16 CUMULATIVE IMPACTS AND OTHER CEQA SECTIONS

The Cumulative Impacts and Other CEQA Sections chapter of the EIR includes brief discussions regarding those topics that are required to be included in an EIR, pursuant to the CEQA Guidelines Section 15126.2. The chapter lists the project's cumulative impacts, the project's significant irreversible environmental changes, the project's significant environmental effects which cannot be avoided, and a discussion of the growth-inducing impacts of the proposed project.

16.1 CUMULATIVE IMPACTS

The CEQA Guidelines Section 15130 requires that an EIR discuss the cumulative and long-term effects of the proposed project that adversely affect the environment. "Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines Section 15355; see also Pub. Resources Code, Section 21083, subd. [b]). Stated another way, "[…] a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts." (CEQA Guidelines Section 15130, subd. [a][1])

"[I]ndividual effects may be changes resulting from a single project or a number of separate projects." (CEQA Guidelines Section 15355, subd. [a]) "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." (CEQA Guidelines Section 15355, subd. [b])

The need for cumulative impact assessment reflects the fact that, although a project may cause an "individually limited" or "individually minor" incremental impact that, by itself, is not significant, the incremental effect may be "cumulatively considerable," and thus significant, when viewed together with environmental changes anticipated from past, present, and probable future projects (CEQA Guidelines Section 15064, subd. [h(1)], Section 15065, subd. [c], and Section 15355, subd. [b]). This formulation indicates that particular impacts may be less-than-significant on a project-specific basis but significant on a cumulative basis, because their small incremental contribution, viewed against the larger backdrop, is cumulatively considerable.

The lead agency should define the relevant geographic area of inquiry for each impact category (id., Section 15130, subd. [b][3]), and should then identify the universe of "past, present, and probable future projects producing related or cumulative impacts" relevant to the various categories, either through the preparation of a "list" of such projects or through the use of "a summary of projections contained in an adopted general plan or related planning document, or in

a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact" (id., subd. [b][1]).

The possibility exists that the "cumulative impact" of multiple projects will be significant, but that the incremental contribution to that impact from a particular project may not itself be "cumulatively considerable." Thus, CEQA Guidelines Section 15064, Subdivision (h)(5) states, "[…] the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable." Therefore, it is not necessarily true that, even where cumulative impacts are significant, any level of incremental contribution must be deemed cumulatively considerable.

Rancho Del Oro Estates Cumulative Setting

The geographic scope of the area for the Rancho Del Oro Estates Draft EIR cumulative analyses includes Placer County. As a result, the traffic model for this Draft EIR, which assumes buildout of the PCGP, was updated to include reasonably foreseeable projects and specific plans within the County. The projects and specific plans which are accounted for in the technical analyses of this Draft EIR, as determined by the Traffic Report includes: Placer Vineyards Specific Plan, Placer Ranch Specific Plan, Regional University and Community Specific Plan: buildout of residential and non-residential land uses, Riolo Vineyard, and City of Lincoln General Plan Update. It should be noted that the projects accounted for in the Draft EIR are based on the data available at the time of preparing the technical analyses for the project.

Project-Specific Cumulative Impacts

The technical chapters of this EIR (Chapters 4 through 14) describe the Environmental Setting, Regulatory Setting, and Standards of Significance, while the Cumulative Impacts and Other CEQA Sections chapter of the EIR includes cumulative analysis as shown below:

<u>Land Use</u>

16-1 Increases in the intensity of land uses in the region due to the proposed project and all other projects in Placer County.

The proposed Rancho Del Oro Estates project, along with buildout of the PCGP and the proposed Specific Plans in Placer County, would change the intensity of land uses within the County. However, the proposed project is consistent with the GBCP and PCGP, which designates the project site for Rural Low Density Residential development; therefore, the type and relative intensity of growth associated with the proposed project has previously been anticipated by Placer County. As discussed in Chapter 4, Land Use, of this Draft EIR, the GBCP includes various policies that are intended to reduce a project's land use impacts, both to the project site itself and to surrounding uses. As indicated in the Land Use chapter, the project would comply with the GBCP policies related to physical aspects of land use considerations, and impacts were found to be either

less-than-significant or reduced to a less-than-significant level with implementation of the mitigation measures in the Land Use chapter.

Physical environmental cumulative impacts, such as impacts related to noise, air quality, and traffic that would arise from development of the proposed project are assessed in other chapters of the EIR (See Chapter 8, Transportation and Circulation; Chapter 9, Air Quality; and Chapter 10, Noise, for further analysis of these issues). In addition, all developments that are proposed and constructed within the County are reviewed for consistency with County-wide land use controls and development standards during the course of the project review and approval process. Given the land use controls and development standards presently in use within Placer County, and the compliance of the project with many of the policies found in the GBCP Land Use, Community Design, Conservation, Open Space, Cultural Resources, Noise, Safety, and Circulation Elements, cumulative land use impacts would be ***less-than-significant***.

Mitigation Measure(s)
None required.

Biological Resources

16-2 Cumulative loss of biological resources in Placer County and the effects of ongoing urbanization in the region.

Significant cumulative impacts related to habitat conversion and habitat quality reduction were identified in the PCGP EIR. In addition, the GBCP EIR identified significant and unavoidable cumulative impacts related to biological resources (oak woodlands, special-status plant species, and special-status wildlife species). Implementation of the proposed project would result in the development of land uses that would contribute to the loss of habitat and biological resources. The loss of vegetation and wildlife habitat throughout the GBCP area and western Placer County would be a cumulatively significant impact.

Approximately 3.21 acres of jurisdictional wetlands and other waters of the United States, and a total of 16.93 acres of oak woodland would be impacted by implementation of the proposed project. These impacts would contribute to cumulative impacts to wetlands, oak woodlands and other significant oak trees, and special-status plant and wildlife species, including direct removal of suitable breeding and/or foraging habitat and habitat fragmentation. While mitigation would be required for other reasonably foreseeable projects, and while the proposed mitigation would reduce project-specific impacts to less-than-significant levels, the removal of trees, wetlands, and uplands would contribute to the significant cumulative loss of vegetation and wildlife habitat throughout the GBCP area. Considering the cumulative impact scenario of which the proposed project is a part, cumulative impacts to biological resources would be ***significant and unavoidable***.

Mitigation Measure(s)
Implementation of the following mitigation measures would reduce the project-level impacts to biological resources; however, the project's incremental effect would be cumulatively considerable.

16-2 *Implement Mitigation Measures 5-1, 5-3(a), 5-3(b), 5-4, 5-5(a), 5-5(b), 5-6(a), 5-6(b), 5-6(c), 5-9(a), 5-9(b), 5-10(a), 5-10(b), and 5-10(c).*

Cultural Resources

16-3 Disturbance or destruction of previously unknown archaeological resources in combination with other development in Placer County.

Chapter 6, Cultural Resources, of this Draft EIR identifies the potential impacts of the proposed project on cultural resources in the vicinity of the project site. The project has the potential to affect potentially significant cultural resources or to uncover unknown or undocumented subsurface cultural remains or human interments; therefore, the impact of the project on cultural resources in the project area is potentially significant and could be cumulatively considerable.

Mitigation for the impacts of the proposed project includes halting construction immediately and notifying a qualified professional archaeologist of any discovery of cultural materials or human interments. The archaeologist would determine whether the resource is potentially significant as per the California Register of Historical Resources and would develop appropriate mitigation. If a Native American burial is discovered, California Health and Safety Code Sections 7050.5 and 7052 and California Public Resources Code Section 5097 would be complied with to ensure that the site is properly protected. In addition, mitigation is required for the impacts of the proposed project to historical resources on the project site (identified as sites RDO#1, RDO#2a, and RDO#2b in Chapter 6, Cultural Resources, of this EIR).

Because the proposed project would implement site-specific mitigation consistent with the California Health and Safety Code and the California Public Resources Code, the incremental effect of the proposed project is not cumulatively considerable when considered with other past, present, and reasonably foreseeable projects. Therefore, the proposed project would not have a cumulatively considerable effect on cultural resources when considered with other past, present, and reasonably foreseeable projects, and a ***less-than-significant*** impact would result.

Mitigation Measure(s)
None required.

Visual Resources

16-4 Long-term impacts to the visual character of the region from the proposed project in combination with existing and future developments in the Granite Bay area.

The proposed project is not expected to significantly contribute to a cumulative change in the visual character of the Community of Granite Bay or the Placer County region. In addition, the GBCP EIR determined that, with implementation of GBCP policies, the impact from buildout of the GBCP in regard to alteration of the visual character of the area would be less-than-significant. The project would develop a rural residential community that would be consistent with the goals and polices of the GBCP to maintain the existing rural character. Therefore, because alteration of the visual character of the site was anticipated in the GBCP and the GBCP EIR found that impacts to alteration of visual character in the GBCP area would be less-than-significant, development of the proposed project would result in a ***less-than-significant*** impact to the visual character of the region.

Mitigation Measure(s)
None required.

Transportation and Circulation

16-5 Cumulative impacts to study area intersections and roadway segments resulting from project implementation.

The following analysis of cumulative transportation and circulation conditions provides a context for the potential effects of the proposed project in the future. For the purposes of the cumulative transportation analysis, the cumulative setting represents land use development and roadway network improvements expected to be in place by the Year 2025. The discussion below describes the traffic forecasting analysis and the results of the traffic operations for both intersections and roadway segments within the project study area.

Year 2025 Conditions

To assess cumulative conditions for the Year 2025, peak hour traffic rates associated with several regional development projects in the vicinity of the project site were added to the existing traffic volumes. The planned projects are assumed to be completely developed and operational by the Year 2025. A summary of the pending or approved projects to be included in the cumulative traffic analysis include:

1. Placer County Vineyards Specific Plan;
2. Placer Ranch Specific Plan;
3. Regional University and Community Specific Plan: Buildout of residential and non-residential land uses;
4. Riolo Vineyard; and
5. City of Lincoln General Plan Update.

It should be noted that the cumulative base traffic volumes within the project study area were developed based on: (1) the Placer County Transportation Planning Agency's (PCTPA) traffic model; and (2) ADT and turning movement forecasts, as presented in the City of Roseville website CIP Update EIR (under Cumulative Plus Project Conditions).

Planned Roadway Improvements

The Sierra College Boulevard Expansion Project is an approved project listed within the PCTPA 2027 Regional Transportation Plan (RTP). The expansion project would occur in the vicinity of the study area and would affect cumulative traffic conditions in the Year 2025. The project would involve widening the existing four lanes to six lanes, from the eastern County line to just north of Douglas Boulevard. Anticipated completion date for this project is 2020. The following details which intersection approaches would be improved as a result of this future project:

- Intersection 5 – Sierra College Boulevard at Douglas Boulevard, and
- Intersection 6 – Sierra College Boulevard at Cavitt-Stallman Road.

The planned future improvements to the lane configurations of these two intersections are assumed to be in place during the Cumulative (2025) No Project scenario discussed below. The Cumulative (2025) No Project lane geometrics and control and the Cumulative (2025) No Project traffic volumes are presented in Figures 16-1 and 16-2, respectively.

