	0
	White Rock Road to International Drive	69	69	0
Sunrise Blvd.	Gold Country Boulevard to Coloma Road	74	74	0
	Coloma Road to US-50 WB Ramps	75	75	0
	US-50 EB Ramps to Folsom Boulevard	73	73	0
	Folsom Boulevard to White Rock Road	72	73	+1
	White Rock Road to Douglas Road	71	72	+1
	Douglas Road to Kiefer Boulevard	69	70	+1
	Kiefer Boulevard to SR-16	69	69	0
	SR-16 to Grant Line Road	67	68	+1
Hazel Ave.	US-50 WB Ramps to Winding Way	73	73	0
Grant Line Rd.	White Rock Road to Douglas Road	65	66	+1
	Douglas Road to SR-16	64	64	0
	SR-16 to Sunrise Boulevard	63	63	0

TABLE 4.5-6B
NEAR-TERM (2014) TRAFFIC NOISE LEVELS
PRESERVE AT SUNRIDGE PROJECT - CITY OF RANCHO CORDOVA, CALIFORNIA

Roadway	Segment Description	75' From Roadways Centerline (dB)		
		No -Project	Project	Change
SR-16	Excelsior Road to Eagles Nest Road	68	68	0
	Sunrise Boulevard to Grant Line Road	68	68	0
Kiefer Blvd.	Grant Line to SR-16	63	63	0
Mather Blvd.	Femoyer Street to Douglas Road	69	69	0
Douglas Road	Mather Boulevard to Sunrise Boulevard	70	70	0
	Sunrise Boulevard to Jager Road	69	70	+1
	Americanos Boulevard to Grant Line Road	60	60	0
International Dr.	South White Rock to Zinfandel Drive	66	66	0
	Zinfandel Drive to Kilgore Road	68	68	0
White Rock Rd.	Zinfandel Drive to Sunrise Boulevard	69	69	0
	Sunrise Boulevard to Grant Line Road	65	65	0
Folsom Blvd.	Zinfandel Drive to Sunrise Boulevard	69	69	0
	Sunrise Boulevard to Hazel Avenue	67	67	0
Mather Field Rd.	Folsom Boulevard to US-50 WB Ramps	70	70	0
	US-50 EB Ramps to International Drive	71	71	0
Zinfandel Dr.	Folsom Boulevard to US-50 WB Ramps	69	69	0
	US-50 EB Ramps to White Rock Road	72	72	0
	White Rock Road to International Drive	69	69	0
Sunrise Blvd.	Gold Country Boulevard to Coloma Road	74	74	0
	Coloma Road to US-50 WB Ramps	75	75	0
	US-50 EB Ramps to Folsom Boulevard	73	73	0
	Folsom Boulevard to White Rock Road	71	71	0
	White Rock Road to Douglas Road	71	71	0
	Douglas Road to Kiefer Boulevard	72	72	0
	Kiefer Boulevard to SR-16	72	72	0
	SR-16 to Grant Line Road	70	70	0
Hazel Ave.	US-50 WB Ramps to Winding Way	74	74	0
Grant Line Rd.	White Rock Road to Douglas Road	67	67	0
	Douglas Road to SR-16	67	67	0
	SR-16 to Sunrise Boulevard	66	66	0

Noise Assessment Methodology for Future Noise-Producing Uses Developed Within the Project Area

There are a variety of noise sources associated with future development within the project area which have the potential to create noise which may affect future noise-sensitive developments within the project area. Such uses/noise sources include, but are not limited to, commercial loading docks associated with proposed commercial uses, school playgrounds and neighborhood parks.

At the project area level, detailed site and grading plans associated with the park and school uses have not yet been developed. As a result, it is not feasible to identify specific noise impacts associated with these sources. Rather, the potential for these sources to generate excessive or annoying noise levels is identified, and consideration of that potential during the design phases of the development is encouraged.

Conceptual site plans for the commercial area have been developed and the potential noise generation of the commercial uses is analyzed below. Specifically, the commercial aspect of the project includes a 55,000 square feet grocery store, 8 retail buildings/pads of approximately 8,000 to 10,000 square feet and 6 mixed-use buildings/pads ranging from 2,400 to 4,200 square feet. **Figure 4.5-3** shows the conceptual site plan for the commercial uses.

Loading Docks

Due to the elevated noise emissions of heavy trucks and the common practice of utilizing loading docks during late night or early morning hours, adverse public reaction to loading dock usage is not uncommon. This is especially true if heavy trucks idle during unloading or if refrigeration trucks are parked in close proximity to residential boundaries.

Average noise levels for single idling trucks generally range from 60 to 65 dB Leq at a distance of 100 feet, and maximum noise levels associated with heavy truck passages range from 70 to 75 dB Lmax at a distance of 100 feet. Maximum noise levels generated by passages of medium duty delivery trucks generally range from 55 to 65 dB at a distance of 100 feet, depending on whether or not the driver is accelerating. In light of these levels, a single heavy truck pass-by on a loading dock access route could result in exceedance of the City's maximum Noise Element standards at the residential uses proposed immediately

Mechanical Equipment Associated with Commercial Uses

The commercial stores will likely have packaged roof-top HVAC units which will provide cooling of the retail spaces and the grocery store will require additional mechanical equipment for food cold storage. Noise levels for roof-top HVAC units were estimated based upon published data for packaged HVAC units (Bolt Beranek and Newman Inc., Noise Control for Buildings and Manufacturing Plants). Hourly average noise level for HVAC units is predicted to be 50 dB L50 at the nearest residential uses, after consideration of shielding by the rooftops or parapets.

Parking Lot Circulation Associated with Commercial Uses

The conceptual site plans for the commercial area indicate that there will be residential uses located immediately adjacent to commercial parking areas. As a means of estimating the noise levels due to parking lot activities, noise level data collected for parking lots collected by Bollard Acoustical Consultants, Inc. was utilized. Although the number of parking spaces is not identified on the conceptual site plans, parking lot noise analyses conducted for similar projects

in recent years indicate that parking lot noise levels at the nearest residential uses would be approximately 50 dB L50.

School Playing Fields and Parks

Children playing on school playgrounds, at neighborhood parks and in daycare centers are often considered potentially significant noise sources, which could affect nearby noise-sensitive land uses. Typical noise levels associated with groups children playing at a distance of 50 feet generally range from 55 to 60 dB L50, with maximum noise levels ranging from 70 to 75 dB Lmax.

According to the overall project site plan shown on **Figure 3.0-3**, no residential land uses would back up to park or school uses. Given this layout, there would be roadways between the outdoor play areas and residences, providing a buffer between the two uses. In addition, many of the proposed residential uses will face the park and school areas, thereby shielding the primary outdoor activity areas (backyards and patios) from view of the play areas.

Construction Noise Assessment Methodology

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. Activities involved in construction would generally generate maximum noise levels ranging from 85 to 90 dB at a distance of 50 feet. Construction activities would be temporary in nature and are anticipated to occur during normal daytime working hours.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A significant project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from construction sites. This noise increase would be of short duration, and would likely occur primarily during daytime hours.

Previous Environmental Review in the SDCP/SRSP EIR

The SDCP/SRSP Final EIR identified a number of significant and potentially significant land use impacts. The Sacramento County Board of Supervisors determined the significant and unavoidable impacts resulting from the project were outweighed by overriding economic, social, and other considerations. The Board adopted CEQA Findings of Fact Statement of Overriding Considerations of the Board of Supervisors of Sacramento County for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project on July 17, 2002. The following are the potentially significant and significant impacts identified in the SDCP/SRSP Final EIR that are applicable to the proposed project.

"Impact *Impact of American River Aggregates and Asphalt Plant on noise sensitive developments in the Plan area.*

NS-3 *No residential uses shall be allowed within 500 feet of the American River Aggregates plant boundary, for so long as the American River Aggregates facilities remain operational.*

NS-4 *Future non-residential development projects located within 500 feet of the American River Aggregates plant boundary should avoid the inclusion of land uses which may be particularly sensitive to truck and plant noise, for so long as the American River Aggregates facilities remain operational.*

Insert Figure 4.5-3 Commercial Site Conceptual Plan

Impact *Impact of vehicle traffic noise on future residential uses within the Plan area.*

NS-5 *Future noise-sensitive land uses proposed for development within the future 60 dB Ldn traffic noise contour shall be required to prepare an acoustical analysis, and to implement identified noise attenuation measures necessary to ensure compliance with the noise standards of the County General Plan Noise Element.*

Impact *Impact of proposed commercial, business/professional and school uses on proximate residential uses.*

NS-6 *Future commercial, business/professional and school land uses with the potential to create noise-related land use conflicts with proximate residential uses shall be required to prepare an acoustical analysis, and to implement identified noise attenuation measures necessary to ensure compliance with the noise standards of the County General Plan Noise Element."*

Because the project site is located beyond 500 feet from the American River Aggregates operation, mitigation measures NS-3 and NS-4 are not applicable to the project. A noise impact evaluation as required by Mitigation Measures NS-5 and NS-6 is included in this section.

4.5.3 PROJECT IMPACTS AND MITIGATION MEASURES

IMPACTS AND MITIGATION MEASURES

Project-Related Traffic Noise Level Increases – Baseline and Near Term

Impact 4.5.1 Project-related increases in near-term traffic noise levels are predicted to be less than 3 dB Ldn on project area roadways. This is considered a **less than significant** impact.

The project will increase traffic on the local roadways; however, the predicted project-related traffic noise level increases are below the project thresholds of significance as indicated in **Tables 4.5-4a** and **4.5-4b** in Section 4.4 (Transportation and Circulation).

The SDCP/SRSP EIR addressed the impact of vehicle noise on future residential uses within the SDCP area and indicated that residential uses adjacent to major roadways are expected to be significantly impacts by traffic noise. However, the SDCP/SRSP EIR recommended measures to reduce this impact, which included the use of setbacks from the road centerline or the use of noise barriers along roadway and residential interfaces. Additionally, the SDCP/SRSP EIR indicated that a precise determination of required barrier heights could not be completed until details of grading plans and building pads and locations are not available. (SDCP/SRSP EIR, p. 12.15) The project-specific impacts associated with the project were not addressed in the SDCP/SRSP EIR. However, SDCP/SRSP EIR Mitigation Measure NS-5 required future projects anticipated to be within the future 60 dB Ldn traffic noise contour to prepare an acoustical analysis and implement noise attenuation measures necessary to ensure compliance with applicable Sacramento County Noise Element standards. An acoustical analysis of the project was performed on March 10, 2005, indicating that the predicted project-related traffic noise level increases are below applicable City of Rancho Cordova thresholds of significance; therefore, this impact is considered less than significant.

Mitigation Measures

None required.

Noise-Producing Uses Located Within the Project Area

Impact 4.5.2 The commercial land uses associated with the project may generate noise levels in excess of City standards. This is considered a **potentially significant** impact.

The project proposes to place residential units adjacent to commercial uses in the northwest portion of the project site. North of the commercial area would have multi-family residential units (RD-30 and RD-15) to the east and south would include RD-10 and RD-15 with Jaeger Road bordering the commercial uses to the west. Due to the proximity of proposed commercial uses to proposed residential uses within the project site, noise generated by loading dock activities and mechanical equipment may exceed the noise level standards of the City of Rancho Cordova. As a result, this impact is considered to be significant.

