

This section addresses and summarizes the cumulative implications of impacts associated with the proposed Vineyards at Anderson project that are identified in environmental issue areas in EIR Section 4.0. Cumulative impacts are the result of combining the potential effects of the project with the impacts of other planned and foreseeable development projects in the area, and considers the extent of the project's contribution, if any, to cumulative impacts.

5.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) contain an assessment of the cumulative impacts that could be associated with the proposed project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR, together with other projects causing related impacts. A cumulative impact occurs from:

...the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

- 1) Either:
 - (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,
 - (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.
- 2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and
- 3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

This EIR utilizes both the "list" and the "general plan" approach in the cumulative analysis, depending on the resource topic being considered.

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5.2 CUMULATIVE SETTING

A general description of the cumulative setting is provided in Section 4.0 (Introduction to the Environmental Analysis and Assumptions Used).

It is recognized that many resources do not share the same cumulative setting due to the nature of those resources. For example, the air basin that may be considered for air quality issues is not the same area of impact as the groundwater basin that would be considered concerning cumulative impacts on water supply. Nor would those areas of impact be the same as, with regard to transportation and circulation impacts, certain streets and intersections.

Therefore, each environmental issue area evaluated in the EIR identifies its own cumulative setting. These cumulative setting conditions typically consider: other proposed and approved projects in the project area, specifically or in general; existing land use conditions and planned development under the City of Anderson General Plan Land Use Element (including land areas within the City's Sphere of Influence, and the proposed expansion thereof); existing land use conditions; and planned and proposed land uses in communities near the City.

5.3 CUMULATIVE IMPACT ANALYSIS

Identified below is a compilation of the cumulative impacts that would result from the implementation of the project and future development in the vicinity. The specific cumulative impacts for each environmental issue area are identified in Section 4.0.

LAND USE

EIR Section 4.1, Land Use, addresses several cumulative impacts of the project concerning land use. EIR Impact 4.1.7 found that, cumulatively, the proposed project in combination with other development projects in the area could contribute to the conversion of rural, agricultural and open space lands to urban uses. This would be a significant impact.

As described under Impacts 4.1.1 and 4.1.2, the proposed project was anticipated by, and would be consistent with, the City of Anderson General Plan. However, the project would require re-zoning and pre-zoning prior to annexation. While this area is identified as a Special Planning Area under the City's General Plan, the proposed project would change the character of the existing rural residential area, currently outside of the City's boundaries. The project's conversion of the 2,248-acre site would contribute to this cumulative impact and could encourage the consideration of land use intensifications adjoining the project site to the west, south and east.

The Shasta County General Plan and the Cottonwood Community Plan identifies this site for rural residential development intensities (2, 3, 5 and 10-acre lot minimums), and states that the intent of this land use designation shall be primarily rural town and community centers and single-family dwellings at rural densities. (It should be noted that the Cottonwood Community Plan did not contemplate the expansion of the City of Anderson into the planning area.) The Shasta County land use designation for the project is a majority of land designated as Planned Development, which provides for development that, because of a mix of building types, land uses or residential lot sizes, does not fit within the parameter of standard zone districts. However, other portions of the project site are zoned as Rural Residential, Unclassified and Rural Limited.

The proposed project's design, density and minimum lot sizing would result in an urban land use pattern. This is true of other projects that are considered in the cumulative scenario. While some of that development is contemplated in local land use plans, several proposed projects in the

region would not be initially consistent with current applicable land use designations unless the respective General Plans are amended to accommodate those projects. This would result in greater conversion of rural/agricultural and open space lands and the associated environmental effects of that conversion (e.g., traffic, air quality, noise, public services, biological resources, visual resources, water resources, cultural resources).

Since the land use issue of residential growth is closely related to the issues of housing development and population growth, the reader is also referred to the discussion concerning impacts in Section 4.2, Population and Housing, in this EIR.