Intersections

Peak hour intersection traffic operations for the Cumulative (2025) No Project scenario were quantified utilizing the projected Cumulative (2025) No Project peak hour intersection traffic volumes (See Figure 16-2) and the Cumulative (2025) lane geometrics and control (See Figure 16-1).

A summary of the resulting LOS for the Cumulative (2025) No Project intersections is presented in Table 16-1. As shown in Table 16-1, the following intersection has a target LOS of E but is projected to operate at an unacceptable LOS of F under Cumulative (2025) No Project conditions:

- Intersection # 6 – Douglas Boulevard / Cavitt-Stallman Road.

Figure 16-1
Cumulative (2025) No Project Lane Geometrics and Control

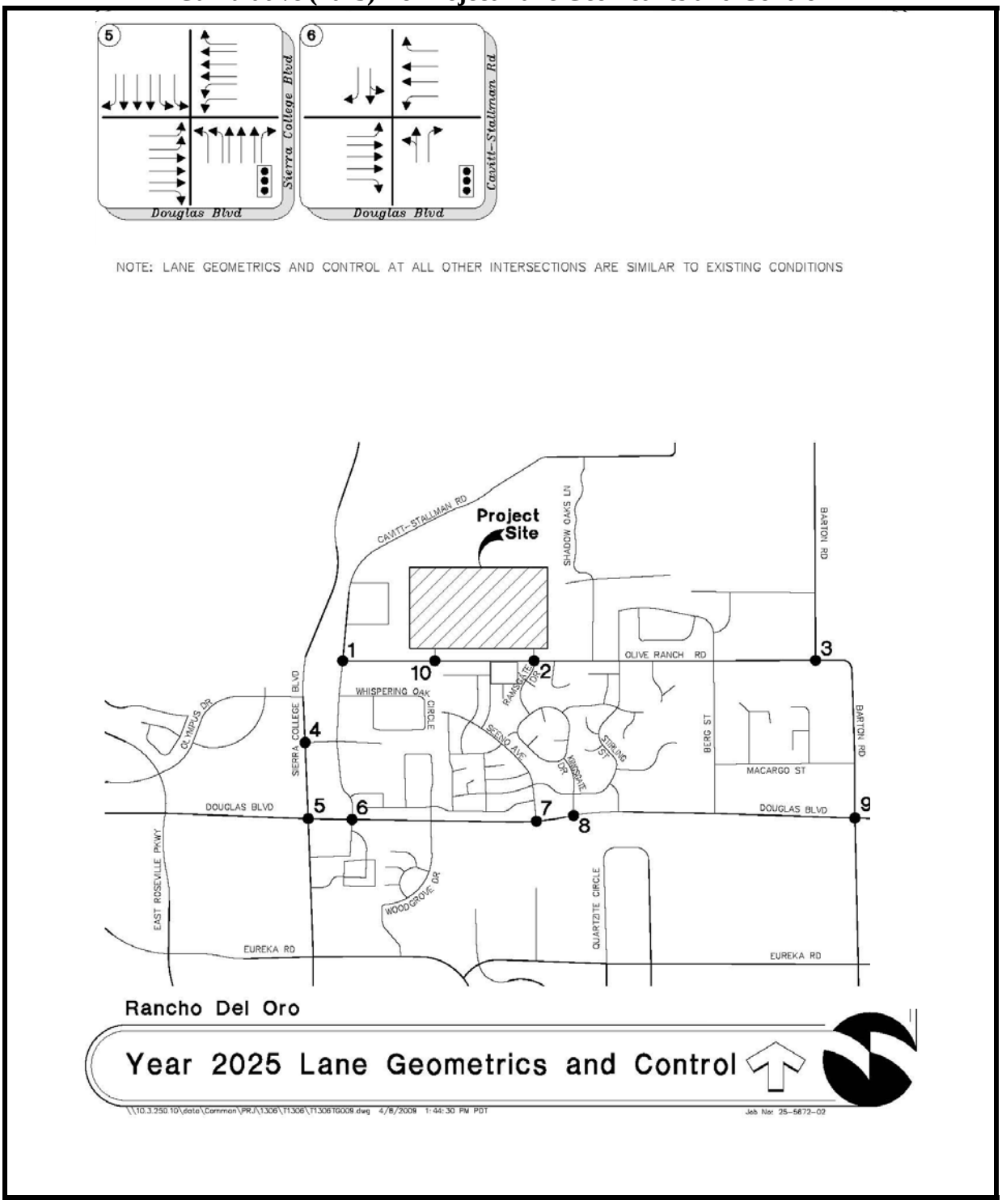

Figure 16-2
Cumulative (2025) No Project Traffic Volumes

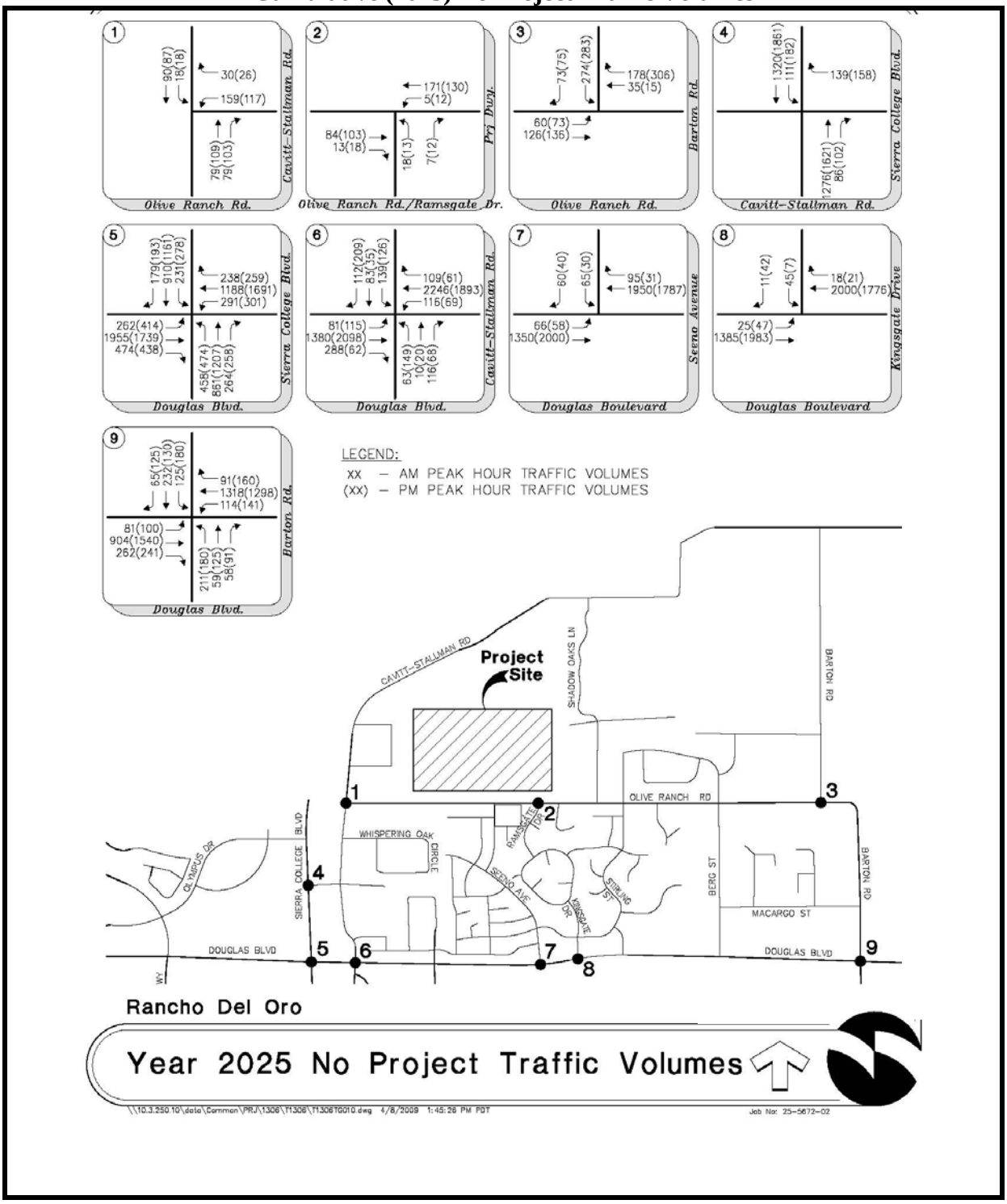

Table 16-1
Cumulative (2025) No Project Conditions: Intersection LOS

	Intersection	Control Type	Delay Methodology	Target LOS	AM Peak Hour			PM Peak Hour		
					Delay	LOS	Warrant Met	Delay	LOS	Warrant Met
1	Olive Ranch Road / Cavitt-Stallman Road	TWSC (2000 HCM) *	Stop Control	C	11.8	B	--	11.6	B	--
			Average		5.2	A	--	3.9	A	--
2	Olive Ranch Road / Ramsgate Drive	TWSC (2000 HCM) *	Stop Control	C	10.0	B	--	9.8	A	--
			Average		1.0	A	--	1.2	A	--
3	Olive Ranch Road / Barton Road	AWSC (2000 HCM)	Average	C	11.7	B	--	13.3	B	--
4	Cavitt-Stallman Road / Sierra College Boulevard	TWSC (2000 HCM) *	Stop Control	C	16.4	C	--	36.1	E	--
			Average		1.3	A	--	2.5	A	--
5	Douglas Boulevard / Sierra College Boulevard	Signal (Circular 21)	Average	E	0.9	E	--	0.948	E	--
6	**Douglas Boulevard / Cavitt-Stallman Road**	Signal (Circular 21)	Average	E	**1.016**	**F**	--	0.948	E	--
7	Douglas Boulevard / Seeno Avenue	Signal (Circular 21)	Average	E	0.765	C	--	0.677	B	--
8	Douglas Boulevard / Kingsgate Drive	TWSC (2000 HCM) *	Stop Control	E	OVR	F	--	OVR	F	--
			Average		41.9	E	--	12.0	B	--
9	Douglas Boulevard / Barton Road	Signal (Circular 21)	Average	E	0.819	D	--	0.990	E	--

Note:
1. *TWSC = Two-Way Stop Control (LOS and delay are based on LOS and delay for worst approach).*
2. *AWSC = All-Way Stop Control (LOS and delay are based on average intersection delay).*
3. *Warrant = Based on California MUTCD Warrant 3.*
4. ** = TWSC intersections are measured by "average" delay LOS.*

Source: OMNI-MEANS, Rancho Del Oro Estates Project TIAR, 2009.

Roadway Segments

The Cumulative (2025) No Project roadway segment daily traffic operations were quantified by utilizing the abovementioned Cumulative (2025) No Project roadway ADT volumes, shown in Table 16-2. All study area roadway segments under the Cumulative (2025) No Project scenario are all projected to operate at an acceptable LOS on a daily basis.

