

## 7.0 LONG TERM IMPLICATIONS OF THE PROJECT

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This section discusses additional topics statutorily required by CEQA for inclusion in EIRs. The topics discussed include: growth-inducing impacts; global climate change; significant irreversible environmental effects; and significant and unavoidable environmental impacts.

### 7.1 GROWTH INDUCING IMPACTS

#### INTRODUCTION

The California Environmental Quality Act (CEQA) Guidelines Section 15126.2(d) requires that an Environmental Impact Report (EIR) evaluate the growth-inducing impacts of a proposed action. A growth-inducing impact is defined by the CEQA Guidelines as:

*The way in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth...It is not assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.*

A project can have the potential to induce direct and/or indirect growth. Direct growth inducement would result if a project, for example, involved construction of new housing. A project would have indirect growth inducement potential if it established substantial new permanent employment opportunities (e.g., commercial, industrial or governmental enterprises), or if it would involve a construction effort with substantial short-term employment opportunities that would indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service. A project providing an increased water supply in an area where water service historically limited growth could also be considered growth inducing.

The CEQA Guidelines further explain that the environmental effects of induced growth are considered indirect impacts of the proposed action. These indirect impacts or secondary effects of growth may result in significant, adverse environmental impacts. Potential secondary effects of growth include increased demand on other community and public services and infrastructure, increased traffic and noise, and adverse environmental impacts such as degradation of air and water quality, degradation or loss of plant and animal habitat, and conversion of agricultural and open space land to developed uses.

Growth inducement may constitute an adverse impact if the growth is not consistent with or accommodated by the land use plans and growth management plans and policies for the area affected. Local land use plans provide for land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, and solid waste service. A project that would induce "disorderly" growth (conflict with the local land use plans) could indirectly cause additional adverse environmental impacts and other public service impacts. Thus, to assess whether a growth-inducing project would result in adverse secondary effects, it is important to assess the degree to which the growth accommodated by a project would or would not be consistent with applicable land use plans.

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### COMPONENTS OF GROWTH

The timing, magnitude, and location of land development and population growth in a community or region are based on various interrelated land use and economic variables. Key variables include regional economic trends, market demand for residential and non-residential uses, land availability and cost, the availability and quality of transportation facilities and public services, proximity to employment centers, the supply and cost of housing, and regulatory policies or conditions. Since the general plan of a community defines the location, type and intensity of growth, it is the primary means of regulating development and growth in California.

### GROWTH INDUCEMENT POTENTIAL

As described in Section 3.0, Project Description, the Vineyards at Anderson Specific Plan project is a residential, commercial, public facilities, parkland/open space development with an approximate total of 2,248 acres (not including Phase 1). The Vineyards at Anderson project is anticipated to generate 5,288 residential units at various densities, four public parks, nine private recreation areas, approximately 26 miles of pedestrian trails, two schools, a community center, a fire station, a mixed use Village Center, and approximately 240,000 square feet of commercial development. The development of the project is not expected to indirectly induce growth in areas not currently planned for growth.

Surrounding land uses are predominantly grazing or range land, with some large-lot residential properties to the south. The City of Anderson borders the property to the north, and the area to the south and east is within Shasta County. To the east of the project is the Anderson Marketplace project, a large commercial development including a Wal-Mart Supercenter. The area between the eastern boundary of the project and Rhonda Road south of Anderson Marketplace will remain within Shasta County and outside of the project boundaries, although the project will develop a road from Rhonda Road (i.e., Anderson Hills Parkway) to provide access. To the south are large-lot residential/grazing land parcels within Shasta County. These parcels are located within the Cottonwood Area Plan. On the west side of the project are increasingly steep sloped, large parcels zoned by Shasta County for agriculture and grazing.

Project build-out would result in the addition of approximately 14,040 new residents (based on the 2007 average household size in the City of Anderson at 2.655 persons per household). Implementation of the proposed project also would include the extension and expansion of infrastructure facilities (such as water and wastewater), as well as the expansion of public services and roadways into a currently undeveloped site. Development of the project would result in the alteration of the site from vacant and grazing land uses to urban uses.

While the anticipated roadway circulation does not currently provide for the extension of roadway facilities into the surrounding area, it does not limit these roadways to the project site and, therefore, provides for the possibility of an extension into the surrounding area. Extension of the roadways opens up areas that are currently inaccessible. This may increase the opportunities of future development of these areas into urban uses.