EIR Impact 4.1.8 also found that, cumulatively, the project in combination with other reasonably foreseeable development in the City of Anderson and Shasta County could result in land use conflicts. This would be a significant impact. The proposed project and proposed and approved projects in the cumulative setting have the potential to create land use conflicts with existing uses, such as low density residential, agricultural uses, and natural areas. Generally, land use conflicts would be related to noise, traffic, air quality, and hazards/human health and safety issues which are discussed in the relevant sections of this document. Land use conflicts associated with this project are generally site-specific (with the exception of cumulative residential-agricultural conflict impacts addressed in EIR Section 4.14).

There are no measures available to reduce the project's contribution to a cumulative increase in development to a less than significant level because the project is, by nature, a major change in the type of land use currently in the area. Therefore, the cumulative land use impacts expected as a result of the proposed project would be considered **significant and unavoidable**.

POPULATION HOUSING AND EMPLOYMENT

Section 4.2, Population and Housing, addresses several cumulative impacts of the project concerning population growth and employment.

No adverse impacts, cumulative or otherwise, have been identified relative to employment.

Obviously, development of the Vineyards at Anderson project, combined with the development of other projects in the vicinity, would result in a significant increase in the population of the region. The proposed project would generate an estimated 14,040 additional residents in the City, increasing the population of the City by 133 percent over existing conditions. The buildout of the entire Vineyards at Anderson project area is expected to extend over a 20-year period. As noted under Impact 4.2.1 of this EIR, the expected increase in population would be consistent with the Land Use Element of the City of Anderson General Plan. The expected increase in population, which anticipated the population growth of the Vineyards at Anderson project as addressed in the Anderson General Plan EIR, was considered to be cumulatively significant.

Cumulatively, continued population growth is expected up and down the Interstate 5 corridor from Red Bluff to the City of Shasta Lake. The impact of this cumulative growth mostly involves traffic and circulation, but other resources (e.g., farmland, biological habitats, groundwater resources, etc.) are expected to be impacted.

It is a fair debate as to whether the production of houses results in population growth, or does population growth create the need for the production of houses. Shasta County is experiencing substantial population growth. As of January 2007, according to the California Department of Finance, Shasta County's population was 181,407. The Department of Finance projects that the County's population will increase to 196,464 persons by 2010 and to 277,922 by the year 2020. A

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substantial number of new homes will be needed to accommodate that expected population growth.

Nevertheless, it can be said that the Vineyards at Anderson project's contribution to additional cumulative population growth in the region will be substantial. The environmental and growth inducement effects of growth that may be associated with the project are evaluated in the technical sections of this EIR. Overall, it is acknowledged that this project's contribution to population growth in the area will be cumulatively significant. Since population growth would be the direct result of a major purpose of the project, which is to provide housing at urban densities, this EIR must conclude that the impact on population growth would be **significant and unavoidable**.

HAZARDS

Section 4.3, Hazards, includes an evaluation of cumulative impacts concerning hazards and human health issues.

Development of the Vineyards at Anderson project, and other residential development projects in the area, would involve limited transportation and use of hazardous materials. As described under Impact 4.3.1, general project construction and operational activities would involve the use of hazardous materials. Impact 4.3.3 recognizes that agricultural-related activity, including the use of pesticides, in the vicinity of homes, schools and other sensitive receptors may expose people to unhealthy levels of hazardous materials. Impacts associated with hazardous materials and risk-of-upset are generally site-specific. The cumulative effects related to hazardous materials from ongoing development in the area could create a cumulative risk, but each individual project is responsible for properly handling hazardous waste and mitigating their specific risks according to applicable federal, state and local regulations. For example, the application of pesticides is subject to oversight by the County of Shasta Department of Agriculture. The Pesticide Use Enforcement program assures that pesticides are being used safely and effectively by monitoring and auditing pesticide applications.

The proposed project, with the mitigation measures identified in Section 4.3, is not anticipated to contribute to cumulative human health and safety impacts. Therefore, cumulative impacts are considered to be **less than significant**.

TRANSPORTATION AND CIRCULATION

EIR Section 4.4, Transportation and Circulation, addresses traffic issues related to the project in the context of cumulative impacts. More than any other section of the EIR, the Transportation and Circulation Section weaves consideration of cumulative impacts throughout the section and its analysis of current and future conditions concerning local roadways and intersections, as well as impacts on Interstate 5.