Table 16-2
Cumulative (2025) No Project Conditions: Roadway LOS

Roadway Segment	Capacity Configuration	Target LOS	ADT	LOS
Olive Ranch Road – between Cavitt-Stallman Road and Barton Road	Two-Lane Residential Collector with Frontages	C	3,400	C
Seeno Avenue – north of Douglas Boulevard	Two-Lane Residential Collector with Frontages	C	2,360	B
Kingsgate Drive – north of Douglas Boulevard	Two-Lane Residential Collector with Frontages	C	1,240	A
Ramsgate Drive – north of Olive Ranch Road	Two-Lane Residential/Local	C	330	A
Briar Way – south of Olive Ranch Road	Two-Lane Residential/Local	C	780	B

Source: OMNI-MEANS, Rancho Del Oro Estates Project TIAR, 2009.

Cumulative (2025) Plus Project Conditions

The Cumulative (2025) Plus Project traffic volumes were derived from superimposing the Existing Plus Project conditions to the projected traffic volumes of the Cumulative (2025) No Project traffic volumes discussed above (Figure 16-2).

Intersections

Peak hour intersection traffic operations for the Cumulative (2025) Plus Project scenario were quantified utilizing the projected Cumulative (2025) Plus Project peak hour intersection traffic volumes (Figure 16-3) and the Cumulative (2025) Plus Project lane geometrics and control (Figure 16-1). A summary of the resulting LOS for Cumulative (2025) Plus Project intersections is presented in Table 16-3. A comparison between Tables 16-1 and 16-3 demonstrates that all intersections found to operate at acceptable LOS under the Cumulative (2025) No Project scenario would continue to operate at the same acceptable LOS under the Cumulative (2025) Plus Project scenario, with the exception of the following intersection:

- Intersection # 9 – Douglas Boulevard / Barton Road.

Figure 16-3
Cumulative (2025) Plus Project Traffic Volumes

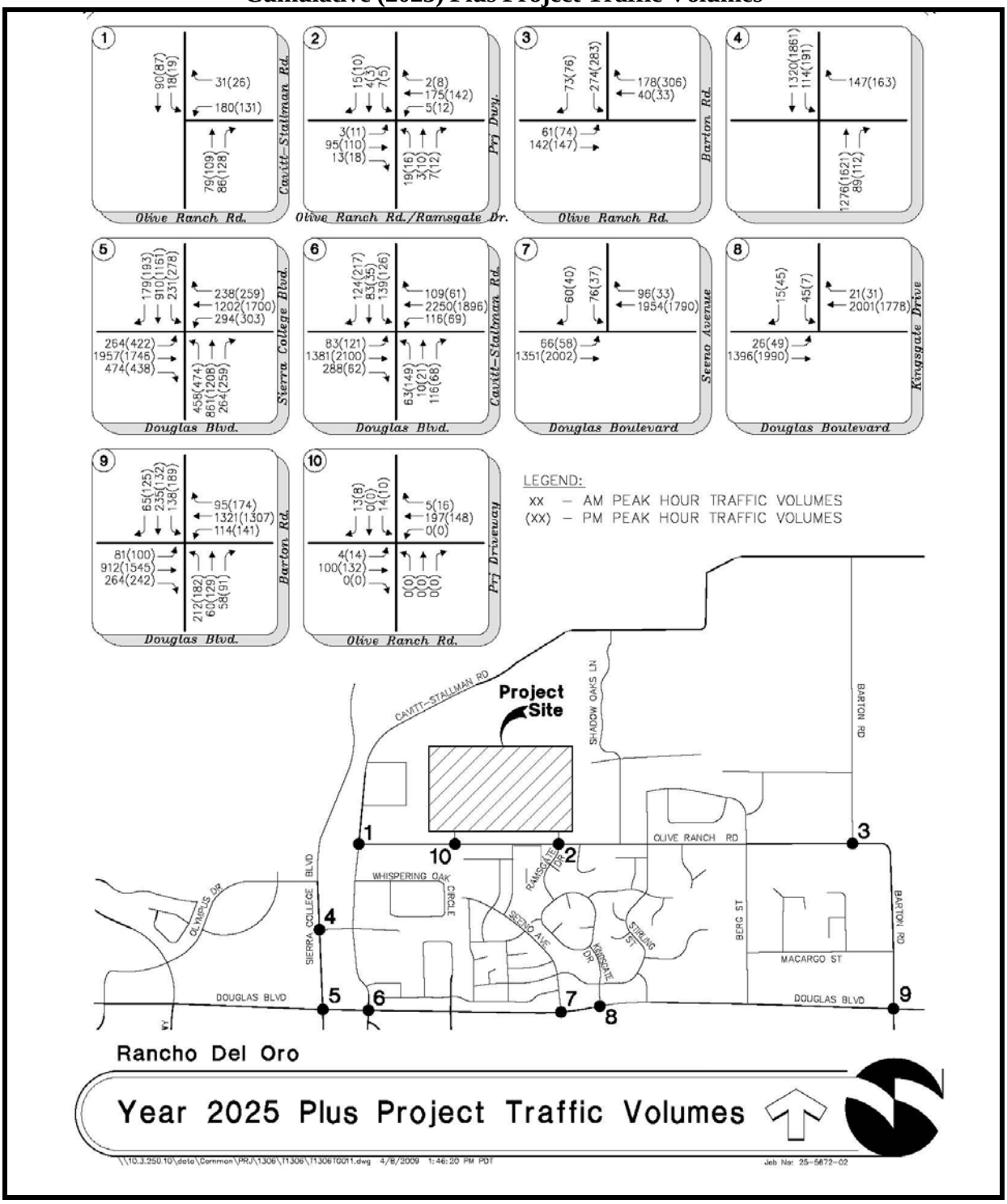

Table 16-3
Cumulative (2025) Plus Project Conditions: Intersections LOS

	Intersection	Control Type	Delay Methodology	Target LOS	AM Peak Hour			PM Peak Hour		
					Delay	LOS	Warrant Met	Delay	LOS	Warrant Met
1	Olive Ranch Road / Cavitt-Stallman Road	TWSC (2000 HCM) *	Stop Control	C	12.2	B	--	12.1	B	--
			Average		5.6	A	--	4.1	A	--
2	Olive Ranch Road / Ramsgate Drive	TWSC (2000 HCM) *	Stop Control	C	10.3	B	--	10.3	B	--
			Average		1.0	A	--	1.4	A	--
3	Olive Ranch Road / Barton Road	AWSC (2000 HCM)	Average	C	11.9	B	--	13.8	B	--
4	Cavitt-Stallman Road / Sierra College Boulevard	TWSC (2000 HCM) *	Stop Control	C	16.5	C	--	39.5	E	--
			Average		1.4	A	--	2.8	A	--
5	Douglas Boulevard / Sierra College Boulevard	Signal (Circular 21)	Average	E	0.902	E	--	0.953	E	--
6	**Douglas Boulevard / Cavitt-Stallman Road**	Signal (Circular 21)	Average	E	**1.018**	**F**	--	0.959	E	--
7	Douglas Boulevard / Seeno Avenue	Signal (Circular 21)	Average	E	0.773	C	--	0.682	B	--
8	Douglas Boulevard / Kingsgate Drive	TWSC (2000 HCM) *	Stop Control	E	OVR	F	--	OVR	F	--
			Average		45.3	E	--	13.1	B	--
9	**Douglas Boulevard / Barton Road**	Signal (Circular 21)	Average	E	0.831	D	--	**1.001**	**F**	--
10	Project Driveway West / Olive Ranch Road	TWSC (2000 HCM) *	Stop Control	C	10.1	B	--	10.0	A	--
			Average		0.9	A	--	0.9	A	--
11	Project Driveway East / Olive Ranch Road	TWSC (2000 HCM) *	Stop Control	C	10.1	B	--	10.0	A	--
			Average		0.9	A	--	0.8	A	--

Note:
1. TWSC = Two-Way Stop Control (LOS and delay are based on LOS and delay for worst approach).
2. AWSC = All-Way Stop Control (LOS and delay are based on average intersection delay).
3. Warrant = Based on California MUTCD Warrant 3.
*4. * = TWSC intersections are measured by "average" delay LOS.*

Source: OMNI-MEANS, Rancho Del Oro Estates Project TIAR, 2009.

Intersection # 6 at Douglas Boulevard and Cavitt-Stallman Road would operate at LOS F with a 1.016 second delay during AM peak hour under Cumulative (2025) No Project conditions. Under Cumulative (2025) Plus Project conditions, the intersection would continue to operate at LOS F with an increased delay of 1.018 second during the AM peak hour. The Cumulative (2025) Plus Project conditions would increase the delay in the AM peak hours by 0.002. Therefore, if a signalized intersection is already operating unacceptably with no project, then any additional traffic would be considered a significant impact.

Intersection # 9 at Douglas Boulevard and Barton Road would operate at LOS E with a 0.990 second delay during PM peak hours under Cumulative (2025) No Project conditions. However, under Cumulative (2025) Plus Project conditions, the intersection would operate at LOS F with an increase delay of 1.001 seconds during PM peak hours. The Cumulative (2025) Plus Project conditions would increase the delay in PM peak hours by 0.011 second and would change the LOS from E to F.

As illustrated in Table 16-3, the following two intersections would operate at an unacceptable LOS:

- Intersection # 6: Douglas Boulevard / Cavitt-Stallman Road; and
- Intersection # 9: Douglas Boulevard / Barton Road.

Because implementation of the proposed project would result in two intersections operating at unacceptable LOS in the Year 2025 (cumulative conditions), a ***potentially significant*** cumulative impact would occur.

Roadway Segments

The Cumulative (2025) Plus Project roadway segment daily traffic operations were quantified by utilizing the Cumulative (2025) Plus Project roadway ADT volumes (See Table 16-4). All study area roadway segments anticipated to operate at an acceptable LOS under the Cumulative (2025) No Project scenario, are also projected to operate at an acceptable LOS under the Cumulative (2025) Plus Project scenario.

Modified Site Access Analysis

As presented in Chapter 8 of the DEIR, a modified site access scenario would include the realignment of the easternmost project access directly across from Ramsgate Drive. Trip distribution and trip assignment of the project trips would be similar to those with the offset access point included under the proposed project. The Cumulative Year 2025 Plus Project with Modified Access conditions were simulated by adding the traffic generated by the proposed project onto Existing intersection traffic volumes and Cumulative Year 2025 No Project traffic volumes (Figure 16-2).

Table 16-4
Cumulative (2025) Plus Project Conditions: Roadway Segment

Roadway Segment	Capacity Configuration	Target LOS	ADT	LOS
Olive Ranch Road – between Cavitt-Stallman Road and Barton Road	Two-Lane Residential Collector with Frontages	C	3,790	C
Seeno Avenue – north of Douglas Boulevard	Two-Lane Residential Collector with Frontages	C	2,390	B
Kingsgate Drive – north of Douglas Boulevard	Two-Lane Residential Collector with Frontages	C	1,450	A
Ramsgate Drive – north of Olive Ranch Road	Two-Lane Residential/Local	C	540	A
Briar Way – south of Olive Ranch Road	Two-Lane Residential/Local	C	810	B

Source: OMNI-MEANS, Rancho Del Oro Estates Project TIAR, 2009.