### GROWTH EFFECTS OF THE PROJECT

According to the City of Anderson General Plan Land Use Element, the City proposes to add 2,000 acres southwest of the City to its sphere of influence, which may then be annexed to the City. This area is proposed to be a special planning area, which will develop according to an approved Specific Plan. This special planning area incorporates the proposed 2,442.2-acre

Vineyards at Anderson Specific Plan area, of which approximately 525 acres are located within the City of Anderson and the remaining 1,917± acres are located within unincorporated Shasta County. As proposed by the project, these unincorporated lands would be annexed to the City. The project would not directly support or stimulate growth in an area that is not already planned for growth in the City of Anderson General Plan. As identified in the City's General Plan, this area is designated for future and anticipated growth. This EIR provides an evaluation of environmental effects of that growth.

The project would, however, contribute to growth inducement for property surrounding the City of Anderson. Approval of this project could induce growth effects to nearby properties by increasing their values through residential development and place pressure on nearby property owners to sell their land. To the south are large-lot residential/grazing land parcels within Shasta County. These parcels are located within the Cottonwood Area Plan.

Growth inducement as a result of the project is also discussed within the context of cumulative impacts in Section 4.2, Population and Housing.

The City of Anderson General Plan Land Use Element does designate land areas (in addition to the project site) outside of the City for future development. Environmental effects of growth on adjacent properties would be similar to the proposed project, which includes impacts associated with transportation and circulation, noise, air quality, hydrology and water quality, hazards and hazardous waste, community services, utilities and service systems, cultural resources, biological resources, land use, and visual resources.

Implementation of the proposed Vineyards and Anderson project will increase population in the City of Anderson by 133 percent over existing conditions. This increase, estimated at 14,040 persons, will consume substantial amounts of energy (electricity, gasoline, and natural gas), which, in and of itself, diminishes natural resources. (See Section 4.12, Utilities and Service Systems for a discussion of the project's anticipated energy demand.) Additionally, the project would increase the amount of greenhouse gases (GHG) into the atmosphere and incrementally intensify global climate change.

### 7.2 GLOBAL CLIMATE CHANGE

To fully understand global climate change, it is important to recognize the naturally occurring "greenhouse effect" and to define the greenhouse gases that contribute to this phenomenon. The temperature on Earth is regulated by this "greenhouse effect," which is so named because the Earth's atmosphere acts like a greenhouse, warming the planet in much the same way that an ordinary greenhouse warms the air inside its glass walls. Like glass, the gases in the atmosphere let in light yet prevent heat from escaping.

Greenhouse gases are naturally occurring gases such as water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) that absorb heat radiated from the Earth's surface. Greenhouse gases are transparent to certain wavelengths of the Sun's radiant energy, allowing this energy to penetrate deep into the atmosphere or all the way to Earth's surface (NASA). Clouds, ice caps, and particles in the air reflect about 30 percent of this radiation, but oceans and land masses absorb the rest before releasing it back toward space as infrared radiation. The greenhouse gases and clouds effectively prevent some of the infrared radiation from escaping; they trap the heat near Earth's surface where it warms the lower atmosphere. If this natural barrier of atmospheric gases were not present, the heat would escape into space, and Earth's average global temperatures could be as much as 61 degrees Fahrenheit (°F) cooler (NASA).

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In addition to natural sources, human activities are exerting a major and growing influence on climate by changing the composition of the atmosphere and by modifying the land surface. Particularly, the increased consumption of fossil fuels (natural gas, coal, gasoline, etc.) has substantially increased atmospheric levels of greenhouse gases. Measured atmospheric levels of certain greenhouse gases such as carbon dioxide, methane, and nitrous oxide have risen substantially in recent decades (Miller). This increase in atmospheric levels of greenhouse gases unnaturally enhances the "greenhouse effect" by trapping more infrared radiation as it rebounds from the Earth's surface and thus trapping more heat near the Earth's surface.

According to the U.S. Environmental Protection Agency (EPA), the Earth's average surface temperature has increased by about 1.2 to 1.4°F since 1900. The warmest global average temperatures on record have all occurred within the past 15 years, with the warmest two years being 1998 and 2005. Eleven of the last 12 years rank among the hottest years on record since 1850, when sufficient worldwide temperature measurements began (IPCC). Most of the warming in recent decades is likely the result of human activities. Other aspects of the climate are also changing such as rainfall patterns, snow and ice cover, and sea level.