Year 2030 conditions were developed using the Shasta County Travel Demand Forecasting model. Land use and highway network assumptions were updated to account for pending projects in the area and roadway improvements identified by the Regional Transportation Planning Authority (RTPA), City of Anderson, Shasta County, and the City of Redding.

The Shasta County Travel Demand Model (2006 model update) incorporates large-scale developments and several "pending/ approved" roadway improvement projects located within the study area (EIR Tables 4.4-6A and 4.4-6B). Major land use projects included in the forecasts include North Fork Ranch, Morgan Ranch, Tehama Del Webb, Stillwater Business Park, and other

major development throughout the County. Additional growth (beyond the major developments described above) within the county is already included in the Shasta County Travel Demand Forecasting model.

In addressing roadways, the EIR notes that occupancy of the homes constructed as part of the proposed project will generate substantial new traffic. Table 4.4-7 illustrates the Existing, Phase 1 and 2 and Cumulative Buildout Roadway impacts associated with the proposed project. All roadway segments operate acceptably under existing conditions, and will continue to operate acceptably through Phase 1 and 2 of the project. As shown in the table, at full buildout of the proposed project, a number of roadways drop below acceptable levels of service. Table 4.4-7A shows the proposed mitigation associated with the roadway segments.

As noted in Table 4.4-7, the project is responsible for the identified off-site roadway improvements. Timing of the improvements will occur between Phase 2 and Phase 3 of the proposed project, estimated to occur in the time period between when 1,500 and 2,000 dwelling unit equivalents will be constructed. In considering cumulative impacts, Impact 4.4-7 of this EIR concludes that development of the Specific Plan and the roadway improvements required as mitigation for traffic impacts have the potential to result in significant environmental impacts. This impact is considered **less than significant**.

Concerning intersections in the surrounding area, Table 4.4-8 illustrates the intersections that would be affected by the proposed project. As shown in the table, three intersections identified in the study area currently operate below the accepted level of service. All three intersections are associated with Interstate 5. Phase 1 and 2 of the project will increase the impact at these intersections and will reduce two intersections with State Route 273 (Bruce and Alexander Roads) to LOS D. While LOS D is acceptable for the City, these intersections are within Caltrans jurisdiction and have a target LOS of C.

Mitigation Measures included in Table 4.4-8A would improve the level of service at all intersections to acceptable levels under Phase 1 and 2 conditions. The table indicates funding sources for the improvements, some of which are wholly outside the City of Anderson's jurisdiction. As such, all of the intersections that are outside the City's jurisdiction are classified as **significant and unavoidable** because the City cannot be certain that improvements will be made consistent with this EIR.

As noted in Table 4.4-9A concerning freeway improvements, modifications will be needed to mainline Interstate 5 in order to accommodate regional growth traffic, including traffic from the proposed project. The improvements anticipated under the Fix-5 partnership will involve widening of the interstate, adding new travel lanes and expanding right of way in some areas. There may also be a need to widen bridges over waterways resulting in impacts to biological resources and riparian habitat. Runoff from the new impervious surfaces may impact water quality to the extent that storm drainage systems may need to be improved to provide both capacity and treatment of the new runoff. All environmental impacts will need to be addressed by CALTRANS in the eventual CEQA/NEPA document prepared for the improvements. There is insufficient information at this time to know exactly what improvements will be constructed and, therefore, it is not possible to know what impacts will occur. It is likely that there will need to be an extensive mitigation plan addressing impacts associated with construction.

The improvements listed in Table 4.4-9A would ensure that Interstate 5 would have sufficient capacity to meet the needs of the proposed project. As the City does not have jurisdiction over Interstate 5 or the Fix-5 program, the City can not ensure that the improvements will be made. Therefore, even though the City participates in Fix-5, and has confidence that the program will

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improve mainline conditions, the project impacts on Interstate 5 remain **significant and unavoidable**. If the improvements are made, this impact would be classified as significant in the short term but would eventually be reduced to a less-than-significant in the long term after the improvements are constructed.