Average noise levels for single idling trucks generally range from 60 to 65 dB Leq at a distance of 100 feet, and maximum noise levels associated with heavy truck passages range from 70 to 75 dB Lmax at a distance of 100 feet. Maximum noise levels generated by passages of medium duty delivery trucks generally range from 55 to 65 dB at a distance of 100 feet, depending on whether or not the driver is accelerating. In light of these levels, a single heavy truck pass-by on a loading dock access route could result in exceedance of the City's maximum Noise Element standards at the residential uses proposed immediately adjacent to the commercial area.

Noise levels for roof-top HVAC units were estimated based upon published data for packaged HVAC units (Bolt Beranek and Newman Inc., Noise Control for Buildings and Manufacturing Plants). Hourly average noise level for HVAC units is predicted to be 50 dB L50 at the nearest residential uses, after consideration of shielding by the rooftops or parapets. Noise generated by the grocery store mechanical equipment will be a function of the design and placement of that equipment; therefore, cannot practically be determined at this time.

Mitigation Measures

The following mitigation measures are based Mitigation Measure NS-6 from the SDCP/SRSP EIR in order to address project specific impacts.

MM 4.5.2a The project's commercial uses shall incorporate the best available practices/technology to ensure that the rooftop mechanical equipment is shielded from proposed residential uses or placed within equipment rooms to avoid exceedance of applicable City noise standards illustrated in **Table 4.5-3.**

Timing/Implementation: *Prior to the issuance of building permits.*

Enforcement/Monitoring: *Rancho Cordova Planning and Public Works Departments.*

MM 4.5.2b Mechanical equipment associated with the proposed grocery store food cold storage, all air conditioning systems for the smaller uses, and the rooftop mechanical equipment constructed for the proposed grocery store shall be

located within equipment rooms, acoustical enclosures, or shielded from view of adjacent residential uses by use the best available practices/technology to ensure applicable noise standards (see **Table 4.5-3**) are not exceeded.

Implementation of this measure shall carry through Design Review.

Timing/Implementation: *Prior to the issuance of building permits for the grocery store. Verification shall occur prior to the issuance of Certificates of Occupancy.*

Enforcement/Monitoring: *Rancho Cordova Planning Department.*

MM 4.5.2c The commercial loading dock associated with the proposed grocery store shall be relocated at a distance from the nearest proposed residences not to exceed the noise standards identified in **Table 4.5-3**; or

The commercial loading dock associated with the proposed grocery store shall be shielded from view of the nearest residences by intervening commercial structures; or

The commercial loading dock area shall be shielded from view from nearby proposed residences by a solid noise barrier 8 feet in height. The identified location for such a barrier is shown on the conceptual site plan for the commercial area on **Figure 4.5-3**.

Implementation of this measure shall carry through Design Review.

Timing/Implementation: *Prior to the issuance of building permits for the grocery store. Verification shall occur prior to the issuance of Certificates of Occupancy.*

Enforcement/Monitoring: *Rancho Cordova Planning Department.*

MM 4.5.2d Commercial deliveries within 100 feet of residential uses shall be limited to daytime hours (7:00 am to 9:00 pm). Develop a delivery plan/manual and submit a copy to the Planning Department for review prior to the issuance of Certificates of Occupancy. The plan/manual shall include limitations on delivery hours and shall be posted on the premises.

Additionally, permanent signs specifying delivery hour limitations shall be posted in the delivery areas of the premises.

Timing/Implementation: *Verification shall occur prior to the issuance of Certificates of Occupancy.*

Enforcement/Monitoring: *Rancho Cordova Planning Department.*

MM 4.5.2e Commercial delivery trucks shall be prohibited from idling within 100 feet of residential uses during the hours from 9:00 pm to 7:00 am. Develop a delivery plan/manual and submit a copy to the Planning Department for review prior to the issuance of Certificates of Occupancy. The plan/manual shall include limitations on delivery hours and shall be posted on the premises.

Additionally, permanent signs specifying delivery hour limitations shall be posted in the delivery areas of the premises.

Timing/Implementation: *Verification shall occur prior to the issuance of Certificates of Occupancy.*

Enforcement/Monitoring: *Rancho Cordova Planning Department.*

Implementation of Mitigation Measures MM 4.5.2a through MM 4.5.2e would reduce potential noise producing impacts within the project area to **less than significant**.

School and Park Playing Field Noise Sources

Impact 4.5.3 Implementation of the project would result in the placement of residences in close proximity to the school and parks. Activities at these facilities may exceed noise level standards. This is considered a **less than significant** impact.

Typical noise levels associated with groups children playing at a distance of 50 feet generally range from 55 to 60 dB L50, with maximum noise levels ranging from 70 to 75 dB Lmax. According to the overall project site plan shown by **Figure 3.0-3**, no residential land uses would back up to park or school uses. Given this layout, there would be roadways between the outdoor play areas and residences, providing a buffer between the two uses. In addition, many of the proposed residential uses will face the park and school areas, thereby shielding the primary outdoor activity areas (backyards and patios) from view of the play areas. Notably, the City's Noise Ordinance exempts certain activities from its noise level limitations, including school activities such as band, athletic, and entertainment events. This exemption essentially recognizes that many noise-generating school events occur only occasionally, and that the separation of schools from residences to minimize occasional noise incidents might undermine the policy objective of having schools near where people live.

The SDCP/SRSP EIR addressed the impact of proposed commercial, business/professional and school uses on proximate residential uses and indicated that where commercial, business/professional, and school uses are located within close proximity of residential uses, there exists a potential for noise-related land use conflicts; however, the potential noise sources were impossible to predict at this stage in the planning process (SDCP/SRSP EIR, p. 12.15). The project specific noise impacts associated with the Preserve at Sunridge project were not addressed in the SDCP/SRSP EIR. However, SDCP/SRSP EIR Mitigation Measure NS-6 required future projects including commercial, business/professional, and/or school uses to prepare an acoustical analysis and implement noise attenuation measures necessary to ensure compliance with applicable Sacramento County Noise Element standards. An acoustical analysis of the project was performed on March 10, 2005, indicating that the project's design and layout would not result in the exceedance of applicable noise standards; therefore, this impact is considered less than significant.

Mitigation Measures

None required.

Construction Within the Project Area

Impact 4.5.4 Project construction activities could generate noise levels in excess of established noise standards. This is considered a **potentially significant** impact.

Activities associated with project construction will result in temporary elevated noise levels within the project area, and could generate noise levels in excess of established standards (see **Table 4.5-3**) or expose future residents within the area to substantial short-term increases in ambient noise levels. Construction activities would typically generate maximum noise levels ranging from 85 to 90 dB at a distance of 50 feet. However, these activities would be temporary in nature and would occur during normal daytime working hours in accordance with the City's noise standards identified in **Table 4.5-3**.

Mitigation Measures

MM 4.5.4 The following specifications shall be required for all construction contractors and are applicable to all construction activities:

- Construction activities involving heavy equipment (e.g., trenching, grading, bobcats, jackhammers, etc.) shall be prohibited on Sundays and federal holidays and limited to hours in accordance with the Rancho Cordova standards listed in **Table 4.5-3** (7 a.m. to 10 p.m.) Monday – Saturday; and

- All fixed construction equipment (e.g., compressors, generators, mixers, etc.) shall be located as far as feasibly possible from existing developments and potential sensitive receptors; and

- All intake and exhaust ports on power construction equipment and impacts tools shall be equipped with the latest noise muffling technology; and

- All internal combustion construction equipment shall be tuned and in proper operating condition.

Timing/Implementation: *Prior to approval of grading and improvement plans and on-going during all construction activities.*

Enforcement/Monitoring: *Rancho Cordova Planning Department.*

Implementation of Mitigation Measure MM 4.5.4 would reduce the construction noise impacts within the project area; however, temporary construction related noise impacts would remain **significant and unavoidable**.

Mather Airport Operations

Impact 4.5.5 The project would include residences and other land uses, which may be adversely affected by Mather Airport Operations. This is considered a **less than significant** impact.

The Preserve at Sunridge project area is located approximately three miles from Mather Airport. According to the noise contours for Mather Airport, the project site is outside of the existing and proposed 60 dB CNEL/Ldn aircraft noise contour. As a result, the project site would not be adversely impacted by aircraft noise and less than significant impacts are anticipated.

Mitigation Measures

None required.

4.5.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

This cumulative setting for noise includes development projects proposed, planned and approved in the eastern portion of the County and reasonably foreseeable developments in the City of Rancho Cordova including, but are not limited to, Rio Del Oro, Villages at Zinfandel, Mather East, and the Sunridge Specific Plan (refer to **Table 4.0-1**). The projects encompass nearly 9,970 acres in eastern Sacramento County. These projects will contribute to cumulative noise related impacts in City of Rancho Cordova and surrounding vicinity. Regional and local traffic movements would also increase cumulative traffic noise in the vicinity of the project. The SDCP/SRSP EIR evaluated cumulative traffic increase associated with buildout of the SDCP area, which would directly contribute to cumulative traffic noise increases in the immediate vicinity of the proposed project. **Table 4.5-5** identifies cumulative traffic noise conditions with and without the project.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Traffic Noise on Future Developments

Impact 4.5.6 Cumulative traffic noise levels on the roadways adjacent to or within the project area may adversely impact future noise-sensitive development within the project area. This is considered a **significant** impact.

Future traffic noise levels at a distance of 75 feet from the future Jaeger Road are predicted to exceed the City's 60-65 dB Ldn range of acceptable noise levels for residential outdoor activity areas (see **Table 4.5-5**). In addition, it is likely that future traffic noise levels at residences located adjacent to Chrysanthy Boulevard (the main east west arterial) would exceed the City's noise level standards should future traffic volumes on that roadway exceed 5,000 vehicles per day. As a result, this impact is considered significant.

Mitigation Measures

MM 4.5.6a Outdoor activity areas (backyards or patio areas) of the residences proposed adjacent to Jaeger Road and Chrysanthy Boulevard shall be located on the opposite side of the residence from the roadway (thereby having the residential structure shield the sensitive outdoor areas from excessive traffic noise); or

A solid noise barrier should be constructed adjacent to these individual outdoor activity areas to intercept line of sight to the adjacent roadway noise sources.

The project applicant shall demonstrate compliance with City noise standards under either of the above options.

Implementation of this measure shall carry through the Design Review of all applicable structures.

Timing/Implementation: *Prior to the issuance of building permits.*

Enforcement/Monitoring: *Rancho Cordova Planning Department.*

MM 4.5.6b Mechanical ventilation (air conditioning) shall be provided for all residences located within this development to allow occupants to close doors and windows as desired to achieve acoustical isolation.

Implementation of this measure shall carry through the Design Review of all applicable structures.

Timing/Implementation: *Prior to the issuance of building permits.*

Enforcement/Monitoring: *Rancho Cordova Planning Department.*

MM 4.5.6c All bedroom windows of the residences constructed adjacent to Jaeger Road from which the roadway is visible shall have a minimum Sound Transmission Class (STC) rating of 30. If sound walls are constructed to mitigate first floor noise levels, this measure would only be applicable to second floor areas of these residences.

Implementation of this measure shall carry through the Design Review of all applicable structures.

Timing/Implementation: *Prior to the issuance of building permits.*

Enforcement/Monitoring: *Rancho Cordova Planning Department.*

Implementation of Mitigation Measures MM 4.5.6a through MM 4.5.6c would reduce the project's cumulative traffic noise impacts on future developments to **less than significant**.