Table 16-5 contains a summary of the Cumulative Year 2025 Plus Project with Modified Site Access conditions for AM and PM peak hour intersection operations. As shown in Table 16-5, the Olive Ranch Road/Ramsgate Drive intersection would be forecasted to operate at an acceptable LOS under the Cumulative Year 2025 Plus Project with Modified Site Access conditions. Furthermore, under the Modified Site Access scenario, the cut-through traffic would be similar to the proposed project as discussed in Chapter 8 of the Draft EIR.

Table 16-5
Modified Site Access Intersection Operations for Cumulative Year 2025 Plus Project with Modified Site Access

					AM Peak Hour			PM Peak Hour		
#	Intersection	Control Type	Delay Meth.	Target LOS	Delay	LOS	Warrant Met?	Delay	LOS	Warrant Met?
2	Olive Ranch Road / Ramsgate Drive	TWSC (2000 HCM)	Stop Controlled	C	10.8	B	--	10.9	B	--
			Average	C	1.8	A	--	2.2	A	--

Source: OMNI-MEANS, Rancho Del Oro Estates Project TIAR, 2009.

Conclusion

This proposed project would result in the construction of 89 additional rural residential homesites on property that is currently vacant and undeveloped. The project would generate approximately 934 new average daily trips, with approximately 95 PM peak hour trips. The proposed project creates site-specific impacts on local transportation systems that are considered less-than-significant when analyzed against the existing baseline traffic conditions and roadway segment/intersection existing LOS; however, the cumulative effect of an increase in traffic has the potential to create significant impacts to

the area's transportation system. Article 15.28.010 of the Placer County Code establishes a road network Capital Improvement Program (CIP). The proposed project is subject to this code and, therefore, is required to pay traffic impact fees to fund the CIP for area roadway improvements. With the payment of traffic mitigation fees for the ultimate construction of the CIP improvements, the project's traffic impacts would be less-than-significant.

Mitigation Measure(s)

Because the identified intersection is not included within the Countywide CIP, the project applicant would be required to contribute a "fair share" of the improvement-related costs, based upon the proposed project's PM peak-hour traffic impacts. The proposed project's fair share for the intersection is calculated within the Transportation Impact Analysis Report (included as Appendix J within the DEIR) using the method for calculating equitable mitigation measures outlined in the *Caltrans Guide for the Preparation of Traffic Impact Studies*. Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

16-5(a) *The project applicant shall be responsible for contributing a fair share of the cost for the necessary improvements to the Douglas Boulevard / Cavitt-Stallman Road intersection (Intersection #6). Necessary improvements shall include the westbound (Douglas Boulevard) approach being re-striped to include an additional through lane. With this mitigation measure, the westbound approach of Douglas Boulevard would include one left-turn lane, two through lanes, and one shared through-right lane. The project applicant shall be responsible for payment of the proposed project's equitable share of improvement costs, in the amount of three percent (3%) of the total costs for the abovementioned improvement to the Douglas Boulevard / Cavitt-Stallman Road intersection.*

16-5(b) *The project shall be subject to the payment of traffic impact fees that are in effect in this area (Granite Bay Benefit District), pursuant to applicable Ordinances and Resolutions. The project applicant is notified that the following traffic mitigation fees will be required and shall be paid to the Department of Public Works prior to the issuance of any building permits for the project:*

- *County Wide Traffic Limitation Zone: Article 15.28.010, Placer County Code;*
- *South Placer Regional Transportation Authority (SPRTA); and*
- *Placer County / City of Roseville JPA (PC/CR).*

The current total combined estimated fee is $7,734 per single family residence. The fees were calculated using the information supplied. If either the use or the square footage changes, then the fees will change. The actual fees paid will be those in effect at the time the payment occurs.

Air Quality

16-6 Cumulative impacts to regional air quality.

Placer County is classified as a severe non-attainment area for the federal ozone standards. In order to improve air quality and attain the health-based standards, reductions in emissions are necessary within non-attainment areas. The rapid growth and combined population, vehicle usage, and business activity within a non-attainment area, to which the project would cumulatively contribute, would either delay attainment of the standards or require the adoption of additional controls on existing and future air pollution sources to offset project-related emission increases. In addition, the project would cumulatively contribute to regional air quality health effects through emissions of criteria and mobile source TACs.

The project is part of a pattern of rapid urbanization occurring in the greater Sacramento ozone non-attainment area. This project, in combination with other past, present and reasonably foreseeable projects within Granite Bay, the Interstate 80 corridor, and western Placer County would result in regional air emissions increases beyond the PCAPCD significance thresholds.

It should be noted that the PCAPCD cumulative significance thresholds for emissions are applied to project-level emissions. An increase of more than ten pounds per day of ROG and/or NO_X (ozone precursors) would be above the PCAPCD cumulative threshold of significance. The PCAPCD does not have cumulative thresholds of significance for PM_{10} emissions, as Placer County is in attainment for PM_{10}.[1] The daily increase in regional emissions from auto travel and area sources associated with operation of the proposed project is shown for ROG and NO_X in Table 16-6.

As indicated in Table 16-6, project operational emissions for ROG would slightly exceed the PCAPCD cumulative thresholds of significance; therefore, the cumulative impact associated with the project would be ***potentially significant***.

Table 16-6
Maximum Operational Emissions for Cumulative Consideration

	ROG (lbs/day)	NO_X (lbs/day)
Area Sources	6.43	1.16
Vehicles	4.99	5.24
Total	**11.42**	**6.40**
PCAPCD Cumulative Significance Threshold	**10.0**	**10.0**

Source: Raney Planning & Management, URBEMIS-2007, May 2009, revised September 2009.

Mitigation Measure(s)

Implementation of the following mitigation measure would reduce region-wide emissions through funding of grants and incentive programs offered by the PCAPCD, which support fleet modernizations, repowers, retrofits, and fleet expansions of heavy duty on- and off-road mobile vehicles/equipment; alternative fuels infrastructure or low emission fuel purchases; new or expanding alternative transit service programs; light-duty low emission vehicle (LEV) programs; public education; repower of agricultural pump engines; and other beneficial air quality projects. Thus, on a cumulative level, emission sources throughout the area would reduce the above impact, over time, resulting in a cumulative lowering of emissions. Therefore, implementation of the following mitigation measure would result in a less than cumulatively considerable incremental contribution to regional air quality and reduce the above impact to a *less-than-significant* level, pursuant to PCAPCD cumulative mitigation policy.

16-6 *In order to mitigate the project's contribution to long-term emission of pollutants, the applicant shall participate in the Placer County Air Pollution District Offsite Mitigation Program by paying the equivalent amount of money, which is equal to the projects contribution of pollutants (ROG) that exceed the cumulative threshold of 10 pounds per day. The estimated total amount of excessive ROG for this project is approximately 0.26 tons per year. Therefore, the estimated payment for the proposed project is $1,859 based on $14,300 per ton. The actual amount to be paid shall be determined, per current California Air Resource Board guidelines, at the time of recordation of the Final Map. This condition shall be satisfied prior to recordation of a Final Map.*

Global Climate Change

Existing Environmental Setting

Introduction

Greenhouse Gases (GHG) are gases that trap heat in the atmosphere. These gases are emitted by both natural processes and human activities. The accumulation of GHG in the atmosphere regulates the earth's temperature. Without natural GHG, scientists estimate that the Earth's surface would be approximately 61 degrees Fahrenheit cooler.[2] However, scientists also believe that the combustion of fossil fuels (coal, petroleum, natural gas, etc.) for human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations. The increase in atmospheric concentrations of GHG has resulted in more heat being held within the atmosphere, which is the accepted explanation for Global Climate Change (GCC).

Global Warming Potential

Global Warming Potentials (GWP) are one type of simplified index (based upon radiative properties) that can be used to estimate the potential future impacts of emissions of various

gases. According to the U.S. EPA, the global warming potential of a gas, or aerosol, to trap heat in the atmosphere is the "cumulative radiative forcing effects of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas." GWP is based on a number of factors, including the heat-absorbing ability of each gas relative to that of carbon dioxide, as well as the decay rate of each gas relative to that of carbon dioxide. Common GHG components include water vapor, carbon dioxide, methane, nitrous dioxide, chlorofluorocarbons, hydro-fluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols.

Water Vapor

Water vapor is the most abundant, important, and variable GHG in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere water vapor maintains a climate necessary for life. Changes in the concentration of water vapor are primarily considered to be a result of climate feedback related to the warming of the atmosphere rather than a direct result of industrialization. The feedback loop in which water is involved is critically important to projecting future climate change. As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher, leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor; this is referred to as a "positive feedback loop."

There are not any health effects from water vapor itself; however, when some pollutants come in contact with water vapor, the pollutants can dissolve and the water vapor can then act as a pollutant-carrying agent. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include evaporation from other water bodies, sublimation (change from solid to gas), from sea ice and snow, and transpiration from plant leaves.

Carbon Dioxide

Carbon dioxide (CO_2) is an odorless and colorless GHG that is emitted from natural and manmade sources. Natural sources of CO_2 include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood. Outdoor levels of CO_2 are not high enough to result in negative health effects. CO_2 is naturally removed from the air by photosynthesis, dissolution into water, transfer to soils and ice caps, and chemical weathering of carbonate rocks.

Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. For example, prior to the industrial revolution, CO_2 concentrations were fairly stable at 280 ppm. Today, CO_2 concentrations are around 370 ppm, which is an increase of more than 30

percent. Left unchecked, the concentration of CO_2 in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources.

Methane

Methane (CH_4) is an extremely effective absorber of radiation, though the atmospheric concentration of CH_4 is less than that of CO2 and its lifetime in the atmosphere is brief (10 to 12 years), compared to other GHGs. Health effects are not known to occur from exposure to CH_4. CH_4 has both natural and anthropogenic sources. CH_4 is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production. Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of CH_4. Other anthropogenic sources include fossil fuel combustion and biomass burning.

Nitrous Oxide

Nitrous oxide (N_2O), also known as laughing gas, is a colorless GHG that can cause dizziness, euphoria and slight hallucinations. In small doses, N_2O is considered harmless; however, in some cases, heavy and extended use can cause brain damage. Concentrations of N_2O began to rise at the beginning of the industrial revolution. In 1998, the global concentration of N_2O was 314 parts per billion (ppb). N_2O is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to the atmospheric load of N_2O. N_2O can be transported into the stratosphere, deposited on the earth's surface, and converted to other compounds by chemical reaction.

Chlorofluorocarbons

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH_4 or ethane (C_2H_6) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs are no longer being used; therefore, the likelihood of health effects being experienced is very low. Nonetheless, in confined indoor locations, working with some CFCs is thought to result in death by cardiac arrhythmia or asphyxiation. CFCs, which were first synthesized in 1928, do not have any natural sources. CFCs were used as refrigerants, aerosol propellants, and cleaning solvents. Due to the discovery that CFCs are able to destroy stratospheric ozone, a global effort to halt their production was undertaken. This effort was very successful, such that levels of the major CFCs are now steady or declining. However, the long atmospheric lifetimes of CFCs mean that some CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons

Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all of the GHGs, HFCs are one of three groups with the

highest global warming potential. The HFCs with the largest measured atmospheric abundances are the following: HFC-23, HFC-134a, and HFC-152-a. Prior to 1990, the only significant emissions were of HFC-23. However HFC-134a emissions are increasing due to its use as a refrigerant. The U.S. EPA estimates that concentrations of HFC-23 and HFC-134a are now approximately 10 parts per trillion (ppt) each, while concentrations of HFC-152a are approximately one ppt. Health effects are not known to result from exposure to HFCs.