EIR Table 4.4-13 identifies impacts at merge/diverge/weave segments along Interstate 5 at area interchanges. As shown in the table, the interstate will operate at unacceptable levels as growth continues in the region.

Buildout of the proposed project will occur over a number years and traffic impacts will occur within the context of regional growth. A number of agencies, including the City of Anderson, are already addressing regional growth and the roadway network will be improved over time to meet regional growth needs. The Fix 5 Partnership is in the process of developing an improvement program and associated impact fee that will address mainline capacity on Interstate 5. As noted, the City of Anderson is participating in Fix 5 and anticipates charging impact fees at the time of building permit issuance to further mainline capacity enhancement. However, the Fix-5 program is not in place at the time of writing of this EIR.

The analysis in this EIR assumes that roadways will continue to be widened and intersections signalized and improved to meet future traffic needs, regardless of the agency having jurisdiction. As noted in the impact analysis above, with improvements to the roadway system, the overall impacts of the proposed project at buildout will be within acceptable levels of service. A number of project-specific environmental studies will be needed to construct the roadway improvements, and these will occur as appropriate to the particular roadway project and by the agency directly responsible for the improvement.

The reader is referred to EIR Section 4.4, Transportation and Circulation, for a thorough analysis of impacts, including impacts reviewed in the cumulative context.

NOISE

EIR Section 4.5, Noise, includes an evaluation of cumulative impacts. The geographic extent of the cumulative setting concerning noise impacts consists of the City of Anderson, the City's Sphere of Influence, and unincorporated areas near the City, as well as consideration of regional activities and attributes (e.g., regional traffic volumes and patterns associated with State Route 273 and Interstate 5). This setting includes consideration of existing, planned and future land use development, future (year 2030) traffic volumes, and buildout of the project.

The primary factor for cumulative noise impact analysis is the consideration of future traffic volumes. Impact 4.5.11 recognizes that implementation of the proposed project would result in increases to cumulative traffic noise impacts. This impact is considered potentially significant. The FHWA roadway noise prediction model (FHWA 1988) was used to predict future cumulative traffic noise levels along affected roadways based on data obtained from the traffic analysis prepared for this project. The project's contribution to the cumulative traffic noise levels along area roadways was determined by comparing the predicted noise levels with and without project-generated traffic. As depicted in Table 4.5-10, substantial increases in traffic noise levels would be projected to occur along segments of Pleasant Hill Drive, West Anderson Road, South Street, Rhonda Road, and SR 273. However, with the exception of Rhonda Road, no noise-sensitive land uses are located within the projected "normally acceptable" 60 dBA noise contour of these roadway segments.

As depicted in Table 4.5-12, predicted noise levels associated with vehicular traffic on Rhonda Road would approach 65 dBA CNEL at 50 feet from the roadway centerline. However, many of these land uses are already located within the projected future 65 dBA CNEL noise contour of Interstate 5, which extends to a distance of approximately 636 feet from I-5. As a result, implementation of the proposed project would not be anticipated to result in a substantial increase in overall ambient noise levels at residential dwellings located along Rhonda Road that are within approximately 636 feet of I-5. Land uses located along Rhonda Road, in excess of approximately 636 feet of I-5, could, however, experience substantial increases in ambient noise levels. Many of these land uses would include residential dwellings fronting Rhonda Road that are located north of Gas Point Road. Given that access to these dwellings is provided via Rhonda Road, construction of sound barriers would not be feasible in providing adequate noise reduction at these residences due to the requirement to maintain access to these dwellings. In addition, predicted future exterior traffic noise levels at existing commercial land uses located along SR 273, between Balls Ferry Road and North Street, would also be anticipated to exceed the "normally acceptable" land use compatibility noise standard of 70 dBA CNEL. No mitigation measures have been identified that would reduce exterior noise levels at adversely affected land uses. As a result, this cumulative impact concerning noise impacts is considered **significant and unavoidable**.