Cumulative Traffic Noise

Impact 4.5.7 Project-related traffic noise level increases under cumulative conditions would not substantially alter projected cumulative conditions. Therefore, this impact is **less than cumulatively considerable**.

Noise generated by uses developed within the project area is not expected to appreciably contribute the ambient noise conditions beyond the project boundaries. In addition, noise generated by similar developments proposed adjacent to the Preserve at Sunridge is not anticipated to appreciably affect this community. The changes in cumulative traffic noise conditions that would be attributable to this project were analyzed and are included in **Table 4.5-7** for conditions with and without the Hazel Avenue component.

TABLE 4.5-7
CUMULATIVE TRAFFIC NOISE LEVELS
PRESERVE AT SUNRIDGE PROJECT - CITY OF RANCHO CORDOVA, CALIFORNIA

Roadway	Segment Description	Cumulative W/O Hazel Ave.			Cumulative With Hazel Ave.		
		No - Project	Project	Change	No - Project	Project	Change
SR-16	Excelsior Road to Eagles Nest Road	69	69	0	69	69	0
	Sunrise Boulevard to Grant Line Road	69	69	0	69	69	0
Kiefer	Grant Line to SR-16	66	66	0	66	66	0
Mather	Femoyer Street to Douglas Road	69	69	0	69	69	0
Douglas	Mather Boulevard to Sunrise Boulevard	71	72	+1	71	72	+1
	Sunrise Boulevard to Jager Road	71	71	0	71	72	+1
	Americanos Boulevard to Grant Line Road	69	69	0	69	69	0
	Jaeger Road to Americanos Boulevard	69	69	0	69	69	0
International	South White Rock to Zinfandel Drive	69	69	0	69	69	0
	Zinfandel Drive to Kilgore Road	70	70	0	70	70	0
White Rock	Zinfandel Drive to Sunrise Boulevard	71	71	0	71	71	0
	Sunrise Boulevard to Grant Line Road	68	68	0	68	68	0
Folsom	Zinfandel Drive to Sunrise Boulevard	69	69	0	69	69	0
	Sunrise Boulevard to Hazel Avenue	67	67	0	67	67	0
Mather Field	Folsom Boulevard to US-50 WB Ramps	70	70	0	70	70	0
	US-50 EB Ramps to International Drive	72	72	0	72	72	0
Zinfandel	Folsom Boulevard to US-50 WB Ramps	69	69	0	69	69	0
	US-50 EB Ramps to White Rock Road	74	74	0	74	74	0
	White Rock Road to International Drive	71	71	0	71	71	0
Sunrise	Gold Country Boulevard to Coloma Road	75	75	0	75	75	0
	Coloma Road to US-50 WB Ramps	76	76	0	76	76	0

TABLE 4.5-7 CONT.
CUMULATIVE TRAFFIC NOISE LEVELS
PRESERVE AT SUNRIDGE PROJECT - CITY OF RANCHO CORDOVA, CALIFORNIA

Roadway	Segment Description	Cumulative W/O Hazel Ave.			Cumulative With Hazel Ave.		
		No - Project	Project	Change	No - Project	Project	Change
	US-50 EB Ramps to Folsom Boulevard	73	73	0	73	73	0
	Folsom Boulevard to White Rock Road	73	73	0	73	73	0
	White Rock Road to Douglas Road	73	73	0	73	73	0
	Douglas Road to Pyramid Boulevard	75	75	0	75	75	0
	Pyramid Boulevard to Kiefer Boulevard	74	74	0	74	74	0
	Douglas Road to Kiefer Boulevard	N/A	N/A	N/A	N/A	N/A	N/A
	Kiefer Boulevard to SR-16	74	74	0	74	74	0
	SR-16 to Grant Line Road	72	72	0	72	72	0
Hazel	US-50 WB Ramps to Winding Way	76	76	0	76	76	0
Grant Line	White Rock Road to Douglas Road	69	69	0	70	70	0
	Douglas Road to SR-16	69	69	0	69	69	0
	SR-16 to Sunrise Boulevard	67	68	+1	67	67	0
Pyramid	Sunrise Boulevard to Jaeger Road	68	69	+1	67	69	+2
	Jaeger Road to Americanos Boulevard	69	71	+2	69	71	+2
Kiefer	Eagles Nest Road to Sunrise Boulevard	69	69	0	69	69	0
	Sunrise Boulevard to Jaeger Road	68	68	0	68	68	0
Eagle Nest	Mather Boulevard to Douglas Road	72	72	0	72	72	0
	Douglas Road to Kiefer Boulevard	68	68	0	68	68	0
	Kiefer Boulevard to SR-16	66	66	0	66	66	0
Sunrise Reliever	US-50 to Easton Parkway	75	75	0	74	75	+1
	Easton Parkway to White Rock Road	74	74	0	74	74	0
Jaeger	White Rock Road to Douglas Road	70	70	0	70	70	0
	Douglas Road to Pyramid Boulevard	71	72	+1	71	72	+1
	Pyramid Boulevard to Kiefer Boulevard	67	68	+1	67	67	0
Americanos	White Rock Road to Douglas Road	67	68	+1	67	67	0
	Douglas Road to Pyramid Boulevard	70	70	0	70	70	0

Notes: FHWA Model input data are provided in the Appendices.Source: FHWA-RD-77-108 with inputs from Traffic Section and Bollard & Brennan, Inc.

The SDCP/SRSP EIR addressed the impacts to existing noise-sensitive receptors along roadways in the vicinity of the SDCP who will be exposed to significant increases in traffic noise levels under cumulative buildout conditions, either with or without implementation of the SDCP project (SDCP/SRSP EIR, p. 12.16). The SDCP/SRSP EIR concluded that impacts to existing noise-sensitive receptors along those roadway experiencing significant noise increases are considered significant and unavoidable. However, cumulative noise impacts to future development along the SDCP area vicinity roadways are potentially significant but may be mitigated through implementation of noise attenuation measures at the time of development. Additionally, future projects are subject to CEQA review and compliance with noise standards; therefore, cumulative traffic noise impacts to future development could be mitigated to less than significant (SDCP/SRSP EIR, p. 12.16).

As indicated in **Table 4.5-7**, the project's contribution to the cumulative traffic noise level increases in the area would be near-term traffic noise level increase associated with the development within the project area versus the No-Project condition ranging from 0 to 2 dB on the major roadways in the immediate project vicinity. The significance criteria for project-related traffic noise level increases is 3 to 5 dB, depending on levels without the project. This increase in traffic noise would be imperceptible (a 3 dB increase is the threshold where a person would notice a change in traffic noise). Therefore, the project's contribution to cumulative traffic noise would be less than cumulatively considerable.

Mitigation Measures

None required.

REFERENCES

Sacramento County. *Sacramento County General Plan, Noise Element*. Sacramento County, California. December 1993.

County of Sacramento. *CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project*. July 17, 2002.

County of Sacramento. *Sunrise Douglas Community Plan/Sunridge Specific Plan, Final Environmental Impact Report*. November 2001.

Bollard Acoustical Consultants, Inc., *Environmental Noise Analysis: Preserve at Sunridge*. March 2005.

This report describes the impacts of the proposed project on local and regional air quality. This report was prepared using methodologies and assumptions recommended within the air quality impact assessment recommendations of the Sacramento Metropolitan Air Quality Management District[1]. In keeping with these recommendations, the section describes existing air quality, construction-related impacts, direct and indirect emissions associated with the project, the impacts of these emissions on both the local and regional scale, and mitigation measures warranted to reduce or eliminate any identified significant impacts.

4.6.1 EXISTING SETTING

AIR BASIN CHARACTERISTICS

The project lies at the southern end of the Sacramento Valley, a broad, flat valley bounded by the coastal ranges to the west and the Sierra Nevada to the east. A sea level gap in the Coast Range (the Carquinez Strait) is located approximately 50 miles southwest and the intervening terrain is very flat. The prevailing wind direction is southwesterly, which occurs when marine breezes flow through the Carquinez Strait. Marine breezes dominate during the spring and summer months, and show strong daily variations. Highest average wind speeds occur in the afternoon and evening hours; lightest winds occur in the night and morning hours. During fall and winter, when the sea breeze diminishes, northerly winds occur more frequently, but southwesterly winds still predominate.

The project is within the Sacramento Metropolitan Air Quality Management District, which is part of the Sacramento Valley Air Basin. The Sacramento Valley Air Basin has been further divided into Planning Areas called the Northern Sacramento Valley Air Basin (NSVAB) and the Greater Sacramento Air Region, designated by the U.S. Environmental Protection Agency (EPA) as the Sacramento Federal Ozone non-attainment area. The non-attainment area consists of all of Sacramento and Yolo counties and parts of El Dorado, Solano, Placer, and Sutter counties.

The San Francisco Bay Area Air Basin lies to the west, and the San Joaquin Valley Air Basin is located to the south of the Planning Area. Considerable transport of pollutants occurs between these air basins, so that air quality in the Planning Area is partially determined by the release of pollutants elsewhere. In turn, pollutants generated within the Planning Area affect air quality in areas to the north and east.

CLIMATE AND METEOROLOGY

The Central Valley is a 400-mile long valley, beginning near the town of Orland and the Mendocino National Forest, in northern California, and extending just south of the City of Bakersfield, in southern California. The Valley lies between the Coastal and Sierra Nevada mountain ranges. The prevailing wind direction is southwesterly, which is the wind direction when marine breezes flow through the Carquinez Strait, which is approximately 50 miles west of the Valley. Marine breezes dominate during the spring and summer months, and show a strong daily variation. Highest average windspeeds occur in the afternoon and evening hours; the lightest winds occur in the night and morning hours. During fall and winter, when the sea breeze diminishes, northerly winds occur more frequently, but southwesterly winds still predominate.

[1] Sacramento Metropolitan Air quality Management District, *Guide to Air Quality Assessment in Sacramento County*, July 2004.

Ambient Air Quality Standards

Both the U.S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents.

The federal and California state ambient air quality standards are summarized in **Table 4.6-1** for important pollutants. The federal and State ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health related effects. As a result, the federal and State standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and suspended particulate matter ($PM_{2.5}$ and PM_{10}).

The State of California regularly reviews scientific literature regarding the health effects of pollutants. On May 3, 2002, the California Air Resources Board (CARB) staff recommended lowering the level of the annual standard for PM_{10} and establishing a new annual standard for $PM_{2.5}$ (particulate matter 2.5 micrometers in diameter and smaller). The new standards became effective on July 5, 2003.

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

Health Effects of Pollutants

The following is a discussion of the health effects of important pollutants in the Sacramento Valley Air Basin.

Ozone

Ozone is produced by chemical reactions, involving nitrogen oxides (NO_x) and reactive organic gases (ROG) that are triggered by sunlight. Nitrogen oxides are created during combustion of fuels, while reactive organic gases are emitted during combustion and evaporation of organic solvents. Since ozone is not directly emitted to the atmosphere, but is formed as a result of photochemical reactions, it is considered a secondary pollutant. In the Sacramento Valley Air Basin ozone is a seasonal problem, occurring roughly from April through October.

Ozone is a strong irritant that attacks the respiratory system, leading to the damage of lung tissue. Asthma, bronchitis and other respiratory ailments as well as cardiovascular diseases are aggravated by exposure to ozone. A healthy person exposed to high concentrations may become nauseated or dizzy, may develop headache or cough, or may experience a burning sensation in the chest.