Perfluorocarbons

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur approximately 37 miles above the surface of the earth, are able to destroy PFCs. Because of this, PFCs have very long lifetimes – between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6). The two main sources of PFCs are primary aluminum production and semiconductor manufacture. The U.S. EPA estimates that concentrations of CF4 in the atmosphere are over 70 ppt. Health effects are not known to result from exposure to PFCs.

Sulfur Hexafluoride

Sulfur hexafluouride (SF_6) is an inorganic, colorless, odorless, nontoxic, nonflammable gas. SF_6 has the highest global warming potential of any gas evaluated. The U.S. EPA indicates that concentrations of SF_6 in the 1990s were approximately four ppt. In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Carbon dioxide is widely used as the reference gas for comparison of equivalent global warming potential. The CO_2 equivalent is a good way to assess emissions because the use of an equivalent gives weight to the global warming potential of the gas. Methane gas, for example, is estimated by the Association of Environmental Professionals and the U.S. EPA to have a comparative global warming potential 21 times greater than that of CO_2, as shown in Table 16-7. At the extreme end of the scale, sulfur hexafluoride is estimated to have a comparative global warming potential 23,900 times that of CO_2. The "specified time horizon" is related to the atmospheric lifetimes of such GHGs, which are estimated by the U.S. EPA to vary from 50-200 years for CO_2, to 50,000 years for tetrafluoromethane. Longer atmospheric lifetimes allow GHG to buildup in the atmosphere; therefore, longer lifetimes correlate with the global warming potential of a gas.

Table 16-7 Global Warming Potentials and Atmospheric Lifetimes of Select Greenhouse Gases		
Gas	**Atmospheric Lifetime (years)**	**Global Warming Potential (100 year time horizon)**
Carbon Dioxide	50-200	1
Methane	12 ± 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CF_4)	50,000	6,500
PFC: Hexafluoroethane (C_2F_6)	10,000	9,200
Sulfur Hexafluoride (SF_6)	3,200	23,900
Source: U.S. Environmental Protection Agency, Office of Atmospheric Programs. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 -2000. April 2002.		

One teragram (equal to one million metric tons) of CO_2 equivalent (Tg CO_2 Eq.) is defined by the U.S. EPA as the emissions of the reference GHG multiplied by the equivalent global warming potential. In 2004, total worldwide GHG emissions have been estimated to be 20,135 Tg in CO_2 equivalents. In 2004, the U.S. contributed the greatest percentage of worldwide GHG emissions (35 percent). In 2004, the U.S. EPA estimates that GHG emissions in the U.S. were 7074.4 Tg of CO_2 equivalent, which is an increase of 15.8 percent from 1990 emissions. California is a substantial contributor of GHG as the State is the second largest contributor in the U.S. and the sixteenth largest in the world. In 2004, California is estimated to have produced seven percent of the total U.S. emissions. The major source of GHG in California is transportation, which contributes 41 percent of the State's total GHG emissions, followed by electricity generation, which contributes 22 percent of the State's GHG emissions.

Global Changes

The Intergovernmental Panel on Climate Change (IPCC) *Climate Change 2007*[3] report indicates that the average global temperature is likely to increase between 3.6 and 8.1 degrees Fahrenheit by the year 2100, with larger increases possible but not likely. Temperature increases are expected to vary widely in specific locations depending on a variety of factors. The increase in temperature is expected to lead to higher temperature extremes, a larger variability in precipitation leading to increased flooding and droughts, ocean acidification from increased carbon content, and rising sea levels.

Projected Impacts of Global Warming in the Western United States and California Climates

Climate models indicate that if GHG emissions continue to proceed at a medium or high rate, temperatures in California are expected to increase by 4.7 to 10.5 degrees Fahrenheit by the end of the century.[4] Lower emission rates would reduce the projected warming to three to 5.6 degrees Fahrenheit. Almost all climate scenarios include a continuing trend of warming through the end of the century given the vast amounts of greenhouse gases already released, and the difficulties associated with reducing emissions to a level that would stabilize the climate. According to the

2006 Climate Action Team Report[5] the following climate change effects are predicted in California over the course of the next century:

- A diminishing Sierra snowpack declining by 70 percent to 90 percent, resulting in a potential threat to the State's water supply;
- Increasing temperatures from eight to 10.4 degrees Fahrenheit, under the higher emission scenarios, leading to a 25 to 35 percent increase in the number of days ozone pollution levels are exceeded in most urban areas;
- Increased coastal erosion along the length of California and seawater intrusion into the Delta from a four to 33-inch rise in sea level. This would exacerbate flooding in already vulnerable regions;
- Increased vulnerability of forests to forest fires due to pest infestation and increased temperatures;
- Increased challenges for the State's important agriculture industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta; and
- Increased electricity demand, particularly in the hot summer months.

Therefore, should temperatures increase as described above, this could lead to environmental impacts in a wide variety of areas, including: reduced snowpack resulting in changes to the existing water resources, increased risk of wildfires, changing weather expectations for farmers and ranchers, and public health hazards associated with higher peak temperatures, heat waves, and decreased air quality.

Air Quality

Increased temperatures create the conditions in which ozone formation can increase, which would lead to adverse impacts to air quality. In addition, hotter temperatures would likely result in increased electricity use to power air conditioners and refrigerators. Increased power use has the potential to result in increased air pollutant emissions, as more electrical generation is needed to meet the demand.

Wildfires

Increased temperatures would lead to increases in evapotranspiration. The summers would likely be drier, and vegetation would also be more likely to dry out, resulting in increasingly more flammable forests and wildlands. In addition, warmer temperatures could lead to the expansion of pests that kill and weaken trees, leading to increases in the amount of highly flammable dead trees, increasing the risk of large forest fires.

Water Resources

Depending on the climate model, precipitation for temperate climates is expected to decrease with an increased potential for drought. Topographical and geographical factors will likely result in substantial variation in the net change in precipitation. However, the form in which precipitation occurs is anticipated to change substantially. Warmer winters would lead to less

snow and more rain. As a result, the Sierra snowpack would be reduced and would melt earlier. This change could lead to increased flood risks as more water flows into reservoirs and rivers during the winter rainy period. Furthermore, earlier melting of the snowpack would reduce late spring and summer flows to reservoirs, which combined with hotter, drier summers, could lead to water shortages and restricted water supplies for cities, agriculture, and rivers.

Agriculture

Increased GHG emissions could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. Although higher CO_2 levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate O_3 pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts.

In addition, continued global climate change could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued global climate change could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90 percent due to decreased precipitation.

Moreover, continued global climate change has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures.

The productivity of the State's forests has the potential to decrease as a result of global climate change.

Rising Sea Levels

Increased temperatures could also lead to a rise in the sea level, from both thermal expansion and the melting of land-based glaciers. During the past century, sea levels along the California coast have risen by approximately seven inches. Climate forecasts indicate the sea level could rise by seven to 23 inches over the next 100 years depending on the climate model.[6] Substantial melting of either the Greenland or Antarctic ice sheets would lead to an even greater increase; however, the IPCC models do not indicate that this would occur within the next 100 years, which is the boundary of most climate models. Longer forecast periods are inherently less reliable as they require more assumptions, and tend to compound the effects of assumptions that may be incorrect. Increases in sea level could lead to increased coastal flooding, salt water intrusion into aquifers, and disrupt wetlands and estuaries.

Weather Extremes

The temperature increases presented in climate change models are yearly averages. Within those averages is the potential for substantially hotter summers and/or colder winters. As a result of GCC, the weather is expected to become more variable, with larger extremes. In California, the increase in temperatures is expected to lead to more days with temperatures in excess of 95 degrees. More days of extreme heat has implications for public health, as Californians would face greater risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat. In addition, increased temperatures have implications for agricultural crops, particularly long-term crops such as grapes and fruit trees that are planted in particular locations to take advantage of micro-climates.

Uncertainty Regarding Global Climate Change

The scientific community has largely agreed that the Earth is warming, and that humans are contributing to that change. However, the Earth's climate is composed of many complex mechanisms, including: ocean currents, cloud cover, as well as the jet-stream and other pressure/temperature weather guiding systems. These systems are in turn influenced by changes in ocean salinity, changes in the evapotranspiration of vegetation, the reflectivity (albedo) of groundcover, as well as numerous other factors. Some changes have the potential to reduce climate change, while others could form a feedback mechanism that would speed the warming process beyond what is currently projected. The climate system is inherently dynamic; however, the overall trend is towards a gradually warming planet.

Regulatory Background

International Regulations

In 1988, the United Nations established the Intergovernmental Panel in Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to

curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling greenhouse gas emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHG's in the United States. The Plan currently consists of more than 50 voluntary programs.

The Kyoto Protocol

The Kyoto protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. Some have estimated that if the commitments outlined in the Kyoto protocol are met, global GHG emissions could be reduced an estimated five percent from the 1990 levels during the first commitment period of 2008-2012. Notably, while the United States is a signatory to the Kyoto protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments. At the end of 2009, international leaders will meet in Copenhagen to address the future of international climate change commitments post-Kyoto.

Federal Regulations

U.S. Environmental Protection Agency

The U.S. EPA is the federal agency responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. The U.S. EPA regulates emission sources that are under the exclusive authority of the federal government including emissions of GHGs. To track the national trend in emissions and removals since 1990, U.S. EPA develops the official U.S. greenhouse gas inventory each year. The national greenhouse gas inventory is submitted to the United Nations in accordance with the Framework Convention on Climate Change.

State Regulations

California Air Resources Board

The CARB, a part of the U.S. EPA, is responsible for the coordination and administration of both federal and State air pollution control programs within California. The CARB conducts research, sets State ambient air quality measure standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs.

Executive Order S-3-05

In 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established total greenhouse gas emission targets. Specifically, emissions are to be reduced to year 2000 levels by 2010, the 1990 levels by 2020, and to 80 percent below the 1990 levels by 2050. The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse

gas emissions to the target levels. The Secretary is also directed to submit biannual reports to the governor and State legislature describing: (1) progress made toward reaching the emission targets; (2) impacts of global warming on California's resources; and (3) mitigation and adaptation plans to combat these impacts.

To comply with the Executive Order, the Secretary of the CalEPA created a Climate Action Team (CAT) made up of members from various State agencies and commissions. The CAT released their first report in March 2006. In addition, the CAT has released several "white papers" addressing issues pertaining to the potential impacts of climate change on California.