AIR QUALITY

EIR Section 4.6, Air Quality, addresses cumulative impacts concerning air resources. The geographic extent of the cumulative setting for the project consists of the City of Anderson as well as the City's Sphere of Influence, the unincorporated areas near the City, as well as consideration of regional activities and attributes (e.g., regional traffic volumes and patterns associated with State Route 273 and Interstate 5). This setting includes consideration of existing, planned and future land use development (see Sections 4.0, 4.2 and 4.4 regarding assumed development conditions in the City of Anderson and surrounding area), and future (year 2030) traffic volumes and buildout of the project.

As evaluated under Impact 4.6.11, residential wood burning and open burning from the proposed project and other regional development could result in and contribute to odor or nuisance complaints as well as result in potential violation of state and federal particulate matter ambient air quality standards in the future. This would be a potentially significant impact. Due to the region's non-attainment status for ozone and PM₁₀, if project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM₁₀ would exceed the long-term thresholds, then the project's cumulative impacts would be considered significant. As discussed in Impact 4.4.3, predicted long-term operational emissions would exceed Shasta County AQMD significance thresholds and contribute (in combination with planned and anticipated development in the region) to the County's non-attainment status. In addition, implementation of the proposed project may result in an increase in emissions beyond that identified in the emissions inventories used for the development of the AQAP. As a result, this impact would be considered **potentially significant**.

Implementation of mitigation measures **MM 4.6.1** and **MM 4.6.2** would substantially reduce operational emissions of the project. Various measures have been incorporated to reduce the project's long-term increases in emissions, including measures that would reduce energy consumption associated with proposed land uses. Such measures would include increased use of shade trees to reduce building cooling demands during the warmer summer months; as well as site design considerations, such as orienting building in a north-south direction to increase use of solar heating during the cooler months. Increased building insulation and requirements that

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would exceed California Title 24 energy standards would result in further reductions in energy usage and related emissions.

However, predicted increases in emissions would still be anticipated to occur, primarily due to the increased use of motor vehicles. Motor vehicle emissions are regulated by the State and there are no additional reasonable mitigation measures that have been identified that would reduce mobile-source emissions attributable to the proposed project. Increases in emissions, particularly ozone precursor pollutants (i.e., ROG and NO_x) and airborne particulate matter (i.e., PM₁₀ and PM_{2.5}) along with emissions from other existing and future development projects would contribute to the region's non-attainment conditions. As a result, the project's cumulative contribution to regional air quality conditions would be considered **significant and unavoidable**.

Concerning the cumulative contribution to localized air quality impacts, Impact 4.6.12 evaluated how the project might contribute to cumulative carbon monoxide emissions along regional roadways. This impact was determined to be less than significant. The project and cumulative development would also result in increased traffic on existing roads and elevate carbon monoxide concentrations at nearby congested roadways and intersections. However, projected carbon monoxide concentrations would be well below those associated with violations of the ambient air quality standards. In addition, implementation of the proposed project would not result in the introduction of any major stationary sources of TACs or odorous emissions. As a result the proposed project's cumulative contribution to localized air quality impacts would be considered **less than significant**.

HYDROLOGY AND WATER QUALITY

Section 4.7, Hydrology and Water Quality, includes an evaluation of cumulative impacts. The cumulative setting for impacts related to hydrology and water quality includes the Sacramento River Hydrologic Region. This drainage basin is approximately 27,200 square miles in size. The Sacramento River Hydrologic Region includes Basin No. 2000 and Basin No. 2500 of the Anderson Drainage Study that will be affected by the proposed project. These drainage basins are approximately 735 acres and 953 acres in size, respectively. In addition to the proposed project, several other residential developments have been approved, are planned, or are proposed in the City of Anderson and the vicinity in Shasta County, which could cumulatively affect hydrologic conditions and water quality.

Concerning the potential for cumulative depletion of groundwater, Impact 4.7.19 recognizes that the proposed project, in combination with planned and proposed development in and near the City of Anderson, could substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume, and/or a lowering of the local groundwater. The production rate of pre-existing nearby wells could drop to a level which would not support existing land uses or planned uses for which permits have been granted. These cumulative impacts are considered potentially significant.