Research has shown that exposure to ozone damages the alveoli (the individual air sacs in the lung where the exchange of oxygen and carbon dioxide between the air and blood takes place). Research has shown that ozone also damages vegetation.

TABLE 4.6-1
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	Federal Primary Standard	State Standard
Ozone	1-Hour 8-Hour	0.12 ppm 0.08 ppm	0.09 ppm --
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.05 ppm --	-- 0.25 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm --	-- 0.05 ppm 0.25 ppm
PM_{10}	Annual 24-Hour	50 ug/m^3 150 ug/m^3	20 ug/m^3 50 ug/m^3
$PM_{2.5}$	Annual 24-Hour	15 ug/m^3 65 ug/m^3	12 ug/m^3 --
Lead	30-Day Avg. 3-Month Avg.	-- 1.5 ug/m^3	1.5 ug/m^3 --

Notes: ppm = parts per million, ug/m3 = Micrograms per Cubic Meter

Suspended Particulate

Suspended particulate matter (PM) is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. "Inhalable" PM consists of particles less than 10 microns in diameter, and is defined as "suspended particulate matter" or PM_{10}. Particles between 2.5 and 10 microns in diameter arise primarily from natural processes, such as wind-blown dust or soil.

Fine particles are less than 2.5 microns in diameter ($PM_{2.5}$). $PM_{2.5}$, by definition, is included in PM_{10}. Fine particles are produced mostly from combustion or burning activities. Fuel burned in cars and trucks, power plants, factories, fireplaces and wood stoves produces fine particles.

The level of fine particulate matter in the air is a public health concern because it can bypass the body's natural filtration system more easily than larger particles, and can lodge deep in the lungs. The health effects vary depending on a variety of factors, including the type and size of particles. Research has demonstrated a correlation between high PM concentrations and increased mortality rates. Elevated PM concentrations can also aggravate chronic respiratory illnesses such as bronchitis and asthma.

Carbon Monoxide

Carbon monoxide is a local pollutant in that high concentrations are found only very near the source. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes.

Carbon monoxide's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Carbon monoxide concentrations are highly seasonal, with the highest concentrations occurring in the winter. This is partly due to the fact that automobiles create more carbon monoxide in colder weather and partly due to the very stable atmospheric conditions that exist on cold winter evenings when winds are calm. Concentrations typically are highest during stagnant air periods within the period November through January.

Toxic Air Contaminants

Unlike criteria pollutants, no safe levels of exposure to TACs can be established. There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage and death.

Diesel exhaust is a TAC of growing concern in California. The California Air Resources Board in 1998 identified diesel engine particulate matter as a TAC. The exhaust from diesel engines contains hundreds of different gaseous and particulate components, many of which are toxic. Many of these compounds adhere to the particles, and because diesel particles are so small, they penetrate deep into the lungs. Diesel engine particulate has been identified as a human carcinogen. Mobile sources, such as trucks, buses, automobiles, trains, ships and farm equipment are by far the largest source of diesel emissions.

Ambient Air Quality

The Sacramento Metropolitan Air Quality Management District (SMAQMD) and California Air Resources Board (CARB) maintain several air quality monitoring sites in the Sacramento area. **Table 4.6-2** shows data for the years 2002-2004 for the Sacramento Del Paso Manor monitoring site, the closest monitoring site to the proposed project. Federal and State ambient air quality standards are exceeded for ozone, PM_{10} and $PM_{2.5}$. Standards for carbon monoxide, sulfur dioxide and nitrogen dioxide are met.

4.6.2 REGULATORY FRAMEWORK

FEDERAL

Sacramento County is included in the Greater Sacramento Ozone non-attainment area as delineated by the U.S. Environmental Protection Agency. The Federal Clean Air Act Amendments (FCAAA) of 1990 set deadlines for attaining the ozone standard. The Sacramento Area was classified as a "serious" non-attainment area and given a date of 1999 by which to achieve attainment. Because achieving attainment by this date was later found to be infeasible, the region was "bumped up" to "severe" classification and an attainment date of 2005 was designated. The Clean Air Act Amendments also set specific planning requirements to ensure that the attainment goal would be met. In 1994, the Air Resources Board, in cooperation with the air districts of the Sacramento non-attainment area, fulfilled one of these requirements by preparing the 1994 Sacramento Area Regional Ozone Attainment Plan. The plan identified a detailed comprehensive strategy for reducing emissions to the level needed for attainment and

showed how the region would make expeditious progress toward meeting this goal. The federal standards for particulate matter is 150 micrograms per cubic meter of air over a 24 hour period for PM_{10} and 65 micrograms per cubic meter of air over a 24 hour period for $PM_{2.5}$.

TABLE 4.6-2
DAYS EXCEEDING AIR QUALITY STANDARDS AT
THE SACRAMENTO DEL PASO MONITORING SITE, 2002-2004

Pollutant/Standard	Year	Days Exceeding Standard:
Ozone/State 1-Hour	2002 2003 2004	32 21 6
Ozone/Fed. 1-Hour	2002 2003 2004	2 2 0
Ozone Fed. 8-Hour	2002 2003 2004	23 13 3
Nitrogen Dioxide/State 1- Hour	2002 2003 2004	0 0 0
Sulfur Dioxide/Fed. And State 24-Hour	2002 2003 2004	0 0 0
PM_{10}/State-Hour	2002 2003 2004	5 2 0
PM_{10}/Federal 24-Hour	2002 2003 2004	0 0 0
$PM_{2.5}$/Federal 24-Hour	2002 2003 2004	3 0 0
Carbon Monoxide/Fed. And State 8-Hour	2002 2003 2004	0 0 0

Source: California Air Resources Board, Aerometric Data Analysis and Management (ADAM), 2005. (http: //www.arb.ca.gov./adam/cgi-bin/adamtop/d2wstart)

On April 15, 2004 the Environmental Protection Agency (EPA) designated the Sacramento region as a "serious" nonattainment area for the federal 8-hour ozone standard. The 8-hour ozone standard, 0.08 parts per million (ppm), averaged over eight hours, replaces the 1-hour standard that has been in place since 1979. The region has been given an attainment date of June 2013.

STATE

Federal and State air quality laws require identification of areas not meeting the ambient air quality standards. These areas must develop regional air quality plans to eventually attain the standards. Under the federal Clean Air Act, Sacramento County is a non-attainment area for ozone and PM_{10}, a maintenance area for carbon monoxide and unclassified or attainment for

other federal standards. Under the California Clean Air Act Sacramento County is a non attainment area for ozone and Particulate Matter (PM_{10} and $PM_{2.5}$).

The California Clean Air Act (CCAA) of 1988 required nonattainment areas to achieve and maintain the state ambient air quality standards by the earliest practicable date and local air districts to develop plans for attaining the state ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide standards. In compliance with the CCAA, the Sacramento Metropolitan Air Quality Management District (AQMD) prepared and submitted the 1991 Air Quality Attainment Plan (AQAP) to mainly address Sacramento County's nonattainment status for ozone and carbon monoxide (CO), and although not required, particulate matter (PM_{10}). The 1991 AQAP was designed to make expeditious progress toward attaining the state ozone standard and contained preliminary implementation schedules for control programs on stationary sources, transportation, and indirect sources, and a vehicle/fuels program.

The Sacramento Metropolitan Air Quality Management District (SMAQMD) shares responsibility with the California Air Resources Board (CARB) for ensuring that the State and national ambient air quality standards are met within Sacramento County. State law assigns local air districts the primary responsibility for control of air pollution from stationary sources while reserving to the CARB control of mobile sources. The District is responsible for developing regulations governing emissions of air pollution, permitting and inspecting stationary sources, monitoring air quality and air quality planning activities. Under the California Environmental Quality Act (CEQA) the District may participate as a "responsible agency" or "reviewing agency" or "lead agency". The District has adopted the document Guide to Air Quality Assessment in Sacramento County to provide lead agencies, consultants and project proponents with uniform procedures for assessing potential air quality impacts for proposed projects and for preparing the air quality section of environmental documents.

Sacramento County has met the ambient air quality standards for sulfur dioxide and nitrogen dioxide. The CCAA also requires that by the end of 1994 and once every three years thereafter, the districts are to assess their progress toward attaining the air quality standards. The triennial assessment is to report the extent of air quality improvement and the amounts of emission reductions achieved from control measures for the preceding three-year period. The SMAQMD Board of Directors adopted the 2003 Triennial Report April 28, 2005. The Report was prepared pursuant to California Health and Safety Code 40925 and identifies "all feasible measures" SMAQMD will study or adopt over the next three years.

LOCAL

Sacramento Metropolitan Air Quality Management District

The management of air quality in Sacramento County is the responsibility of the Sacramento Metropolitan Air Quality Management District (SMAQMD). This agency is responsible for bringing air quality in the County into compliance with federal and State air quality standards. Specifically, the SMAQMD has the responsibility to monitor ambient air pollutant levels throughout the County and to develop and implement attainment strategies to ensure that future emissions will be within federal and state standards.

Sacramento County General Plan

The existing Sacramento County General Plan was adopted in December of 1993. The County's General Plan is undergoing an update. The update addresses plans for growth in the next planning cycle (2004-2025) as well as addressing new emerging planning issues. Topics

addressed in the Update Project include, but are not limited to, holding capacity, infrastructure financing, policy analysis, smart growth planning, and mature communities. As noted in Section 4.1 (Land Use), the City is currently operating under its Interim General Plan rather than the Sacramento County General Plan for transportation policy direction in the City. **Appendix 4.0** provides a consistency analysis of relevant Sacramento County General Plan policies associated with environmental issues that the City's Interim General Plan is silent.

Proposed Rancho Cordova General Plan

Upon incorporation in July 2003, the City of Rancho Cordova adopted the existing Sacramento County General Plan to serve as the City's General Plan and guide development in the City until the formal adoption of its own General Plan. On May 17, 2004 the Rancho Cordova City Council officially kicked off the preparation of the first Rancho Cordova General Plan. As part of the process of creating its first General Plan, the City has adopted an interim General Plan that is comprised of three parts – The Vision Book; The Circulation Plan; and the Land Use Map Book. The Vision Book establishes the conceptual vision of the City and reflects the compilation of ideas from the community on a wide variety of topics related to the future of Rancho Cordova. The Vision Book is presented in a conceptual level and does not contain guidance policies. In accordance with Government Code Section 65360, new development proposals and actions by the City will be examined for their consistency with Vision Book and other interim City policies and standards, and will allow the City to begin improving the quality of development in Rancho Cordova. The Circulation Plan describes the basic roadway, bikeway, transit, and pedestrian system that will form the backbone of the City as it develops. The General Plan Land Use Book, and associated General Plan Land Use Map were adopted on May 16, 2005, which combine geographical areas of the City with generalized and specific land use designations to guide the City's future development patterns. The intent of the General Plan Land Use Map is to establish a variety of new land use designations that reflect more mixed, and in some cases, a higher density of development envisioned for the City. These mixed-use categories provide for residential, commercial, and office uses all on a single site. New development proposals and actions by the City and will be examined for their consistency with this interim General Plan and allow the City to begin improving the quality of development in Rancho Cordova

As explained in further detail in Section 1.6 (Relationship to the General Plan and Sunrise Douglas Community Plan), pursuant to California Government Code Section 65360, the City will be using the policies, ideas, and diagrams from the Vision Book and General Plan Land Use Map Book and associated General Plan when making required consistency determinations. The City will rely these various documents that comprise the City's Interim General Plan to determine whether there is a reasonable probability that the proposed project will be consistent with the General Plan the City expects to eventually adopt. The General Plan ultimately adopted by the City will translate the conceptual ideas in the Interim General Plan documents into more detailed land use designations, policies, and plans.