Assembly Bill 32

In September 2006, Governor Arnold Schwarzenegger signed Assembly Bill (AB) 32, the California Climate Solutions Act of 2006 (Stats. 2006, ch. 488) (Health & Saf. Code, § 38500 et seq.). This bill requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. Assembly Bill 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then ARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 delegated the authority for its implementation to the California Air Resources Board (CARB) and directs CARB to enforce the statewide cap that would begin phasing in by 2012. Among other requirements, AB 32 required CARB to (1) identify the statewide level of greenhouse gas emissions in 1990 to serve as the emissions limit to be achieved by 2020, and (2) develop and implement a Scoping Plan to be implemented by January 1, 2012. Currently, GHG levels have been estimated at 600 MMTs of CO2 equivalent while 1990 levels have been estimated to be 427 MMTs. Accordingly, emissions need to be reduced by 173 MMTs by 2020.

On December 11, 2008, CARB adopted a scoping plan to reduce GHG emissions to 1990 levels. The Scoping Plan's recommendations for reducing GHG emissions to 1990 levels by 2020 include emission reduction measures, including a cap-and-trade program linked to Western Climate Initiative partner jurisdictions, green building strategies, recycling and waste-related measures, as well as Voluntary Early Actions and Reductions. CARB has until January 1, 2011, to adopt the necessary regulations to implement that plan. Implementation of individual measures must begin no later than January 1, 2012, so that the emissions reduction target can be fully achieved by 2020. CARB is currently drafting regulations to implement the plan.

Senate Bill 97

AB 32, however, did not amend CEQA or establish regulatory standards to be applied to new development or environmental review of projects within the State. Accordingly, the Legislature adopted Senate Bill 97 (SB 97) in August 2007. SB 97 requires the California Office of Planning and Research (OPR) to prepare and transmit new CEQA guidelines for the mitigation of GHG emissions or the effects of GHG emissions to the Resources Agency by July 1, 2009. These guidelines for mitigation must address, but are not limited to, GHG emissions and effects associated with transportation and energy consumption. Following receipt of these guidelines, the Resources Agency must certify and adopt the guidelines prepared by OPR by January 1, 2010.

OPR's Technical Advisory and Draft CEQA Guidelines

OPR released preliminary draft CEQA Guideline amendments for greenhouse gas emissions on January 8, 2009, and submitted final proposed guidelines to the Secretary for Natural Resources on April 13, 2009. Of note, the final proposed guidelines state that a lead agency shall have discretion to determine whether to use a quantitative model or methodology or, alternatively, rely on a qualitative analysis or performance based standards. The proposed CEQA Guidelines § 15064.4(a) states, "A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which methodology to use […]; or (2) Rely on a qualitative analysis or performance based standards."

In its draft CEQA Guidelines amendments, OPR does not identify a threshold of significance for greenhouse gas emissions, nor does it prescribe assessment methodologies or specific mitigation measures. Instead, it calls for a "good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." The draft amendments encourage lead agencies to consider many factors in performing a CEQA analysis and preserve lead agencies' discretion to make their own determinations based upon substantial evidence. The draft amendments also permit the lead agency to adopt a threshold of significance that it determines applies to the project and encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses.

The Natural Resources Agency will begin a formal rulemaking process to certify and adopt the amendments as part of the state regulations implementing CEQA. Consistent with SB 97, the Natural Resources Agency should complete this process by January 2010. Until these Guidelines are approved, OPR's draft CEQA Guidelines amendments and June 2008 Technical Advisory provide interim advice to lead agencies regarding the analysis of greenhouse gas emissions in environmental documents. The Technical Advisory encourages lead agencies to follow three basic steps: (1) identify and quantify the greenhouse gas emissions that could result from the proposed project; (2) analyze the effects of those emissions and determine whether the effect is significant, and (3) if the

impact is significant, identify feasible mitigation measures or alternatives that will reduce the impact below a level of significance.

Senate Bill 1368

Senate Bill (SB) 1368 (Stats. 2006, ch. 598) (Pub. Util. Code §§ 8340-8341) is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. Senate Bill 1368 requires the California Public Utilities Commission (PUC) to establish a greenhouse gas emission performance standard for baseload generation from investor owned utilities by February 1, 2007. The California Energy Commission (CEC) must establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas fired plant. On January 27, 2007, the PUC adopted an interim Greenhouse Gas Emissions Performance Standard to require that all new long-term commitments for baseload power generation to serve Californians do not exceed the emissions of a combined cycle gas turbine plant. The legislation further requires that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and CEC.

Senate Bill 1078

Senate Bill 1078 establishes a renewable portfolio standard (RPS) for electricity supply. The RPS requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 20 percent of their supply from renewable sources by 2017. This target date was moved forward by SB 107 to require compliance by 2010. In addition, electricity providers subject to the RPS must increase their renewable share by at least one percent each year. The outcome of this legislation will impact regional transportation powered by electricity.

Executive Order S-01-07

On January 18, 2007, Governor Schwarzenegger signed Executive Order S-01-07, which mandates that a statewide goal be established to reduce carbon intensity of California's transportation fuels by at least 10 percent by 2020. The Order also requires that a Low Carbon Fuel Standard for transportation fuels be established for California.

Senate Bill 375

In September 2008, Governor Arnold Schwarzenegger signed Senate Bill (SB) 375, which is intended to build on AB 32 by attempting to control GHG emissions by curbing sprawl. SB 375 enhances ARB's ability to reach goals set by AB 32 by directing ARB to develop regional GHG emission reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035. In addition, ARB will work with the State's 18 metropolitan planning organizations to align their regional transportation, housing, and land-use plans and prepare a "sustainable communities strategy" to reduce the amount of vehicle miles traveled in their respective regions and demonstrate the region's ability to

attain its greenhouse gas reduction targets. SB 375 provides incentives for creating walkable and sustainable communities and revitalizing existing communities, and allows home builders to get relief from certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Furthermore, SB 375 encourages the development of alternative transportation options, which will reduce traffic congestion.

Local Regulations

Placer County Air Pollution Control District

The PCAPCD adopts and enforces regulations to control emissions from stationary sources of air pollutants, while the CARB has the authority to regulate emissions from motor vehicles. Stationary sources include non-specific sources associated with typical operation of a land use (e.g., gasoline-powered lawn mowers or woodburning fireplaces), as well as individual pieces of equipment (e.g., power generators). Emissions from individual stationary sources are regulated through a permit process, while emissions from non-specific sources are regulated during Placer County's development approval process.

Global Climate Change and CEQA

Several unique challenges exist when analyzing global warming under CEQA, largely because of its "global" nature. Typical CEQA analyses address local actions that have local – or, at most, regional – impacts, whereas global warming presents the considerable challenge of analyzing the relationship between local and global activities and the resulting potential, if any, for local and/or global environmental impacts. Most environmental analyses examine the project-specific impacts that a particular project is likely to generate. With regard to global warming, however, it is generally accepted that the magnitude of global warming effects is so substantial and the contribution of an individual project to global warming is so small that direct significant adverse impacts (albeit not necessarily cumulative significant adverse impacts) would be highly unlikely.

The issue of global climate change is also fundamentally different from any other areas of air quality impact analysis, which are all linked to some region or area in which the impact is significant. Instead, a global climate change analysis must be conducted on a global level, rather than the typical local or regional setting, and requires consideration of not only emissions from the project under consideration, but also the extent of the displacement, translocation, and redistribution of emissions. In the usual context, where air quality is linked to a particular location or area, it is appropriate to consider the creation of new emissions in that specific area to be an environmental impact whether or not the emissions are truly "new" emissions to the overall globe. In fact, the approval of a new developmental plan or project does not necessarily create new automobile drivers – the primary source of a land use project's emissions. Rather, new land use projects redistribute existing mobile emissions; accordingly, the use of models that measure overall emissions increases without accounting for existing emissions will substantially overstate the impact of the development project on global warming. This makes an accurate analysis of GHG emissions substantially different from other air quality impacts, where the

"addition" of redistributed emissions to a new locale can make a substantial difference to overall air quality.

16-7 Project impacts concerning the production of greenhouse gases.

The cumulative increase in greenhouse gas (GHG) concentrations in the atmosphere has contributed to, and will continue to contribute to, increases in global average temperature and associated shifts in climatic and environmental conditions. Multiple adverse environmental effects are attributable to global climate change, such as sea level rise and increased incidence and intensity of severe weather events (e.g., heavy rainfall, droughts). Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. The challenge in assessing the significance of an individual project's contribution to global GHG emissions and associated global climate change impacts is to determine whether a project's GHG emissions – which are at a micro-scale relative to global emissions – result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact.

Qualitative vs. Quantitative Assessment

As discussed above, CARB and other air quality regulatory agencies have not issued any guidance that agencies can follow in evaluating how land use developments contribute to climate change. While some established methodologies and mitigation measures for stationary source emissions exist, an accepted methodology for evaluating how land use projects may contribute to climate change via mobile source emissions does not.

Issues of GHG emissions and climate change are fundamentally different from other areas of air quality impact analyses, which are all linked to some region or area in which the impact is significant. In the case of toxic air contaminants, that area typically is a localized area. In the case of ozone precursors, that area is typically the air basin. In those contexts, where air quality is linked to a particular location or area, considering the creation of new emissions in that area to be an environmental impact is reasonable.

As demonstrated below, calculating the approximate GHG emissions from automotive vehicles that would result from buildout of the proposed project is possible; however, it should be noted that the emissions calculations have significant limitations. These calculations allow the user to estimate GHG emissions in pounds per day or tons of CO_2 per year for various land uses and projects. However, the GHG emissions calculations presented here only evaluate and model aggregate CO_2 emissions, they do not demonstrate, with respect to a global impact, how much of these aggregate emissions are in fact "new" emissions specifically attributable to the development resulting from approval of the proposed project.

The proposed project for the most part would not "create" GHG emissions. Instead, by adding residences to the area, the project would create conditions under which emissions would "move" from one area to another, as an existing driver moves from one area to the other. This fact is critically important, because the approval of the proposed project would not directly result in the creation of new drivers – the primary source of the proposed project's emissions. Thus, the use of models that measure overall emissions, without accounting for existing emissions, would overstate the proposed project's impact related to GHG emissions. Overstating the impacts of the proposed project on GHG emissions could lead to misallocation of resources in seeking solutions to GHG emissions and climate change problems. Instead, a more effective approach to resolving climate change issues would include imposing State or federal regulations on fuel formulation, vehicles, and the like, as California is attempting to do with the Low Carbon Fuel Standard.

Carbon Dioxide Emissions Estimate for the Proposed Project

The carbon dioxide emissions estimate for the proposed project analyzed the project's potential area source, vehicle emissions, and utility usage.

Utilizing the URBEMIS-2007 outputs used for the air quality analysis (See Appendix B), area source emissions (i.e., fireplaces, woodburning stoves, etc.) from the proposed project would result in a total of 312.46 tons of CO_2 a year. Following the area source emissions, the major source of GHG emissions generated from the proposed project would be vehicle source CO_2 emissions. Vehicle transportation is one of the major contributors to GHG emissions in Placer County.

Based on the URBEMIS-2007 information, the proposed project is estimated to generate approximately 1,254.56 tons of CO_2 per year from vehicle emissions. Approximately 61 percent of the project's total CO_2 emissions would be generated by vehicle emissions. By comparison, the CO_2 emissions of the State of California totaled approximately 494 million metric tons in 2006.[7] It should be noted that while the CO_2 emissions factor does assume certain reductions in vehicle emissions due to future vehicle models operating more efficiently, the factor does not take into account additional reductions in vehicle emissions that might take place in response to AB 1493, if mobile source emission reductions are ultimately implemented through legislation.