Impact 4.7.20 acknowledges that, cumulatively, the proposed project in combination with planned and proposed development in and near the City of Anderson could alter drainage conditions and rates which could result in potential flooding impacts. These cumulative impacts are considered potentially significant.

Development of the Vineyards at Anderson project area, and all urban-type development in the vicinity, will result in the compaction of soils and increases in the amount of impervious surfaces through the development of roads, parking areas and rooftops. These conversions would result in an increase in the amount and timing of stormwater runoff. All surface flow

generated by the implementation of the proposed project will be contained before affecting the water quality and downstream flood control facilities. Detention ponds, sediment and grease traps, or an underground storm drainage system will be implemented to mitigate these potential impacts. Therefore, with the proposed mitigation measures, the project is not expected to contribute to significant cumulative impacts related to drainage and flooding. Similarly, all development in the vicinity will be required to comply to regulatory standards, including those enforced by the Central Valley Regional Water Quality Control Board, to protect water quality. Overall, the project's contributions to cumulative increases to drainage and flooding would not result in new or increased severity of flooding, which would reduce this impact to less than significant.

Concerning cumulative water quality impacts, Impact 4.7.21 recognizes that the proposed project, in combination with planned and proposed development in and near the City of Anderson, could contribute to potential impacts to surface and groundwater quality from construction and operation activities. These cumulative impacts are considered to be potentially significant. Slope and soil disturbance may contribute to water quality impacts when considered with other development projects in the region. Runoff may contain oils, grease, fuel, antifreeze, byproducts of combustion (such as lead, cadmium, nickel, and other metals), nutrients, sediment. Any surface runoff associated with the implementation of the proposed project would be contained before affecting the water quality and downstream flood control facilities. Detention ponds, sediment and grease traps, or an underground storm drainage system must be implemented to mitigate these potential impacts. Implementation of mitigation measures outlined in Section 4.7 would reduce the project's contribution to cumulative water quality impacts to less than significant by requiring the use of BMPs and compliance with applicable regional, state and federal water quality standards.

Overall, the project's contribution to cumulative hydrologic and water quality impacts in the area are found to be **less than significant**.

GEOLOGY AND SOILS

EIR Section 4.8, Geology and Soils, includes an evaluation of cumulative impacts concerning geology and soils.

Geotechnical impacts tend to be site specific rather than cumulative in nature and each development site would be subject to, at a minimum, site development and construction standards relative to seismic and other geologic conditions that are prevalent within the region. Impacts regarding surficial deposits, namely erosion and sediment deposition, can be cumulative in nature within a watershed. Section 4.7, Hydrology and Water Quality, addressed cumulative water quality impacts from soil erosion.

Impact 4.8.13 recognizes that the proposed project, in combination with reasonably foreseeable development in the area, would not contribute to cumulative geologic and soil impacts, as the impacts would be site-specific. This would be a less than significant impact under cumulative conditions. Impacts associated with geology and soils are based on existing site-specific conditions that are situated within the subsurface materials that underlay project sites. Further, implementation of mitigation measures described in Section 4.8, along with measures described in Section 4.7, Hydrology and Water Quality, would ensure that the project would not significantly contribute to cumulative geologic and soil impacts in the region.

Overall, contributions of the Vineyards at Anderson project to cumulative impacts concerning geology and soils are found to be **less than significant**.

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BIOLOGICAL RESOURCES

EIR Section 4.9, Biological Resources, addresses the cumulative impacts of the project. The City of Anderson and the surrounding area of Shasta County is considered for the purpose of evaluating land use conversion issues associated with biological resources on a cumulative level. Impact 4.9.12 recognizes that development of proposed projects in the area will result in direct mortality and loss of habitat for special-status species, wetlands, and waters of the U.S. This cumulative impact is considered to be cumulatively significant. The proposed project and other projects in the region will result in adverse impacts on:

- large trees and riparian habitat that provide important habitat for a wide variety and high diversity of wildlife;
- special-status species;
- habitat used by migratory birds and raptors;
- sensitive communities such as blue oak woodland and riparian habitat; and
- jurisdictional features (wetlands and waters of the U. S.).