The adoption of various interim policies and diagrams enable the City to continue to evaluate and take action on land use applications and other projects, consistent with Government Code Section 65360. In addition, they have the additional benefit of providing direction to project applicants and City staff regarding the processing of projects prior to formal adoption of the General Plan in the near future. A discussion of the project's consistency with applicable Air Quality General Plan policies is provided in **Appendix 4.0 Table 4.6.**

Air Quality Plans

The City of Rancho Cordova General Plan Air Quality Element contains Policy AQ-1.7, which requires that "All new development projects which have the potential to result in substantial air quality impacts shall incorporate design, construction, and/or operational features to result in a reduction in emissions equal to 15 percent compared to an "unmitigated baseline" project. An "unmitigated baseline project" is a development project which is built and/or operated without the implementation of trip-reduction, energy conservation, or similar features, including any such features, which may be required by the Zoning Code or other applicable codes. This indirect source review program was developed in coordination with SACOG and the SMAQMD. Air Quality Plans are designed to improve air quality through a variety of measures that eliminate or reduce vehicle trips, reduce trip lengths, or change the time of day when trips are completed. Air Quality Plans include measures for mitigating air pollution, including transit, bike/pedestrian amenities, roadway alignment, parking, building construction and design, and project operation in an effort to reduce the project's contribution to regional air pollution. Air Quality Plans may include, but not be limited, to the following features:

- A 15% reduction in emissions from the level that would be produced by a base-case project assuming full trip generation per the current ITE Trip Generation Handbook.
- A focus on cost effectiveness measured in terms of cost per ton of pollutant avoided.
- A list of cost-effective measures to be developed, maintained, and annually reviewed by SMAQMD.
- A maximum expenditure cap, which will be computed for each indirect source on the basis of factors including, but not limited to, total emissions and project value.

The Air Quality Plan for the Preserve at Sunridge, which was prepared in consultation with the SMAQMD, is included as **Appendix 4.6**.

4.6.3 IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

Based on criteria derived from Appendix G to the State CEQA Guidelines, the City concludes that the project would have a significant effect on air quality if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

The Sacramento Metropolitan AQMD has published a guidance document for the preparation of the air quality portions of environmental documents that includes thresholds of significance to be used in evaluating land use proposals. Several types of thresholds are recommended:[2]

- **Ozone Precursors Significance Thresholds** - The District considers increases in emissions of nitrogen oxides (NO_x) greater than 85 pounds per day as significant during construction. For operation of a project, the District's threshold of significance is 65 pounds per day of either NO_x or Reactive Organic Gases (ROG).

- **Other Criteria Pollutant Significance Thresholds** - A project that may cause an exceedance of a state air quality standard, or may make a substantial contribution to an existing exceedance of an air quality standard will have a significant adverse air quality impact. "Substantial" is defined as making measurably worse, which is five percent or more of an existing exceedance of a state ambient air quality standard.

- **Offensive Odors Significance Threshold** - A qualitative assessment indicating that a project may reasonably be expected to generate odorous emissions in such quantities as to cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property will have a significant adverse air quality impact.

- **Toxic Air Contaminants Significance Thresholds** - The recommended significance thresholds for TACs are a lifetime probability of contracting cancer greater than 10 in one million and a ground level concentration of non carcinogenic toxic air pollutants would result in a Hazard Index of greater than 1.

- **Cumulative Impacts Thresholds** - A proposed project is considered cumulatively significant, if the project requires a change in the existing land use designation (i.e., general plan amendment, rezone) and projected emissions of the project are greater than the emissions anticipated in the 1994 Sacramento Regional Ozone Attainment Plan, which used the existing Sacramento County General Plan land use designation as a baseline. Also, if a project will result in air pollutant emissions above the "project alone" significance threshold established in air quality planning assumptions and the Clean Air Plan, which contains control measures to off-set cumulative air emissions, then a project is considered to have a significant cumulative air quality impact.

Applicable Air District ambient air quality standards shown in **Table 4.6-1** represent thresholds of significance applicable to all projects. The District has not formally adopted additional thresholds of significance for project evaluation. This air quality analysis uses both the CEQA Guidelines Appendix G significance criteria and the thresholds of significance from SMAQMD.

METHODOLOGY

The project would result in new sources of emissions both during construction and operation. During construction activities, gaseous and particulate emissions would be released by equipment and vehicles on the site, trucks bringing materials to the site, and construction employee vehicles. During portions of the construction period, fugitive particulate emissions

[2] Sacramento Metropolitan Air Quality Management District, *Guide to Air Quality Assessment in Sacramento County*, July 2004.

(PM_{10} and $PM_{2.5}$) would occur due to the action of vehicles/ equipment and wind on unpaved areas.

The operation of the project land uses would include area sources (e.g., combustion of natural gas for heating), and vehicle trips generated by project residents, patrons and employees.

SMAQMD's Guide to Air Quality Assessment in Sacramento County recommends quantification of ozone precursor emissions both during construction and operation of a project. During construction, various types of equipment and vehicles would temporarily operate on the site, generating exhaust pollutants. During operation the project would attract vehicle trips, adding to the emission burden of ozone precursors within the region.

The URBEMIS-2002 computer program was used to calculate emissions from these sources, utilizing parameters appropriate for the Sacramento Metropolitan area.[3] Construction-period emissions estimates were based on assumed mass-grading of the site followed by phased construction of project components. The types and amounts of equipment to be utilized during the different phases of construction were based on SMAQMD guidance.[4]

The URBEMIS-2002 results are shown in **Table 4.6-3** for the two ozone precursors (Reactive Organic Gases and Nitrogen Oxides). The construction emissions of NO_x shown are the highest calculated by URBEMIS-2002 over the entire construction period. Operational emissions of criteria pollutants associated with the project were estimated by URBEMIS-2002 program using the worst-case assumption of year 2010 as the year of project buildout. The year 2010 was selected because the project applicant has indicated that the project realistically won't be completed before 2010. This assumes 5 years for construction of the entire project.

URBEMIS results and traffic data from Fehr & Peers were used to quantify air quality impacts associated with internal and external trips for the project. The proposed land uses and the URBEMIS defaults calculated the traffic data. This approach calculates the worst-case traffic-related air quality impacts for the project.

Development of the project would generate air pollutant emissions from a wide variety of stationary and mobile sources. Stationary source emissions, such as PM_{10}, would be generated by onsite construction activities. Once the proposed uses are completed and occupied, emissions would be generated by stationary area sources such as water and space heaters. Mobile source emissions would be generated by motor vehicle travel associated with construction activities and occupancy of the proposed development. An analysis of the project's construction and operational emissions is presented below, based on the methodologies recommended in the SMAQMD's Air Quality Thresholds of Significance guidance document.

Previous Environmental Review in the SDCP/SRSP EIR

The SDCP/SRSP Draft EIR and the Revised Re-circulated Draft EIR identified a number of significant and potentially significant air quality impacts. The Sacramento County Board of

[3] Jones and Stokes Associates, *Software User's Guide: URBEMIS2002 for Windows with Enhanced Construction Module, Version 7.4, May 2003.*

[4] Sacramento Metropolitan Air Quality Management District, *Guide to Air Quality Assessment in Sacramento County*, July 2004.

Supervisors determined the significant and unavoidable impacts resulting from the project were outweighed by overriding economic, social, and other considerations. The Board adopted *CEQA Findings of Fact Statement of Overriding Considerations of the Board of Supervisors of Sacramento County for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project on July 17, 2002*. The following are the potentially significant and significant impacts identified in the SDCP/SRSP EIR (pp. 11.15-11.22).

"Impact *Increase in construction-related emissions associated with the Community Plan.*

As shown in Table AI-4, Phase I and Phase II construction activities associated with development of the Community Plan would result in temporary emissions of ROG, NO_x, and PM_{10}. Construction emissions were estimated to equal 276 ppd of PM_{10} during Phase I (grading and earthmoving) and 989 ppd of ROG and 721 ppd of NO_x during Phase II (structural construction). This impact is considered significant because estimated emissions of ROG, NO_x, and PM_{10} would exceed the SMAQMD threshold levels of 275 ppd for PM_{10} and 85 ppd for NO_x and ROG.

AI-1 *To reduce emissions of fugitive dust to a less than significant level.*

a) Exposed surfaces, graded areas, storage piles, and haul roads should be watered and kept moist at all times

b) Minimize the amount of disturbed areas, the amount of material actively worked, and the amount of material stockpiled.

c) Limit onsite construction vehicle speeds to 15 miles per hour.

d) Sweep or wash paved streets adjacent to project construction sites at least once a day to remove accumulated dust.

e) Maintain at least 2 feet of freeboard when transporting soil or other materials by truck.

f) Limit the amount of activity disturbed construction area to 25 acres or less.

AI-2 *Prior to approval of the project, provide a Construction-Related Emissions Reduction Air Quality Plan which demonstrates to the satisfaction of the Sacramento Metropolitan Air Quality Management District how development within the planning area will achieve minimum reductions of 20% of NO_x and 30% in PM_{10} construction related equipment emissions. The Construction-Related Emissions Reduction Air Quality Plan shall describe the implementation method(s) to ensure that future developments within the planning area will implement the emission reduction measures set forth in the Construction-Related Emissions Reduction Air Quality Plan."*

In adopting the Sunridge Specific Plan, the Board substituted the following for Mitigation Measure AI-2 as set forth in the Final EIR:

Category 1: Reducing NOx emissions from off-road diesel powered equipment

The project shall provide a plan for approval by SMAQMD demonstrating that the heavy-duty (>50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate reduction1 compared to the most recent CARB fleet average; and

The project representative shall submit SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty equipment, the project representative shall provide SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.

And:

Category 2: Controlling visible emissions from off-road diesel powered equipment

The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity shall be repaired immediately, and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supersede other SMAQMD or state rules or regulations.

Although this measure was satisfied by the time the Board of Supervisors approved the SDCP/SRSP project, the measure was insufficient to reduce emissions of ROG or NO_x to levels below the SMAQMD threshold levels. Consequently, increases in ROG and NO_x construction emissions remained as a significant and unavoidable impact of the SDCP/SRSP project.

Impact *Increase in ROG, NO_x, and PM_{10} emissions with buildout of the Community Plan.*

As shown in Table AI-5, buildout of the Community Plan would result in operational emissions of ROG, NO_x, and PM_{10} that substantially exceed the SMAQMD thresholds for the worst case summer and winter periods. This impact is considered significant and unavoidable.

No additional measures are proposed. Implementation of the same mitigation measure as identified for the Specific Plan (AI-5) would be required to reduce operational emissions of ROG, NO_x, and PM_{10} associated with development of the remainder of the Community Plan areas. However, even with implementation of this measure, operational emission impacts would not be reduced to a less than significant level.