The primary concern is to meaningfully slow the rate and the adverse impacts of global climate change. Analysis of ice core samples obtained from the Arctic Circle reveals that at the beginning of the industrial revolution (late 1700's) the atmospheric concentration of CO<sub>2</sub> was about 280 parts per million (Miller). The concentration of CO<sub>2</sub> in the atmosphere reached 379.1 parts per million in 2005, more than 35 percent higher than in the late 1700's. Fossil fuel combustion accounted for 98 percent of gross California CO<sub>2</sub> emissions, or 360 million metric tons of CO<sub>2</sub> in 2002, or seven percent of the U.S. emissions from this source (Caltrans, pg. 4). In the U.S., energy-related activities account for three-quarters of human-generated greenhouse gas emissions, mostly in the form of carbon dioxide emissions from burning fossil fuels (EPA). More than half the energy-related emissions come from large stationary sources such as power plants, while about a third comes from transportation. Industrial processes (such as the production of cement, steel, and aluminum), agriculture, forestry, other land uses, and waste management are also important sources of greenhouse gas emissions in the United States (EPA).

### IMPACTS OF GLOBAL CLIMATE CHANGE

Recognizing the problem of global climate change, the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) established the Intergovernmental Panel on Climate Change (IPCC) in 1988. It is open to all members of the United Nations and WMO. The role of the IPCC is to assess on a comprehensive, objective, open and transparent basis the scientific, technical and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts and options for adaptation and mitigation. Based on some climate models, the IPCC projects that the Earth's average surface temperature should rise 1.8 - 6.3 °F before the year 2100. If the atmospheric concentration of CO<sub>2</sub> doubles from its late 1700's level of 280 parts per million to 560 parts per million, the most likely rise in temperature would be about 3.6 °F. This may not seem like a significant increase, yet even at the lowest projected increase of 1.8 °F, the Earth would be warmer than it has been for 10,000 years (Miller).

As previously stated, eleven of the last 12 years rank among the hottest years on record. The IPCC Fourth Assessment Report's Working Group I Summary for Policymakers (Report) synthesizes current scientific understanding of global climate change and projects future climate change using the most comprehensive set of well-established global climate models. The Report incorporates findings of the current effects of global climate change. These findings include:

- The intensity of tropical cyclones (hurricanes) in the North Atlantic has increased over the past 30 years, which correlates with increases in tropical sea surface temperatures.
- Droughts have become longer and more intense, and have affected larger areas since the 1970s, especially in the tropics and subtropics.
- Since 1900 the Northern Hemisphere has lost seven percent of the maximum area covered by seasonally frozen ground.
- Mountain glaciers and snow cover have declined worldwide.
- Satellite data since 1978 show that the extent of Arctic sea ice during the summer has shrunk by more than 20 percent.
- Since 1961, the world's oceans have been absorbing more than 80 percent of the heat added to the climate, causing ocean water to expand and contributing to rising sea levels. Between 1993 and 2003 ocean expansion was the largest contributor to sea-level rise.
- Melting glaciers and losses from the Greenland and Antarctic ice sheets have also contributed to recent sea-level rise.

An enhanced greenhouse effect will generate new patterns of microclimate and will have significant impacts on the economy, environment, and transportation infrastructure and operations due to increased temperatures, intensity of storms, sea level rise, and changes in precipitation. Impacts may include: flooding of tunnels, coastal highways, runways, and railways; buckling of highways and railroad tracks; submersion of dock facilities; and a shift in agriculture to areas that are now cooler. Such prospects will have strategic security as well as transportation implications.

Climate change affects public health and the environment such as increased smog and emissions, respiratory disease, reduction in the State's water supply, extensive coastal damage, and changes in vegetation and crop patterns. The impacts of climate change are broad ranging and interact with other market failures and economic dynamics, giving rise to many complex policy problems. If global greenhouse gas emissions continue rising on their current trajectory, the costs of climate change could eventually total 5-20 percent of the annual global gross domestic product (GDP) (Caltrans, pg. 4). The findings are the latest in a string of reports warning that the rate of carbon dioxide accumulating in the atmosphere is increasing at an alarming pace.