In addition to direct impacts, the proposed project would contribute to an increased human presence, which would result in indirect impacts to biological resources (e.g., wildlife struck by vehicles, disturbance from increased nighttime lighting).

The mitigation measures that have been proposed in Section 4.9 for the Vineyards at Anderson project will mitigate the impacts to various biological resources to levels that are less than significant. In determining the need for many of those mitigation measures, the cumulative impact implications of the project on various resources (e.g., special-status species, blue oak woodland habitat, etc.) has already been considered.

Implementation of the mitigation measures proposed with consideration of Impacts 4.9.1 through 4.9.21 for the Vineyards at Anderson project, in addition to the avoidance provisions that are designed into the project, will reduce impacts on biological resources in that project area to levels that are less than significant, with the exception of impacts to Blue Oak Woodland habitat, which is considered significant and unavoidable. Although the resource-specific impacts of this project can be reduced to levels that are less than significant, in the cumulative context the impacts of this project must be recognized as combining with the impacts of other development projects and trends in the area. The general extent of urban development along the Interstate 5 corridor, regardless of mitigation efforts made concerning individual projects, is expected to progressively take a toll on biological resources. Therefore, this project's contribution to the cumulative impact on and loss of biological resources in the area, especially impacts to Blue Oak Woodland habitat, must be considered to be **significant and unavoidable**.

CULTURAL AND PALEONTOLOGICAL RESOURCES

Section 4.10, Cultural and Paleontological Resources, addresses potential cumulative impacts of the project concerning those resources. Cultural resources include historic buildings and structures, historic districts, historic sites, prehistoric and historic archaeological sites, and other prehistoric and historic objects and artifacts. Paleontological resources include vertebrate, invertebrate, or plant fossils.

The cumulative setting for prehistoric and historic resources includes existing, approved, proposed and reasonably foreseeable development within the City of Anderson and unincorporated areas of Shasta County in the project vicinity. Archaeological and historical

investigations for the proposed project identified five sites and two isolated artifacts within the project boundaries, and there is the possibility for the inadvertent discovery of cultural resources during ground disturbing project activity. Consequently, there is a possibility that these projects could result in a net loss of prehistoric and/or historic resources.

It is recognized under Impact 4.10.7 that implementation of the proposed project, in addition to existing, approved, proposed and reasonably foreseeable development in the City of Anderson and the vicinity, could result in cumulative impacts to prehistoric and historic resources and human remains in the region. That impact is considered potentially significant. Implementation of the mitigation measures outlined in Section 4.10 are expected to reduce the project's contribution to cumulative impacts to prehistoric and historic resources and human remains to levels that are considered less than significant.

Similarly, approved and proposed development in the area could impact paleontological resources. Paleontological investigations did not identify any paleontological resources within project boundaries, but there is the possibility for the inadvertent discovery of paleontological resources during ground-disturbing project activity. Consequently, there is a possibility that projects in the area could result in a net loss of paleontological resources. As addressed under Impact 4.10.8, development of the proposed project, in addition to existing, approved, proposed and reasonably foreseeable development in the City of Anderson and the area, could result in cumulative impacts to paleontological resources in the region. This impact is considered potentially significant. Implementation of MM 4.10.3 would reduce the proposed project's contribution to cumulative impacts to paleontological resources to a level that is considered less than significant.

Overall, the contributions of the project, as mitigated, to cumulative impacts in the area concerning cultural resources are found to be **less than significant**.

PUBLIC SERVICES

Section 4.11, Public Services, addresses cumulative impacts of the project concerning public services including fire protection and emergency medical services, police protection, schools and parks.