Impact *Exceedances of carbon monoxide standards under Future No-Project Conditions.*

The CO modeling results are summarized in Table AI-6. The modeling indicates that CO concentrations would exceed the standards at three of the 32 receptors under future no-project conditions (2020). These three exceedances occur for the 8-hour averaging period at the Folsom Boulevard and Mather Field Road intersection. The highest predicted 1-hour and 8-hour concentrations are 16.7 ppm and 11.1 ppm, respectively. This impact is considered significant because cumulative no-project conditions would result in exceedances of the CO standards.

Impact: *Potential exceedances of carbon monoxide standards under Buildout of the Community Plan.*

CO modeling was not conducted for buildout of the Community Plan because detailed traffic modeling has not been conducted for buildout conditions. However, CO modeling found that Specific Plan buildout would result in high CO concentrations, albeit less than the ambient standards. Because buildout of the Community Plan would more than double the number of vehicle trips and associated air emissions, the Community Plan would likely result in exceedances of the CO ambient standards. This impact is significant and unavoidable without additional road infrastructure improvements designed to accommodate those additional trips.

Impact: *Exposure of future residents to odors from the Sacramento Rendering Company plant*

Residents living in the Specific Plan and Community Plan areas are potential subject to odors produced by the Sacramento Rendering Company. This is considered a significant impact. If public complaints from individuals residing in the Specific Plan/Community Plan area are sufficient to cause the Sacramento Rendering Company to be declared a public nuisance per SMAQMD Rule 402, then the SMAQMD can require the Sacramento Rendering Company to identify and incorporate mitigation measures to correct the nuisance condition. These measures may include enclosing additional operations at the plant, installing additional odor control devices, or a combination of these and other control measures deemed necessary by the SMAQMD.

The potential for odor impacts could be disclosed to property buyers by requiring an odor easement, but such easement would not result in any reduction in odor impacts, nor would it provide the rendering plant with any protection against potential future nuisance complaints to the extent allowed by laws (please see Response 23-1 in the Comments and Responses section of this EIR for additional information related to odor easements and disclosure). Full mitigation may be achieved through the implementation of any odor control measures, which may be required by the SMAQMD to correct nuisance conditions or through the closure or relocation of the rendering plant. However, these measures are not considered feasible mitigation measures because they are not within the control of the County of Sacramento or the Sunrise Douglas project applicants. Therefore, potential odor impacts are considered significant and unavoidable.

The Policy Planning Commission has recommended that the Board of Supervisors approve the project, with conditions that include the following: "Applicant shall assist the owner of the Sacramento Rendering Company (SRC) in securing the necessary equipment and technology to eliminate odors and emissions form the SRC". Furthermore, the EIR preparers are aware that the Sunridge Specific Plan applicants and the SRC owners have been working together to attempt to reach an agreement on how the project applicants can financially assist SRC in securing and implementing additional odor control equipment and technology at the plant facility. If such an agreement can be reached between these private parties, potential odor impacts upon the project may be reduced or possibly eliminated, depending upon the effectiveness of selected odor control technology. However, as of this writing, the parties have not reached an agreement.

The implementation of odor control measures at the rendering plant is not considered to be a feasible mitigation measure in this EIR, because such implementation ultimately depends upon the acceptance and approval of a third party (SRC), and therefore cannot be guaranteed by the County of Sacramento or the project proponents. Furthermore, the level of effectiveness of such odor control measures will not be fully known until they are selected, installed, operational, and tested for some period of time. Therefore, the EIR preparers must conclude that the potential for odor impacts, and related land use incompatibilities with the rendering plant, remain significant and unavoidable. Please refer to Response 13-1 in the Comments and Responses section of this EIR for more detailed information regarding odor impacts.

AI-4 *The applicant shall grant an odor easement over all residential properties, in favor of the Sacramento Rendering Plant. Which will serve to notify residential property owners of the potential for odor impacts, and will restrict to the extent allowed by law the liability/exposure of the Sacramento Rendering Plant, and the County of Sacramento, for nuisance or other resulting effect.*

For reasons set forth at length in its Findings of Fact and Statement of Overriding Considerations for the SDCP/SRSP Project, the Board of

Supervisors did not adopt the mitigation measure recommended above for odor impacts, but instead substituted different mitigation measures, which have recently been implemented. The following excerpt from the Board's findings explains its thought process:

The Sacramento Rendering Company is located due west of the SDCP. It recycles animal waste products into meat and bone meal. Additionally, the operator is permitted to cremate domestic animals. (FEIR, p. 4.20.)

The rendering plant was originally authorized under a Sacramento County "Land Use Permit" issued on September 26, 1956. (See "Land Use Permit" 067-0090-019.) That permit states that the plant "will not be conducted to constitute either a public or private nuisance," and requires the "[e]limination of noxious or annoying odors." The permit also provides that "[v]iolation of any of the foregoing conditions will constitute grounds for revocation of this permit." (Ibid.; see also Interdepartmental Correspondence from Planning and Community Development Department to Board of Supervisors, December 11, 2001, p. 2.)

The plant is also required to operate under an air pollution permit that was originally granted in 1979 by the Sacramento Metropolitan Air Quality Management District ("SMAQMD" or "Air District") and has been reauthorized periodically thereafter. The current permit includes enforceable noxious-use control requirements. Notably, the Air District issued two violations in 1993 involving an incinerator and lack of equipment maintenance involving the rendering process. A third violation was issued in August of 1996 regarding the rendering process for Acreating a public nuisance with noxious odors emanating from the plant. (FEIR, pp. 4.20 – 4.22.) The Project area is located downwind from the rendering plant, and the proximity of these two uses could result in recurring incompatibilities related primarily to odor. In the Draft and Final EIRs, County Staff took the position that the potential for odor impacts could be disclosed to property buyers by requiring the imposition of an odor easement on newly-created residential parcels affected by rendering plant odors. Staff made this recommendation even though such easement would not result in any actual reduction in odor impacts. (See DEIR, pp. 4.20 - 4.21, 4.23; FEIR, pp. 4.20- 4.21, 4.25.) As is explained in the final EIR, however, County Counsel has opined that "an odor easement would not preclude the County from taking action to enjoin activity which constitutes a public, rather than a private, easement." (FEIR, pp. 23.74 – 23.75.) It is clear, then, that any such attempt by the County to create odor easements would not provide the rendering plant with any meaningful protection against potential future nuisance complaints.

Full physical mitigation of potential odor impacts would require the implementation of odor control measures, and neither the County nor the project applicant has the direct ability to impose such controls. (FEIR, pp. 1.3, 4.21, 23.74 – 23.78.) Whether SMAQMD or the County, reacting to complaints, sees fit in the future to order modifications to the plant operation is uncertain. And any predictions regarding future enforcement actions are beyond the scope of the administrative proceedings

considering the SRSP and SDCP, and should not be the bases for any decisions made with respect to the SRSP and SDCP. Even so, the Board has identified means to avoid the significant effect identified in the final EIR, as explained below.

The Policy Planning Commission recommended that the Board of Supervisors approve the project with the conditions that include the following: "Applicant shall assist the owner of the Sacramento Rendering Company (SRC) in securing the necessary equipment and technology to eliminate odors and emissions from the SRC." For reasons discussed in detail below, the Board sees no need to adopt that mitigation proposal as worded by the Planning Commission because the Board has chosen instead to approve the Project based on an express condition prohibiting any actual physical development within the Sun Ridge Specific Plan area (with minor exceptions) until SRC has installed, and is operating, state-of-the-art plant improvements and odor control equipment that will dramatically reduce, and nearly eliminate, odor emissions from the facility. (Sunridge Zoning Conditions, Condition No. 7, p. 9.)

Significantly, an expert consultant, after examining the rendering plant's existing operation as of June 2000, determined that, with the implementation of newly available technology, "the odor of the rendering and related activity can be successfully collected and treated." (Carl Peterson, Ph.D., "An Odor Control System Review of SRC Facilities With Recommendations for Comprehensive Containment and Treatment of Process and Fugitive Odors," p. 8.) Moreover, during testimony before the Board on December 12, 2001, the owners of the rendering plant acknowledged that the current level of odor impacts can be dramatically reduced, and that reaching such a result is merely a matter of finding the necessary financial resources. (Transcript of Board of Supervisors hearing, December 12, 2001, testimony of Michael Koewler and Jay Paxton.)

In order to ascertain whether, should agreement be reached between the applicants and SRC, available technology would be able, indeed, to reduce emissions to an acceptable level, the Board directed the County Department of Environmental Review and Assessment to undertake further investigation of potentially applicable odor control measures as used at other facilities in North America. DERA Staff's conclusions are set forth in a Staff Report dated May 1, 2002, prepared for the Board Agenda on May 8, 2002. That report concluded that modern odor control technology (e.g., enclosure, scrubbers, waste heat boiler, increased air ventilation) can greatly improve air quality near rendering facilities, even to the point of allowing for successful operation of such facilities in urban settings. Although never entirely eliminated, odors can be dramatically lessened. With Best Available Control Technology ("BACT") odor control measures in place, rendering plant odor complaints generally originated from locations less than one mile from the plants, and typically only under worst case conditions (i.e., in hot, humid weather at downwind locations). Complaints of "faint odors" were more often described as a chlorine smell, and less often described as a rendering (cooking) smell. (Report by

Dennis Yeast to Board of Supervisors, May 1, 2002, Introduction and pp. 1, 2.)

Staff contacted jurisdictions in Massachusetts, New York, and Canada to learn how they dealt with odor problems from rendering plants. This research revealed that, after plants were retrofitted with modern controls, complaints about odors usually declined markedly. For example, in the Town of Tewksbury, Massachusetts, when a plant was retrofitted after a fire, complaints were greatly reduced, from an average of two to three dozen per month and up to 1 ½ miles away, to roughly six complaints per month primarily during hot and humid conditions in the summer months, from receptors up to about one mile away. (Report by Dennis Yeast to Board of Supervisors, May 1, 2002, p. 2.)

The most successful example of retrofitting Staff found occurred in Penfield, New York, where a plant was enclosed and operating under a so-called "negative pressure" system. The odor complaints dropped from hundreds per week to about two to three per year. The New York Department of Conservation reported that under most circumstances odors were not noticeable even just outside the plant. (Report by Dennis Yeast, p. 2.)

At the West Coast Reduction plant in Vancouver, British Columbia, retrofitting included scrubbers, an incinerator/Thermal Oxidizer, negative air pressure operation and enclosure. A representative of the facility indicated that, if the plant is properly maintained and operated at sufficiently high temperatures, the emissions from the incinerator are essentially odorless and are no different than those from other permitted industrial processes. A representative of the Vancouver permitting authority noted that, while odor controls did not entirely eliminate complaints, complaints did tend to drop off after retrofitting, and that the nature of the complaints did tend to change. He acknowledged that equipment breakdown or other events can cause short-term emissions that are apparent to nearby residents. (Report by Dennis Yeast, p. 3.)

The Staff's Report further acknowledges that SMAQMD would require SRC to file a permit application detailing any odor control equipment proposed for installation. The equipment would be constructed and tested by SMAQMD before it would issue a permit to operate. Staff notes that 100% compliance from SRC would be difficult to achieve, as the trucking and delivery of raw products or breakdown in treatment processes could occur. (Report by Dennis Yeast, p. 4.) However, the plant's operations would remain subject to SMAQMD's enforcement authority under SMAQMD's Rule 402, which prohibits any person from causing a nuisance by emitting air pollutants. SMAQMD's permitting and enforcement authority provides a long-term assurance that odor control measures will be maintained so as to minimize the potential for odor impacts on the Project area.