Additional GHG emissions would result from the energy used to create materials used for development of the proposed project. The proposed project is estimated to generate approximately 474.37 tons of CO_2 per year from utility usage based on PG&E carbon footprint factsheet.

In total, the proposed project would generate approximately 2,041.39 tons of CO_2 per year, as shown in Table 16-8. This figure represents approximately 0.0000038 percent of the State's estimated 494 million metric tons of CO_2 emissions in 2006.

Table 16-8 CO_2 Emissions Estimate for the Proposed Project	
Source	**CO_2 emissions (tons/yr)**
Area Source[1]	312.46
Vehicle Emissions[1]	1,254.56
Utility Usage[2]	474.37
Total	**2,041.39**

[1] Project's URBEMIS-2007 modeling results.
[2]Estimation based on PG&E carbon footprint factsheet.

Project Compliance with GHG Reduction Strategies

The California Environmental Protection Agency (CalEPA) Climate Action Team developed a report that proposes a path to help California achieve the required reductions of GHG emissions required under the Global Warming Solutions Act (AB 32). AB 32 requires the existing Climate Action Team to coordinate statewide efforts and makes the California Air Resources Board (CARB) responsible for monitoring and reducing GHG emissions and building on voluntary actions of California businesses, local government and community actions, and State incentive and regulatory programs. The State's GHG emissions reduction strategies focus on transportation reductions; electricity and natural gas reductions; forestry conservation, urban forestry, and other known options; and additional measures still to be determined to achieve the 2020 emissions level goal of 427 million metric tons of CO_2. The Climate Action Team's report indicates that the strategies would reduce California's emissions to the levels proposed in Executive Order S-3-05.

The increase in energy efficiency and programs designed to promote fuel conservation through the reduction in vehicle trips would reduce the project's incremental contribution to GHG emissions and global climate change in a manner that is consistent with the strategies to reduce California's emissions to the level proposed in Executive Order S-3-05.

The project is consistent with the PCGP/GBCP land use designation for the project site, which has been established for nearly 20 years. As a new development project in the State of California, the proposed project would be required to adhere to the building energy efficiency standards presented in the California Building Standards Code (Title 24), which will reduce the energy consumption footprint of the proposed project. California's energy efficiency standards are periodically updated to incorporate new energy efficient technologies and methods.

As described in Chapter 3, Project Description, of this EIR, the proposed project would include additional measures aimed at reducing the potential for CO_2 emissions through project design details. The proposed project would include the following:

1. All homes within the proposed subdivision will utilize AC units that are two points above the Seasonal Energy Efficient Ratio (SEER) energy efficiency rating in effect at the time of the approval of the Tentative Subdivision Map. Any plans submitted to the Building Division must clearly show that this condition is being met.

2. All homes within the subdivision will include "whole house fans." Any plans submitted to the Building Division must clearly show that this condition is being met.

3. All homes within the subdivision will include, at the builder's discretion, one of the following: a) a "tankless" water heater, or b) upgraded insulation in all walls and ceilings to exceed the Title 24 requirements in place at the time of building permit issuance. Any plans submitted to the Building Division must clearly show that this condition is being met.

The incorporation of energy efficient designs will reduce the project's electricity and natural gas usage and result in a reduction of CO_2 emissions.

Conclusion

Estimates of GHG emissions from individual projects have a relatively high uncertainty. In addition, the potential effects of current and future regulations on CO_2 emissions attributable to the project and cumulative CO_2 emissions from other sources in the State cannot be quantified. Furthermore, the way in which CO_2 emissions associated with the project might or might not influence actual physical effects of global climate change cannot be determined. For these reasons, whether the project would generate a substantial increase in GHG emissions relative to existing conditions, and whether emissions from the project would make a cumulatively considerable incremental contribution to the cumulative impact of global climate change is uncertain and inherently speculative.
Therefore, in light of the proposed project's inclusion of GHG reduction strategies and the speculative nature of determining "new" GHG emissions from the project on a global scale, the proposed project is considered to have a ***less-than-significant*** incremental contribution to the cumulative production of GHG emissions, resulting in the cumulative impact of global climate change.

Mitigation Measure(s)
None required.

Noise

16-8 Cumulative increase in project vicinity noise levels.

The cumulative noise context for the proposed project would consist of the existing and future noise sources that could impact the noise environment of the project site.

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed project and other projects within the Granite Bay area.

The cumulative traffic noise levels, both with and without the proposed project, are summarized in Table 16-9. As shown in Table 16-9, project-related traffic would increase Cumulative (2025) No Project levels by an approximate maximum of 1.1 dB Ldn along any single roadway segment. As mentioned in the Noise chapter (Chapter 10) of the DEIR regarding human susceptibility to sound, a change of one dB cannot be perceived in a carefully controlled laboratory. In addition, a three dB change is considered a barely perceivable difference outside of the laboratory. A change in level of at least five dB is required before any noticeable change in human response would be expected. Therefore, the project's incremental contribution to cumulative noise levels would not be perceptible.

All associated cumulative noise increases along the study area roadways are considered small incremental increases to the existing and future noise environment. Consequently, the total noise increase of the proposed project would be below the normally perceptible range and below the County threshold of significance, and would not be considered to have a cumulatively considerable incremental contribution to the surrounding noise environment. Therefore, the proposed project would result in a ***less-than-significant*** cumulative noise impact.

Mitigation Measure(s)
None required.

Soils, Geology, and Seismicity

16-9 Long-term geologic and seismic impacts from the proposed project in combination with existing and future developments in the Granite Bay area.

However, potentially adverse environmental effects associated with geologic or soils constraints, topographic alteration, and erosion, are site-specific and generally would not combine with similar effects that could occur with other projects in Placer County. All projects would be required to comply with the California Building Code, and other applicable safety regulations. Consequently, the proposed project would generally not be affected by, nor would the project affect, other development approved by Placer County. The incremental contribution of the proposed project to cumulative geologic impacts would not be cumulatively considerable; therefore, the impact would be considered ***less-than-significant***.

Mitigation Measure(s)
None required.

Table 16-9
Noise Levels – Cumulative (2025) with and without Proposed Project

Roadway	Segment	Noise Levels (Ldn, dB) 100 feet from Centerline[1]			Distance to Traffic Noise Contour (feet)[1]		
		Cumulative (dB)	Cumulative + Project (db)	Change (dB)	70 dB Ldn	65 dB Ldn	60 dB Ldn
Olive Ranch Road	Cavitt-Stallman to Ramsgate	**54.7**	**55.3**	**0.6**	**10**	**23**	**49**
Olive Ranch Road	Ramsgate to Barton	**54.5**	**55.1**	**0.6**	**10**	**22**	**47**
Douglas Boulevard	West of Sierra College	**70.0**	**70.0**	**0.0**	**100**	**216**	**465**
Douglas Boulevard	Sierra College to Cavitt-Stallman	**71.8**	**71.8**	**0.0**	**132**	**285**	**314**
Douglas Boulevard	Cavitt-Stallman to Seeno	**71.1**	**71.1**	**0.0**	**119**	**256**	**552**
Douglas Boulevard	Seeno to Kingsgate	**71.1**	**71.1**	**0.0**	**118**	**255**	**550**
Douglas Boulevard	Kingsgate to Barton	**70.7**	**70.7**	**0.0**	**111**	**239**	**515**
Douglas Boulevard	East of Barton	**69.5**	**69.6**	**0.1**	**93**	**201**	**434**
Sierra College Boulevard	North of Cavitt-Stallman	**69.6**	**69.6**	**0.0**	**94**	**203**	**438**
Sierra College Boulevard	Cavitt-Stallman to Douglas	**68.5**	**68.5**	**0.0**	**79**	**171**	**367**
Cavitt-Stallman Road	North of Olive Ranch	**55.6**	**55.6**	**0.0**	**11**	**24**	**51**
Cavitt-Stallman Road	South of Olive Ranch	**58.0**	**58.4**	**0.4**	**17**	**36**	**78**
Cavitt-Stallman Road	North of Douglas	**59.3**	**59.4**	**0.1**	**20**	**43**	**92**
Cavitt-Stallman Road	South of Douglas	**57.9**	**57.9**	**0.0**	**16**	**33**	**72**
Ramsgate Drive	South of Olive Ranch Road	**45.2**	**46.3**	**1.1**	**3**	**6**	**12**
Seeno Avenue	North of Douglas	**49.8**	**50.1**	**0.3**	**5**	**10**	**22**
Kingsgate Drive	North of Douglas	**48.5**	**49.0**	**0.5**	**4**	**9**	**19**
Barton Road	North of Olive Ranch Road	**60.5**	**60.5**	**0.0**	**23**	**50**	**108**
Barton Road	Olive Ranch Road to Douglas	**59.6**	**59.7**	**0.1**	**21**	**45**	**96**
Barton Road	South of Douglas	**61.4**	**61.4**	**0.0**	**27**	**58**	**125**

[1] Traffic noise levels do not account for shielding from existing noise barriers or intervening structures. Traffic noise levels may vary depending on actual setback distances and localized shielding.

Source: j.c. brennan & associates, Inc., Rancho Del Oro Environmental Noise Assessment, 2009.

Hydrology and Water Quality

16-10 Long-term increases in peak stormwater runoff flow and flooding related to the proposed project and in combination with existing and future developments in Placer County.

Construction of the proposed project would increase the amount of impervious surfaces in the project area by approximately 25 percent. Increases in impervious areas would occur throughout the project site, which is situated among rural, single-family residential areas of Granite Bay. The increase in impervious surfaces could potentially result in an increase to the rate and volume of surface water runoff from the project area during storm events, which could incrementally contribute to off-site water volumes and to stormwater conveyance systems. A preliminary drainage report was prepared for the proposed project, which included an analysis of all existing plus project conditions (See Appendix P). As the surrounding off-site drainages that direct surface runoff onto the project site are already built out, the preliminary drainage report included all on- and off-site surface flow calculations. The proposed project includes plans for an on-site detention basin that was designed to account for both on- and off-site drainage volumes and areas that direct flows into one of the three primary on-site swales (See Appendix P for details). Mitigation measures included in Chapter 12, Hydrology and Water Quality, of the Draft EIR, would ensure that the proposed project would not create or adversely contribute to either short-term or long-term water quality impacts. Included as Mitigation Measure 12-1(a), a final drainage and grading report shall be prepared for the proposed project and be in conformance with the requirements included within the Placer County Storm Water Management Manual and Section 5 of the Land Development Manual. Grading permits may only be issued after the County's Engineering and Surveying Department reviews and subsequently approves the final drainage and grading report.