Many experts assert that the emission reduction actions taken over the next decade will determine whether the world can meaningfully slow the adverse impacts of climate change. Coordination and collaboration between state agencies, the federal government, the private sector, and the international community regarding their efforts to reduce greenhouse gas emissions will all influence the future of climate change right here in California.

### ADDRESSING GLOBAL CLIMATE CHANGE

#### **International and National Efforts**

International and Federal legislation have been enacted to deal with climate change issues. The Montreal Protocol was originally signed in 1987 and substantially amended in 1990 and 1992. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change (IPCC) to assess the scientific, technical and

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socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus around the evidence that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable (CAPCOA 2008).

In October 1993, President Clinton announced his Climate Change Action Plan, which had a goal to return greenhouse gas emissions to 1990 levels by the year 2000. This was to be accomplished through 50 initiatives that relied on innovative voluntary partnerships between the private sector and government aimed at producing cost-effective reductions in greenhouse gas emissions. On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC). Under the Convention, governments agreed to gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change. These efforts have been largely policy oriented. In addition to the national and international efforts described above, many local jurisdictions have adopted climate change policies and programs. However, thus far little has been done to assess the significance of the affects new development projects may have on climate change (CAPCOA 2008).

### **State of California**

The State of California has been studying the impacts of climate change since 1988, when AB 4420 was approved. This legislation directed the California Energy Commission (CEC), in consultation with the Air Resources Board and other agencies, to study the implications of global warming on California's environment, economy, and water supply. The CEC was also directed to prepare and maintain the state's inventory of GHG emissions. That bill directed the California Air Resources Board (CARB) to adopt regulations to achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles. CARB staff's proposal implementing these regulations was approved by the Air Resources Board in September, 2004. With implementation, the average reduction of greenhouse gases from new California cars and light trucks will be about 22 percent in 2012 and about 30 percent in 2016, compared to today's vehicles (CARB 2006).

### **Senate Bill 1771**

Senate Bill 1771, chaptered in September of 2000, specified the creation of the non-profit organization, the California Climate Action Registry. The Registry helps various California entities' to establish GHG emissions baselines. Also, the Registry enables participating entities to voluntarily record their annual GHG emissions inventories.

### **Executive Order S-3-05**

On June 1, 2005, Governor Schwarzenegger issued Executive Order S-3-05. It included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate with the Secretary of the Business, Transportation and Housing Agency, Secretary of the Department of Food and Agriculture, Secretary of the Resources Agency, Chairperson of the CARB, Chairperson of the CEC and

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President of the Public Utilities Commission on development of a Climate Action Plan. The Secretary of CalEPA leads a Climate Action Team (CAT) made up of representatives from the agencies listed above to implement global warming emission reduction programs identified in the Climate Action Plan and report on the progress made toward meeting the statewide greenhouse gas targets that were established in the Executive Order (CAPCOA 2008).

### California Global Warming Solutions Act of 2006 (AB 32)

In 2006, the California State Legislature adopted the California Global Warming Solutions Act of 2006. AB 32 established a cap on statewide greenhouse gas emissions and set forth the regulatory framework to achieve the corresponding reduction in statewide emissions levels. AB 32 charges the CARB, the state agency charged with regulating statewide air quality, with implementation of the act. The regulatory steps laid out in AB 32 require CARB to: adopt early action measures to reduce GHG; establish a statewide greenhouse gas emissions cap for 2020 based on 1990 emissions; adopt mandatory reporting rules for significant source of greenhouse gases; adopt a scoping plan indicating how emission reductions will be achieved via regulations, market mechanisms and other actions; and adopt the regulations needed to achieve the maximum technologically feasible and cost-effective reductions in greenhouse gases. In addition, AB 32 requires that by January 1, 2008, the State Board shall determine what the statewide greenhouse gas emissions inventory was in 1990, and approve a statewide greenhouse gas emissions limit that is equivalent to that level, to be achieved by 2020. While the level of 1990 GHG emissions has not yet been approved, CARB's most recent emission inventory indicates that California had annual emissions of 436 million metric tons of carbon dioxide equivalent (MMT CO<sub>2</sub>e) in 1990 and 497 MMT CO<sub>2</sub>e in 2004 (CAPCOA 2008).