Furthermore, the majority of the development under the Sunridge Specific Plan will be located outside of the one-mile radius of the SRC facility. (See Exhibit K to Report by Dennis Yeast, May 1, 2002.) The research by DERA

Staff suggests that with the implementation of modern odor control measures, complaints from outside this one-mile radius should be infrequent.

Based on their research, DERA Staff reached the following general conclusions:

1. *Where older rendering plants of vintage similar to that of the SRC facility have been retrofitted with the kind of equipment now proposed for the SRC facility, such modifications have allowed the retrofitted plants to successfully operate in urban settings near residential land uses, with records of nuisance complaints significantly reduced from those that occurred prior to installation of odor control equipment.*

2. *The installation of the proposed retrofit odor control equipment will be essential to the compatibility between SRC and residential uses in the Sunrise-Douglas area.*

3. *Where rendering plants with equipment such as that proposed for the SRC facility are operated near residential land uses, the plants require competent management and maintenance to operate with a minimum number of complaints of nuisance odors.*

4. *Retrofitted rendering plants near residential land uses do not operate without complaint of nuisance odors either from the rendering process or emissions from the odor treatment process. Regulatory authorities consistently report that complaints cannot be reduced to zero and complaints change over time as land use changes.*

5. *Even with BACT odor control measures in place, rendering plant odors are likely to occasionally be detectible within about one mile (5280 feet) of a plant under worst-case conditions (i.e., during hot, humid weather at locations downwind of the plant facility). Complaints are more often described, however, as a chlorine smell and less often as a rendering (cooking) smell.*

6. *Given the variations in human sensitivity to odor detection, and the subjectivity of human responses to odors, it is reasonable to assume that SRC and/or regulatory authorities could receive occasional odor complaints from receptors up to about one mile from the rendering plant.*

7. *The conditions of approval under discussion at the time of the County Staff's report, which would require the application of odor control equipment at SRC prior to the approval of building permits for homes to be occupied by future residents of the Sunrise-Douglas area, are appropriate and essential to land use compatibility.*

(Report by Dennis Yeast to BOS, May 1, 2002, pp. 4-5.)

Based on testimony and mitigation proposals received during the period in which it was deliberating on the proposed Community Plan and Specific Plan, the Board came to understand that the Sunridge project applicants were willing to bear the risk of failing to reach some sort of financial accommodation with SRC. Because, as explained below, the actual development will be conditioned on the parties reaching a solution to the problems created by current odor generation at the SRC plant, the applicants will have strong economic and practical incentives to persuade SRC to make the investments in technology and equipment necessary to allow the rendering plant to become a good neighbor to the new residents as the Project area develops. Should such a solution not be reached, development simply will not occur.

More specifically, on April 10, 2002, the Board received testimony from legal counsel for certain project landowners to the effect that the project proponents are willing to bear the risk of having to finalize negotiations with the Sacramento Rendering Plant prior to the time when the project area would actually start to develop. Under the project proponents' proposed approach, they would not be able to obtain approval for building permits for new development (except for model home permits and installation and operation of the odor control equipment) within the SRSP area absent the installation within the Rendering Plant of key improvements that will contain the currently problematic odors within the confines of the Plant itself in the vast majority of circumstances. Under this approach, development itself is contingent on the parties reaching a solution to their current impasse. Thus, no development (except for model homes and odor control equipment) will occur absent the installation and operation of the equipment. (Testimony of Timothy Taron to Board of Supervisors, April 10, 2002.) The mitigation measure embodying this approach is set forth below as a new version of Mitigation Measure LA-3 (replacing the original version of LA-3). This approach is congruent with CEQA case law recognizing that mitigation measures can render significant impacts less-than-significant if such measures prevent actual development from occurring prior to a point in time at which previously identified environmental problems have been resolved. (See, e.g., Schaeffer Land Trust v. San Jose City Council (1989) 215 Cal.App.3d 612, 626 (court upheld a negative declaration for a general plan amendment allowing the future development of a golf course because any specific golf course proposal could not be approved unless it assured maintenance of city traffic "level of service" requirements: "[t]he reality is that City's decision to adopt the golf course amendment has no traffic consequences"; "[i]t leads City not one step closer to an ecological point of no return").) The proposed odor-control mitigation is also consistent with the recognized principle that enforceable "performance standards" are a recognized category of effective mitigation. (See CEQA Guidelines, § 15126.4, subd. (a)(1)(B).)

On May 8, 2002, the Board heard testimony from odor control expert Dr. Fred Bisplinghoff, who generally agreed, with some modifications, with the recommendations of Dr. Peterson, who had prepared the June 2000 report mentioned above. For example, Dr. Bisplinghoff said that the enclosure proposed for the SRC facility could be enlarged further so that

all unloading of waste material would occur indoors, further reducing the potential for nuisance odors to occur. (Testimony of Dr. Fred Bisplinghoff to Board of Supervisors, May 8, 2002.) Furthermore, Dr. Bisplinghoff explained that the comparatively less successful results of odor control studied by Staff at the Vancouver plant were probably due to the facts that unloading pits were located outside, and that the fish were unloaded into these open outdoor pits. These "fish pits" create nuisance odors when lids covering them are lifted. No such similar problem would be created at the SRC facility as modified because the plant would not employ an outdoor pit storage system, and typically would not receive fish for disposal. (Testimony of Dr. Bisplinghoff to Board of Supervisors, May 8, 2002.)

The Board concludes that, because SRC is not currently an applicant before the Board, a mitigation measure purporting to directly order SRC to implement odor control measures at the rendering plant is not a feasible mitigation measure that can fairly be implemented as part of the approval of this Project. Even so, however, the Board concludes that the upgrading of SRC's odor control technology is a likely indirect consequence of the project applicants willingness to bear the risk that their development cannot occur absent some sort of amicable and effective arrangement with SRC. This conclusion finds seeming support from the fact that SRC has expressed its support for approval of the revised version of Mitigation Measure LA-3, as set forth below. (Testimony by Dave Pevny to Board of Supervisors, May 29, 2002.) Furthermore, the tenor of Dr. Bisplinghoff's May 8, 2002, testimony strongly supports the inference that, if funding issues can be worked out with the Sunridge applicants, SRC is ready and willing to install the equipment he described in his testimony. Accordingly, the Board of Supervisors rejects the original version of Mitigation Measure LA-3 (below) as unnecessary, and instead adopts the revised Mitigation Measure LA-3, conditioning the issuance of building permits in the Specific Plan area on the future implementation of odor control systems at the rendering plant.

As noted above, the Final EIR proposed a mitigation measure that read as follows:

LA-3 The applicant shall grant an odor easement over all residential properties, in favor of the Sacramento Rendering Plant, which will serve to notify residential property owners of the potential for odor impacts, and will restrict to the extent allowed by law the liability/exposure of the Sacramento Rendering Plant, and the County of Sacramento, for nuisance or other resulting effect. (FEIR, pp. 1.3, 4.25.)

For the reasons explained above, the Board rejects this measure as unnecessary, and declines to implement the measure as part of either the Sun Ridge Specific Plan or the Sunrise Douglas Community Plan. The measure is unnecessary in light of the fact that the following revised mitigation measure (also labeled "LA-3") has been adopted instead:

LA-3 No building permits shall be issued for the construction of residential or commercial structures (except for model home permits) within the

Specific Plan Area until, at a minimum, the odor control equipment and improvements described in the report entitled "An Odor Control System Review of SRC Facilities with Recommendations for Comprehensive Containment and treatment of Process and Fugitive Odors", dated June 2000 and prepared by Carl M. Peterson, Ph.D., SCP Control, Inc., as revised and supplemented by the document entitled "Comments Directed To Dr. Carl M. Petersen's Report," prepared by Dr. Fred D. Bisplinghoff and submitted under cover letter dated February 22, 2001 (collectively, the "Report") have been installed and are operational. For purposes of this condition, "operational" shall mean that a permit to operate has been issued by the Sacramento Metropolitan Air Quality Management District (SMAQMD).

Any portion of the cost for the odor mitigation equipment and/or improvements to be installed pursuant to this condition, that is to be paid by the applicants, shall be paid to the County (irrespective of any subsequent incorporation) for disbursement pursuant to a disbursement agreement, in form and substance approved by the County Counsel, for the purpose of assuring application of the funds for mitigation purposes, as described in the Report (as defined in this condition).

(Sacramento County Board of Supervisors, Findings of Fact and Statement of Overriding Considerations for Sunrise Douglas Community Plan and Sunridge Specific Plan (July 17, 2002), pp. 25-30.)"

Since the SDCP/SRSP FEIR was certified, this facility has been retrofitted with state-of-the-art scrubbers and the latest odor control technology, which have reduced the impacts associated with facility operations consistent with adopted Mitigation Measure LA-3 from the SDCP/SRSP EIR. Reader is referred to Section 4.1 Land Use, Impact 4.1.1 for a further discussion of the rendering plant's incompatibilities with adjacent and nearby land uses.

IMPACTS AND MITIGATION MEASURES

Construction Emissions – Particulate Matter

Impact 4.6.1 Implementation of the proposed project would result in temporarily increased Particulate Matter levels in the immediate vicinity during construction. This is considered a **significant** impact.

Construction activities would temporarily affect local air quality, causing a temporary increase in particulate matter (PM_{10} and PM 2.5) and dust emissions. Uncontrolled dust emissions during construction have the potential to exceed the local ambient air quality standards and result in nuisance complaints. The project's regional construction an d operation emissions are illustrated in **Table 4.6.3**.

TABLE 4.6-3
PROJECT REGIONAL EMISSIONS, IN POUNDS PER DAY

	ROG	NO_x
Construction		
Equipment and Vehicles	--	652.67
SMAQMD Significance Threshold	--	85.00
Operation		
Vehicles	213.56	227.45
Area Sources	138.64	35.20
Total	352.20	262.64
SMAQMD Significance Threshold	65.00	65.00

Source: Ballanti, 2005

During construction various diesel-powered vehicles and equipment would be in use on the site. The California Air Resources Board identified particulate matter from diesel engines as a toxic air contaminant (TAC). CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.[5] High volume freeways, stationary diesel engines and facilities attracting heavy and constant diesel vehicle traffic were identified as having the highest associated risk.

Health risks from Toxic Air Contaminants are function of both concentration and duration of exposure. Unlike the above types of sources, construction diesel emissions are temporary, affecting a specific receptor for a period of days or perhaps weeks. Because of its short duration and the fact that sensitive land uses not located down-wind of the site, health risks from construction emissions of diesel particulate are considered less than significant.

Appendix B of SMAQMD's Guide to Air Quality Assessment in Sacramento County provides recommended mitigation measures that are dependant on the size of the project site and maximum disturbed area at any given time. If the appropriate measures are employed, it can be assumed that project impacts from fugitive dust would be mitigated to a less than significant level and no modeling of fugitive emissions concentrations is required. However, according to SMAQMD's *Guide to Air Quality Assessment in Sacramento County*, implementation of Mitigation Measure MM 4.6.1, which is described in detail below, would reduce project fugitive particulate matter impacts to a less than significant level only if the area of active grading can be limited to 15 acres at any time. However, since the mass grading of the project site would involve much more than 15 acres at any time, construction dust impacts are considered significant.