The property proposed for development is within the Dry Greek Watershed Flood Control Plan area (this property is on the Miners Ravine portion of· the Dry Creek watershed). Flooding along Dry Creek and its tributaries is well documented. Cumulative downstream impacts were studied in the Dry Creek Watershed Flood Control Plan in order to plan for flood control projects and set flood control policies. Mitigation measures for development in this area include flood control development fees to fund regional detention basins to reduce flooding on major streams in the Dry Creek watershed. If fees are not collected on a project by project basis to fund regional detention facilities, these types of capital improvements may not be realized and flooding impacts to properties within the Dry Creek Watershed area will persist. These cumulative flooding impacts are considered ***potentially significant***.

Mitigation Measure(s)
Implementation of the following mitigation measures would reduce the above impact to a *less-than-significant* level.

16-10(a) *The project shall be subject to the one-time payment of drainage improvement and flood control fees pursuant to the "Dry Creek Watershed*

Interim Drainage Improvement Ordinance" (Ref. Chapter 15, Article 15.32, Placer County Code). The current estimated development fee is $224 per single family residence, payable to the Engineering and Surveying Department prior to each building permit issuance. The actual fee shall be that in effect at the time payment occurs.

16-10(b) *The project shall be subject to payment of annual drainage improvement and flood control fees pursuant to the "Dry Creek Watershed Interim Drainage Improvement Ordinance" (Ref. Chapter 15, Article 15.32, Placer County Code). Prior to building permit issuance, the applicant shall cause the subject property to become a participant in the existing Dry Creek Watershed County Service Area for purposes of collecting these annual assessments. The current estimated annual fee is $35 per single family residence.*

Public Services and Utilities

16-11 Increase in demand for additional public services and utilities as a result of the proposed project and other projects proposed in the Granite Bay area.

The proposed project would increase the demand for public services and utilities. Placer County has adopted development fees consistent with State law in order to facilitate the provision of public services for projects consistent with the buildout of the PCGP. In addition, the Placer County has a 5-Year Capital Improvement Program that includes key infrastructure improvements needed to ensure adequate public services and utilities are available in Placer County. Chapter 13 of the Draft EIR requires the payment of development fees and consultation with applicable service providers, when appropriate, to facilitate the provision of public services commensurate with new development. The project would be consistent with the GBCP sewer policy that requires the Wastewater Treatment Plant to demonstrate adequate capacity exists at the wastewater treatment facility for annual use.

The RMC Technical Memorandum Trunk Sewer Hydraulic Analysis (TM 3b) dated October 31, 2006 of the June 2007 South Placer Regional Wastewater and Recycled Water Systems Evaluation (Systems Evaluation) has identified downstream pipe capacity deficiencies that result from the buildout peak wet weather flow scenario in portions of the trunk sewer.

The surcharging is caused by the proposed SMD-3 UGA and approximately 2,700 acres of future development in Placer County and SPMUD within the SPWA 2005 Service Area Boundary that is loaded into the trunk sewer model upstream of the surcharging trunk sewer. Pipe reaches in the trunk sewer experience surcharging due to hydraulic deficiencies for the build out peak wet weather flow (PWWF) scenario. For the buildout growth scenario (including SMD-3 UGA and approximately 2,700 acres of future development in Placer County and SPMUD) a replacement sewer is needed to resolve

hydraulic capacity deficiencies identified in the study. Relief sewers would be considered as the potential capital project to eliminate surcharging under PWWF conditions.

The costs of capital improvement projects are to be borne by the upstream users. The proposed Rancho Del Oro Estates project is an upstream user to pipe reaches in the trunk sewer that experience surcharging in build out conditions. These cumulative impacts to the wastewater conveyance are considered ***potentially significant***.

Mitigation Measure(s)
Implementation of the following mitigation measure would reduce the above impact to a *less-than-significant* level.

16-11 *The applicant shall pay their fair share fee per EDU, prior to Improvement Plan approval, toward the cost of the future improvement projects (including design and construction management along with actual construction costs) as identified in the RMC Technical Memorandum Trunk Sewer Hydraulic Analysis (TM 3b) dated October 31, 2006 of the June 2007 South Placer Regional Wastewater and Recycled Water Systems Evaluation (Systems Evaluation). The Environmental Engineering Division will use this money to reduce surcharging within the trunk sewer by replacement, and/or rehabilitation of existing sewer infrastructure. The applicant is notified that the fair share fee per EDU to be approved by the Environmental Engineering Division will be contributed to the cost to construct the recommended improvement projects and such fee will be required prior to Improvement Plan approval.*

Hazardous Materials and Hazards

16-12 Long-term hazards-related impacts from the proposed project in combination with existing and future developments in the Granite Bay area.

The proposed project would result in the construction of residential units and is not anticipated to generate hazardous materials. Surrounding land uses are primarily residential, which typically does not include the routine transport, use, or disposal of hazardous materials. The proposed project site would not cumulatively contribute to long-term hazards in the Granite Bay area. Therefore, implementation of the proposed project would have a ***less-than-significant*** impact associated with cumulative hazardous materials.

Mitigation Measure(s)
None required.

16.2 Significant Irreversible Environmental Changes

CEQA Guidelines Section 15126.2(c) requires that this EIR consider significant irreversible environmental changes that would be caused by the proposed project, should it be implemented. An impact would be determined to be a significant and irreversible change in the environment if:

- Buildout of the project area could involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of development could generally commit future generations to similar uses (e.g., a highway provides access to a previously remote area);
- Development of the proposed project could involve uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing and eventual development of the project could result in an unjustified consumption of resources (e.g., the wasteful use of energy).

The development of the proposed project would likely result in or contribute to the conversion of existing undeveloped land to suburban land uses, thus precluding alternative land uses in the future. The proposed project, which is primarily surrounded by existing or approved residential development, is a project that includes the development of 89 residential single-family lots and nine common area lots, on a total of 119.4 acres. Buildout of the residential units would be irreversible and it would not be feasible to return the site to pre-developed conditions.

The proposed project would likely result in irreversible consumption of goods and services, and energy and natural resources associated with the future residents generated from the development of the 89 residential units. Based on the PCGP standard of 2.5 persons per household, the development of the proposed project could result in an estimated increase in the population of the community of Granite Bay of approximately 223 residents (2.5 x 89 du = 223). These residents would permanently consume additional resources upon implementation of the proposed project.

The development of the project results in irreversible environmental changes to the conversion of undeveloped land, irreversible consumption of goods and services, and the irreversible consumption of energy and natural resources. These irreversible impacts are unavoidable consequences of urban growth.

16.3 Significant Environmental Effects Which Cannot be Avoided

According to the CEQA Guidelines Section 15126.2(b), a Draft EIR must include a description of those impacts identified as significant and unavoidable, should the proposed action be implemented. When the determination is made that either mitigation is not feasible or only partial mitigation is feasible, such that the impact is not reduced to a less-than-significant level, such impacts would be considered significant and unavoidable. This section identifies significant impacts that could not be eliminated or reduced to a less-than-significant level by mitigation

measures imposed by the County. The final determination of the significance of impacts and the feasibility of mitigation measures would be made by the County Board of Supervisors as part of the County's certification action.

The significant and unavoidable impacts of the Rancho Del Oro Estates project are listed below.

Biological Resources

The discussion of Biological Resources cumulative impacts, as previously discussed in this chapter (See Impact 16-2) identified the following as a significant and unavoidable impact:

- Cumulative loss of biological resources in Placer County and the effects of ongoing urbanization in the region.

Increased development and population would occur due to the proposed project. The resulting increase in the human population and associated development would convert wildlife habitat and reduce the quality of the remaining habitat. Development of the proposed project would result in a substantial change in habitat types on-site. Despite implementation of mitigation for impacts to special-status plant species, special-status wildlife species, and oak woodlands, the project would still create a net decrease in open space, grasslands, and oak woodlands, and an increase in developed area. Therefore, the cumulative impact of the project on biological resources is considered significant and unavoidable.

16.4 GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT

An EIR must discuss the ways in which a proposed project could foster economic or population growth in the vicinity of the project and how that growth would, in turn, affect the surrounding environment (CEQA Guidelines Section 15126.2[d]). Growth can be induced in a number of ways, including through the elimination of obstacles to growth, or through the stimulation of economic activity within the region. The discussion of the removal of obstacles to growth relates directly to the removal of infrastructure limitations or regulatory constraints that could result in growth unforeseen at the time of project approval.

A number of issues must be considered when assessing the growth-inducing effects of development plans, such as the proposed project. These issues include the following:

Elimination of Obstacles to Growth: The extent to which infrastructure capacity provided to accommodate the proposed project would allow additional development in surrounding areas; and

Economic Effects: The extent to which development of the proposed project would cause increased activity in the local or regional economy.

Growth-inducing impacts associated with the Rancho Del Oro Estates project would be considered to be any effects of the project allowing for additional growth or increases in

population beyond that proposed by the project or anticipated in the Placer County General Plan (PCGP).

The elimination of either physical or regulatory obstacles to growth is considered to be a growth-inducing effect. A physical obstacle to growth typically involves the lack of public service infrastructure. The extension of public service infrastructure, including roadways, water mains, and sewer lines, into areas that are not currently provided with these services, would be expected to support new development. Similarly, the elimination or change to a regulatory obstacle, including existing growth and development policies, could result in new growth.

As of January 1, 2009, the State Department of Finance's estimated population for Placer County was 339,577. The project site is currently designated Rural-Low Density Residential (RLDR) in the PCGP and the GBCP. Pursuant to the existing PCGP and GBCP land use designation for the project site, 10 more units could be built on site than the number of units that are included in the proposed project. Because the proposed project includes 10 fewer lots than would be allowable under the existing land use designation, the project is expected to add 25 fewer residents to the Granite Bay area than anticipated in the PCGP and GBCP.

Buildout of the residential uses would directly contribute to the growth and population of Granite Bay and Placer County, the physical impacts of which are evaluated throughout Chapters 4 through 14 of the EIR. However, buildout of the proposed project would not contribute to indirect growth-inducing effects, because the project would not include the construction of any infrastructure that would serve off-site areas that are currently undeveloped but may be developed in the future. In addition, the project's infrastructure would be sized to accommodate only the demands associated with the project (i.e., sewer, water, drainage). As a result, the project would not result in significant growth-inducing impacts.

Endnotes

[1] Personal communication with Yu-Shuo Chang, Air Quality Planner, Placer County Air Pollution Control District, February 8, 2008.

[2] Association of Environmental Professionals, *Alternative Approaches to Analyzing Greenhouse Gas Emissions and Global Climate Change in CEQA Documents*, June 29, 2007.

[3] Meehl, G.A., T.F. Stocker, W.D. Collins, P. Friedlingstein, A.T. Gaye, J.M. Gregory, A. Kitoh, R. Knutti, J.M. Murphy, A. Noda, S.C.B. Raper, I.G. Watterson, A.J. Weaver and Z.-C. Zhao, 2007: Global Climate Projections. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

[4] California Climate Change Center, *Our Changing Climate: Assessing the Risks to California*, 2006.

[5] California Climate Action Team, *Climate Action Team Report*, March 2006.

[6] Ibid.

[7] California Environmental Protection Agency, "*Greenhouse Gas Emissions Inventory Summary: 2000 – 2006*," http://www.arb.ca.gov/app/ghg/2000_2006/ghg_sector_data.php, Accessed July 1, 2009.