The regulatory timeline laid out in AB 32 requires that by July 1, 2007, CARB adopt a list of discrete early action measures, or regulations, to be adopted and implemented by January 1, 2010. These actions will form part of the State's comprehensive plan for achieving greenhouse gas emission reductions. In June 2007, CARB adopted three discrete early action measures. These three new proposed regulations meet the definition of "discrete early action greenhouse gas reduction measures," which include the following: a low carbon fuel standard; reduction of HFC-134a emissions from non-professional servicing of motor vehicle air conditioning systems; and improved landfill methane capture. CARB estimates that by 2020, the reductions from those three discrete early action measures would be approximately 13 to 26 MMT CO<sub>2</sub>e. CARB evaluated over 100 possible measures identified by the CAT for inclusion in the list of discrete early action measures. On October 25, 2007 CARB gave final approval to the list of Early Action Measures, which includes nine discrete measures and 35 additional measures, all of which are to be enforceable by January 1, 2010. AB 32 requires that by January 1, 2009, CARB adopt a scoping plan indicating how emission reductions will be achieved via regulations, market mechanisms and other actions (CAPCOA 2008).

### Senate Bill 97

Senate Bill 97, signed in August 2007, acknowledges that climate change is an important environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, by July 1, 2009. The Resources Agency is required to certify or adopt those guidelines by January 1, 2010. This bill also protects projects funded by the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1B or 1E) from claims of inadequate analysis of GHG as a legitimate cause of action.

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This latter provision will be repealed on January 1, 2010. Thus, this “protection” is highly limited to a handful of projects and for a short time period (CAPCOA 2008).

### GLOBAL CLIMATE CHANGE AND THE VINEYARDS AT ANDERSON

While scientific advances have been made in the past few years regarding the assessment of future climate change and global warming, projections of future climate change are still highly speculative and dependent on assumptions and generalizations that are most often applied at a global or national level. At the present time, there are currently no criteria or thresholds established under federal, state or local laws for the evaluation of increases in GHG emissions associated with individual development projects. It is also important to note that, in order to accurately assess GHG emissions attributable to an individual project when assessed in a global context, it would be necessary to differentiate between increased emissions created by a proposed project verses relocated emissions that can often occur due to shifts in population or a relocation of stationary sources. Such factors are often not accounted for when quantifying impacts of development projects at a local level. Nevertheless, implementation of the proposed project would contribute to an increase of some greenhouse gas emissions that are associated with global climate change.

Estimated GHG emissions attributable to the proposed project would primarily be an increase in carbon dioxide (CO<sub>2</sub>) associated with mobile sources and, to a lesser extent, the production of electricity necessary to serve the proposed development. The proposed project is not unique in this regard; mobile-source CO<sub>2</sub> emissions typically constitute a majority of a community development project’s total GHG emissions. Further, other greenhouse gases, such as methane (CH<sub>4</sub>) generated by natural gas combustion, typically contribute only a minor amount to a community development project’s overall GHG emissions, as is the case with the proposed project.

Estimated emissions of CO<sub>2</sub> for the proposed project were calculated using the URBEMIS2007 computer program, based on default parameters (i.e., emission factors, vehicle fleet, and trip distribution data) contained in the model, and vehicle data obtained from the traffic analysis prepared for this project. Emissions of CH<sub>4</sub> and N<sub>2</sub>O were also calculated using emission factors derived from the CARB and the California Energy Commission (CEC). Emissions were converted to carbon dioxide equivalents (CO<sub>2</sub>e), expressed in metric tons, based on the global warming potential of each pollutant. Emissions were calculated for both the initial phase of development (i.e., Phase 2) and project buildout conditions. Estimated emissions associated with Phase 2 and project buildout are summarized in **Table 7.2-1**.

**TABLE 7.2-1  
TOTAL OPERATIONAL EMISSIONS**

Emissions Source	Phase 2		Project Buildout	
	CO <sub>2</sub> Equivalent (Tons/Year)	Percent of Total Emissions	CO <sub>2</sub> Equivalent (Tons/Year)	Percent of Total Emissions
Motor Vehicles	8,119	62	64,440	65
Electricity	3,014	23	20,719	21
Natural Gas	1,962	15	13,290	14
Total:	13,094		98,449	
Percent of State-wide Total:	0.00041		0.0028	

*Refer to Appendix 7.0-1 for detailed GHG emissions calculations and assumptions.*

As shown in the table, Phase 2 would result in annual emissions of approximately 13,094 tons of CO<sub>2</sub>e. Annual emissions would increase to approximately 98,449 tons of CO<sub>2</sub>e at project buildout. Based on the modeling conducted, mobile sources would constitute roughly 65 percent of project-generated emissions at buildout. It is important to note, however, that predicted emissions presented in Table 7.2-1 assume that all mobile and stationary sources would be "new" sources.