The SDCP/SRSP found the construction-related Particulate Matter impacts to be significant and unavoidable (after mitigation) based on a threshold of 275 pounds per day of PM10. However, the SMAQMD no longer has a threshold for PM10.

Mitigation Measure

The following mitigation measures are based on AI-1 and AI-2 from the SDCP/SRSP EIR in order to address project specific impacts.

MM 4.6.1a The project shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed

[5] California air Resources Board, Risk Reduction Plan to Reduce

40 percent opacity (or Ringelmann 2.0) shall be repaired immediately, and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supercede other SMAQMD or state rules or regulations.

Prior to issuance of a grading permit, the applicant/developer shall incorporate the following measures into the construction contract documents, which shall be submitted for the review and approval of the City Engineer:

- Strict compliance with SMAQMD's Rule 403 shall be written into construction contracts.
- Keep soil moist at all times.
- Maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- Use emulsified diesel or diesel catalysts on applicable heavy-duty construction equipment.
- Water soil piles three times daily.

Timing /Implementation: *Prior to approval of any plans or permits and throughout construction activities.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department/ SMAQMD.*

MM 4.6.1b Applicant shall pay SMAQMD's off-site construction mitigation fees (amount to be determined by SMAQMD upon approval of Air Quality Plan).

Timing /Implementation: *Prior to ground disturbance.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department/ SMAQMD.*

According to SMAQMD's *Guide to Air Quality Assessment in Sacramento County,* the Level 3 mitigation identified in Mitigation Measure MM 4.6.1a and MM 4.6.1b is appropriate for the project. However, even with implementation of the measure, the project's construction emissions and particulate matter impacts would remain **significant and unavoidable**.

Construction Emissions – Nitrogen Oxide

Impact 4.6.2 Construction activities associated with the proposed project would result in temporarily increased Nitrogen Oxide Emissions greater than the SMAQMD threshold of 85 pounds per day. This is considered a **significant** impact.

As shown in **Table 4.6-3**, construction-period emissions would exceed the SMAQMD's construction threshold of 85 pounds per day of NO_x. Based on this criterion, project construction activities are anticipated to have a significant impact on regional ozone air quality. The construction activities would be temporary in nature. However, the exceedance of the NO_x threshold is a significant impact.

Mitigation Measure

The following mitigation measure is based on AI-2 from the SDCP/SRSP EIR in order to address project specific impacts.

MM 4.6.2 The project shall provide a plan for approval by SMAQMD demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NO_x reduction and 45 percent particulate reduction compared to the most recent CARB fleet average at time of construction; and the project sponsor shall submit to SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. At least 48 hours prior to the use of subject heavy-duty off-road equipment, the project representative shall provide SMAQMD with the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman.

Timing /Implementation: *Prior to ground disturbance and throughout construction activities. SMAQMD verification that the project is in substantial compliance with this measure shall be submitted to the City of Rancho Cordova Planning Department prior to approval of all project plans and permits.*

Enforcement/Monitoring: *City of Rancho Cordova Planning Department/ SMAQMD.*

Implementation of Mitigation Measure MM 4.6.2 measure would not reduce project construction-related NO_x emissions to below 85 pounds per day. Therefore, project impacts related to construction-related emissions of NO_x are considered **significant and unavoidable**.

Carbon Monoxide Concentrations

Impact 4.6.3 Project traffic would result in an increase in carbon monoxide concentrations. This is considered a **less than significant** impact.

Development projects are most likely to violate an air quality standard or contribute substantially to an existing or projected air quality violation through generation of vehicle trips. New vehicle trips add to carbon monoxide concentrations near streets providing access to the site. Carbon monoxide is an odorless, colorless poisonous gas whose primary source in the Sacramento Area are automobiles. Concentrations of this gas are highest near intersections of major roads. SMAQMD's Guide to Air Quality Assessment in Sacramento County contains a screening procedure for determining if a project could have a significant impact on local carbon monoxide concentrations. The method utilizes estimates of background concentrations (adjusted by "rollback" values that reflect trends in county-wide emissions) and an estimated project-related carbon monoxide concentration determined by the peak-hour trip generation of the project. When applied to the proposed project the estimated worst-case total concentration (project plus background) was 10.3 parts per million (ppm) for a 1-hour averaging time and 6.7 ppm for an 8-hour averaging time. These predicted worst-case concentrations do not exceed or approach the most stringent ambient air quality standards of 20.0 ppm (1-hour) or 9.0 ppm (8-hour), so project impacts on local carbon monoxide concentrations would be less than significant.

Mitigation Measures

None required.

Operational Emissions – Ozone Precursors

Impact 4.6.4 Development of the project would result in increases in emission of both ozone precursors. This is considered a **significant** impact.

Operational emissions of criteria pollutants associated with the project are shown in **Table 4.6-3** for the two ozone precursors (Reactive Organic Gases and Nitrogen Oxides) and PM_{10}. As indicated, project emissions of ROG and NO_x both exceed the SMAQMD's significance threshold of 65 pounds per day. Based on this criterion, the project would have a significant impact on regional ozone air quality. To reduce air quality pollution resulting from development in the Sacramento region, the SMAQMD has developed Air Quality Mitigation Measures, which are applied to reduce air pollutants from any new development project by 15% or more. The Air Quality Mitigation Measures are included in new development's Air Quality Plans. The Preserve at Sunridge Air Quality Plan is contained in **Appendix 4.6** of this EIR. The Preserve at Sunridge Air Quality Plan identified several components of the project which would reduce operational emissions by 15 percent including the mixed-use Town Center project design, which would provide on-site retail services, grocery, and commercial and office uses. The Town Center is intended to serve the Preserve at Sunridge as well as other development projects within the SDCP area. The project would also have residential densities high enough to enable residents to walk or bike to the Town Center or other on-site activity areas (i.e., schools and parks). Annexation into the County Service Area #10 would fund shuttle bus service and other transportation demand management services resulting from the project's implementation. Additional measures of the Preserve at Sunridge Air Quality Plan, which would be implemented as part of the project include but are not limited to, a grid-style street system without cul-de-sacs or dead-end streets, informational kiosks, and bicycle programs to facilitate efficient and safe access. Implementation of the project's Air Quality Plan would reduce operational emissions

through a complimentary mix of uses, housing density or variety and style, and extensive pedestrian and bicycle circulation system; however, the project's operational emissions of ROG and NO_x both exceed the SMAQMD's significance threshold of 65 pounds per day.

Mitigation Measure

The project applicant has prepared an Air Quality Plan for the project. This would reduce estimated project regional emissions but not to levels below the SMAQMD thresholds of significance for ozone precursors. There are no available mitigation measures that could reduce regional emissions by the 82 percent that would be required to attain the SMAQMD thresholds; therefore, the project's regional air quality impacts would be **significant and unavoidable**.

Operational Impacts on Schools

Impact 4.6.5 The project would include an elementary school site, which will be a sensitive receptor. Operational air quality impacts on this facility are considered **less than significant.**

The siting of schools in California is subject to state law regarding proximity to sources of Toxic Air Contaminants. The school district, in consultation with the local air district are to identify both permitted and non-permitted facilities within that district's authority, including, but not limited to, freeways and busy traffic corridors, large agricultural operations, and rail yards, within one-fourth of a mile of the proposed school site, that might reasonably be anticipated to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste. The governing board of the school district must make a find that no facilities of this type were identified, that facilities exist but the health risks from the facilities or other pollution sources do not and will not constitute an actual or potential endangerment of public health to persons who would attend or be employed at the proposed school or that corrective measures required under an existing order by another agency having jurisdiction over the facilities or other pollution sources will, before the school is occupied, result in the mitigation of all chronic or accidental hazardous air emissions to levels that do not constitute an actual or potential endangerment of public health to persons who would attend or be employed at the proposed school. For a school site with a boundary that is within 500 feet of the edge of the closest traffic lane of a freeway or other busy traffic corridor, the governing board of the school district must determine that the air quality at the proposed site is such that neither short-term nor long-term exposure poses significant health risks to pupils. The above regulations would ensure that project impacts related to siting of a school would be less than significant.

Mitigation Measures

None required.

4.6.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

CUMULATIVE SETTING

The cumulative setting for air quality is the greater Sacramento Valley Air Basin. This includes the five counties of Sacramento, Solano, Yolo, Place and Sutter. The Rancho Cordova General Plan Planning Area and the projects listed in **Table 4.1-1**, as well as existing and reasonably foreseeable projects in the greater Sacramento Valley Air Basin are included in the cumulative setting for air quality. The climate and geography of the lower Sacramento Valley Air Basin severely limits the dilution and transportation of any air pollutants that are released to the

atmosphere. At current levels of development and activity the air basin exceeds the state/federal ambient standards for particulates and ozone. Cumulative growth in population, vehicle use and industrial activity could inhibit efforts to improve regional air quality and attain the ambient air quality standards.

CUMULATIVE IMPACTS AND MITIGATION MEASURES

Cumulative Operational Emissions – Ozone Precursors

Impact 4.6.6 Existing and future land use conditions in the Sacramento Valley Air Basin would result in cumulative impacts to air quality. The proposed project's contribution to this condition would be **cumulatively considerable**.

SMAQMD CEQA guidance provides that if a project will result in air pollutant emissions above the "project alone" significance threshold, the project will result in a significant cumulative air quality impact. Additionally, a proposed project is considered to a have cumulatively significant impact if it requires a change in the existing land use designation assumed in the 1994 Sacramento Regional Ozone Attainment Plan and projected emissions are greater than anticipated under the existing land uses, which would be true for this project. However, this significance criterion can only be applied to ozone, since there are no applicable air plans for carbon monoxide, particulate and other pollutants. While the project would contribute to cumulative increases in carbon monoxide concentrations, the project is in an attainment area for this pollutant and carbon monoxide levels have been declining and are forecast to decline in the future, therefore, the project's cumulative carbon monoxide impacts are considered less than significant.

The project emissions shown in **Table 4.6.3** for operation of the project exceed the SMAQMD thresholds of significance for ozone precursors by a substantial amount. Therefore, the proposed project's contribution to ozone air quality impacts would be cumulatively considerable. In addition, the project is part of the Sunrise Douglas Community Plan (SDCP). The FEIR for the SDCP, which was approved in 2002, found that development of the SDCP would also have a significant regional impact on PM_{10}. The project; together with past, present, and reasonably anticipated future projects, would have a cumulatively significant impact on regional air quality for PM_{10}.

Mitigation Measures

Implementation of mitigation measure MM 4.6.4 would reduce project impacts by a minimum of 15 percent. This would reduce estimated project regional emissions but not to levels below the SMAQMD thresholds of significance for ozone precursors. There are no available mitigation measures that could reduce regional emissions by the 82 percent that would be required to attain the SMAQMD thresholds or completely off-set the project's contribution to air pollution. After mitigation the project would still have a **cumulatively considerable** impact on ozone precursor operational air quality.

REFERENCES

Ballanti, Donald. *Air Quality Impact Evaluation for the Preserve at Sunridge, City of Rancho Cordova.* April 2005.

County of Sacramento. *CEQA Findings of Fact and Statement of Overriding Considerations for the Sunrise Douglas Community Plan/Sunridge Specific Plan Project.* July 17, 2002.

County of Sacramento. *Sunrise Douglas Community Plan/Sunridge Specific Plan, Final Environmental Impact Report.* November 2001.