Some of the project's potential contribution of GHG emissions would be offset by various features of the project. These features include: establishing pedestrian-friendly streets, Class 1 bike trails, and hiking trails to encourage non-motorized modes of transportation; orienting structures and the use of landscaping to take advantage of passive solar design principles; and the use of solar power for residential dwellings sufficient to meet Tier I energy efficiency standards. However, despite these features, due to the size of the proposed project, predicted increases in greenhouse gas emissions are considered **significant**.

Implementation of **MM 4.6.2**, as described in Section 4.6, Air Quality, would result in the implementation of Best Available Mitigation Measures (BAMM) provided by the Shasta County Air Quality Management District (SCAQMD). These BAMM include various emission-reduction measures that would also reduce GHG emissions associated with the use of mobile and stationary sources. However, even with implementation of the Best Available Mitigation Measures provided by the SCAQMD, as required by MM 4.6.2, it is not anticipated that it would result in a substantial reduction in mobile-source emissions. As a result, the project would contribute to an increase in greenhouse gas emissions that is considered **significant and unavoidable**. (Impact 7.2-1)

### 7.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

CEQA Sections 21100(b)(2) and 21100.1(a) require that EIRs prepared for the adoption of a plan, policy, or ordinance of a public agency must include a discussion of significant irreversible environmental changes of project implementation. In addition, CEQA Guidelines Section 16126.2(c) describes irreversible environmental changes as:

*Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

Implementation of the proposed project would result in the conversion of 2,442 acres of open space/grazing land to residential, commercial, and recreational uses. Development of the Vineyards at Anderson project would constitute a long-term commitment to residential land uses. It is unlikely that circumstances would arise that would justify the return of the land to its original condition. Alteration of the project site is consistent with the land use designation, goals, objectives, and policies of the City of Anderson General Plan.

Development of the project would irretrievably commit building materials and energy to the construction and maintenance of buildings and infrastructure proposed. Nonrenewable and limited resources that would likely be consumed as part of the project development would

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include, but are not limited to, oil, gasoline, lumber, sand and gravel, asphalt, water, steel, and similar materials. In addition, development of the project would result in the increased demand on public services and utilities (see Sections 4.11, Public Services, and 4.12, Utilities and Service Systems).

### 7.4 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. In addition, Section 15093(a) of the CEQA Guidelines allows the decision-making agency to determine that the benefits of a proposed project outweigh the unavoidable adverse environmental impacts of implementing the project. The City of Anderson can approve a project with unavoidable adverse impacts if it prepares a "Statement of Overriding Considerations" setting forth the specific reasons for making such a judgment.

The EIR identifies the project as having the following impacts which cannot be reduced to a less than significant level through mitigation measures applied to the project. The detail of each impact, and an explanation of why mitigation is unable to reduce the impact to a less than significant level, is discussed in Sections 4.1 through 4.13 of this EIR.

**Impact 4.1.7** Cumulatively, the proposed project (in combination with other development projects) could contribute to the conversion of rural, agricultural and open space lands to urban uses.

**Impact 4.2.1** The proposed project at buildout would result in significant population growth.

**Impact 4.2.3** Development of the Vineyards at Anderson project, combined with the development of other projects in the vicinity, would result in a cumulative increase in the regional population.

**Impact 4.4.1** The project causes an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system or the project exceeds, an established level of service standard (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, congestion at intersections or the level of service).

Although mitigation is proposed that would result in impacts being less than significant, the City cannot guarantee that improvements that are outside its full jurisdiction will be funded and completed through interagency agreements. Impacts to roadways that are outside the City's jurisdiction are classified as significant and unavoidable (see EIR Table 4.4-7A). Impacts to intersections that are outside the City's jurisdiction are classified as significant and unavoidable (see EIR Table 4.4-8A). All impacts to Interstate 5 are classified as significant and unavoidable (see EIR Table 4.4-9A).

**Impact 4.4.2** The project may exceed, either individually or cumulatively, a level of service standard established by the city congestion management agency for designated roads or highways.

Although mitigation is proposed that would prevent exceeding level of service thresholds, the City cannot guarantee that improvements that are

outside its full jurisdiction will be funded and completed through interagency agreements. Impacts to roadways that are outside the City's jurisdiction are classified as significant and unavoidable (see EIR Table 4.4-7A). Impacts to intersections that are outside the City's jurisdiction are classified as significant and unavoidable (see EIR Table 4.4-8A). All impacts to Interstate 5 are classified as significant and unavoidable (see EIR Table 4.4-9A).

**Impact 4.4-7** Development of the Specific Plan, and the roadway improvements required as mitigation for traffic impacts, has the potential to result in significant environmental impacts.

Cumulatively, development of the Specific Plan and some roadway improvements required as mitigation for traffic impacts have the potential to result in significant environmental impacts. Mitigation is proposed that would result in impacts being less than significant. However, because some of the improvements are outside of the full jurisdiction of the City of Anderson, the City cannot guarantee that the improvements will be funded and completed and therefore must assume that they may not be made. Impacts to roadways that are outside the City's jurisdiction are classified as significant and unavoidable (see EIR Table 4.4-7A). Impacts to intersections that are outside the City's jurisdiction are classified as significant and unavoidable (see EIR Table 4.4-8A). All improvements to Interstate 5 are classified as significant and unavoidable (see EIR Table 4.4-9A).

**Impact 4.5.5** Projected on-site transportation noise levels at nearby proposed on-site development would exceed the City's noise-sensitivity standards for land use compatibility.

**Impact 4.5.10** Projected on-site transportation noise levels at nearby Phase 2 on-site development would exceed the City's noise-sensitivity standards for land use compatibility.

**Impact 4.5.11** Implementation of the proposed project would result in increases to cumulative traffic noise impacts.

**Impact 4.6.1** Construction activities, such as clearing, excavation and grading operations, as well as construction vehicle traffic and wind blowing over exposed earth, would generate increased particulate matter and ozone precursor emissions that would temporarily affect local air quality.

**Impact 4.6.2** On-site sources and vehicle trips to and from the project (at buildout) would result in increased emissions of ozone-precursor pollutants and particulate matter that would exceed Shasta County AQMD significance thresholds.

**Impact 4.6.6** Construction activities associated with Phase 2, such as clearing, excavation and grading operations, as well as construction vehicle traffic and wind blowing over exposed earth, would generate increased particulate matter and ozone precursor emissions that would temporarily affect local air quality.

**Impact 4.6.7** On-site sources and vehicle trips to and from Phase 2 of the project would result in increased emissions of ozone-precursor pollutants and particulate

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matter that would be anticipated to exceed Shasta County AQMD significance thresholds.

- Impact 4.6.11** Residential wood burning and open burning from the proposed project and other regional development could result in and contribute to a cumulative increase in odor or nuisance complaints as well as result in potential violation of state and federal particulate matter ambient air quality standards in the future.
- Impact 4.9.8** Implementation of the proposed project would result in disturbance, degradation, and removal of blue oak woodland.
- Impact 4.9.9** Implementation of the proposed project through build-out would result in the loss of foraging and breeding habitat for raptors, migratory birds, and other wildlife.
- Impact 4.9.14** Implementation of the Phase 2 would result in direct and indirect loss of habitat and individuals of animal and plant species of concern and other non-listed special-status species.
- Impact 4.9.18** Implementation of Phase 2 would result in disturbance, degradation, and removal of blue oak woodland.
- Impact 4.9.21** Cumulatively, development of the proposed project will result in direct mortality and loss of habitat for special-status species, wetlands, and waters of the U.S.
- Impact 4.13.5** The proposed project would introduce new sources of nighttime lighting to a previously undeveloped area, resulting in an increase in ambient light levels.
- Impact 4.13.10** Implementation of Phase 2 would create new sources of lighting in undeveloped areas. Increased nighttime lighting could have an adverse affect on adjacent areas and land uses.
- Impact 4.13.11** Implementation of the proposed project, in combination with anticipated development in the region, would alter the visual character of the area resulting in a change to public views as well as increased daytime and nighttime glare and lighting levels.
- Impact 7.2-1** The project would contribute to an increase in greenhouse gas emissions.

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## 7.0 LONG TERM IMPLICATIONS OF THE PROJECT

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