The Anderson Fire Protection District has indicated that the District would be capable of accommodating the project and cumulative conditions within their district with the addition of: a new station in the downtown area as currently planned by the District; a new station in the project area; acquisition of a ladder truck; and additional staffing. Development of new facilities could, depending on their location, result in construction-related environmental effects to biological resources, cultural resources, water quality, air quality and noise. Within the project area, the site of the proposed fire station has been analyzed for potential environmental impacts. These potential impacts are addressed in the relevant sections of the EIR (i.e., Section 4.9 for biological resources and Section 4.10 for cultural resources). Facility planning outside of the Specific Plan area, however, is in the early stages and no specific proposals have been made for site development.

The proposed project and other future development would likely be required to participate in any assessments or funding structures that would be established by the District. The project will be required to pay City development impact fees, which include fees for fire protection services and facilities, and the project area will be subject to funding from a community facilities district. With these provisions, the Vineyards at Anderson project will be compensating for and mitigating the impacts that it will have on fire protection and emergency services in the area. These

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contributions will also benefit the capacity of the AFPD in general. Therefore, it is determined that, concerning fire protection and emergency services, the project's contribution to cumulative impacts and the range of any cumulative impacts that may be associated with the proposed project will be less than significant.

Because law enforcement services from the City's police department are limited to the City of Anderson, the cumulative setting condition only includes existing land uses and planned development under the City of Anderson General Plan Land Use Element (including those areas within the City's sphere of influence). In order to maintain acceptable staffing ratios, 22 additional officers would need to be hired to maintain adequate law enforcement services associated with the project's contribution. Overall, the demand for new facilities and additional staff would increase under cumulative conditions. Providing increased services would require acquisition of service vehicles, increased staffing levels and new facilities. New facilities could (depending on their location) result in construction-related environmental effects to biological resources, cultural resources, water quality, air quality and noise. No plans for new or expanded police facilities have been identified at this time. The existing funding mechanisms (i.e., General Fund, City development impact fees and miscellaneous grants) could help to fund facility improvements and staffing needs. Based on the Fiscal Analysis provided in Appendix 4.11.1, the proposed project would provide adequate funding for its cumulative contribution to future law enforcement service needs. Therefore, the cumulative impacts on police protection resulting from the proposed project are considered to be less than significant.

The primary public service impact found to have cumulative issues is the provision of park and recreation facilities. Impact 4.11.4.3 recognizes that the proposed project, considered with other reasonably foreseeable development in the City and the surrounding area, would require additional park and recreation facilities under cumulative conditions. Future development in the region will continue to place additional pressures on existing recreational facilities and the need for new and expanded recreational facilities. Compliance with City requirements for park dedication and/or fees is intended to address a project's contribution to increased park and recreation demands. Each cumulative project within the City will be conditioned to meet its parkland requirements per the City of Anderson Municipal Code, while development outside of the City would be required to meet Shasta County parkland requirements. Future activities by the City and Shasta County may require additional parkland dedication requirements, as well as require fees for the construction of recreation facilities for future development projects (including the proposed project). Compliance with the City of Anderson Municipal Code and implementation of Specific Plan provisions to provide park space will address this project's impacts on cumulative park and recreation demands. The impact is less than significant.

This is also true concerning potentially cumulative impacts on school facilities. While additional school facilities may be necessary to accommodate the possible increase in student population, the existing funding mechanisms under Senate Bill 50 (SB 50), bond measures within the school districts, and developer fees (\$2.63 per square foot for residential development and \$0.42 per square foot for commercial development), would offset funding impacts on the various school districts caused by future cumulative development.

Overall, the project's contributions, after mitigation, to cumulative impacts concerning public services are found to be **less than significant**.

UTILITIES AND SERVICE SYSTEMS

EIR Section 4.12 addresses impacts to utility and service systems and subsection 4.12.4.4 addresses related cumulative impact issues. Concerning electrical service, the EIR evaluated

whether implementation of the proposed project in addition to reasonably foreseeable development would require the extension of infrastructure. It was determined that this would be a less than significant impact.

The cumulative setting for electrical energy includes the PG&E energy market and the California energy market. Under cumulative conditions, the project would be provided with electricity by PG&E. PG&E did not express concern that they would not have adequate energy supplies to serve the project under existing and cumulative conditions. PG&E instead focused on infrastructure improvements that would be necessary to supply electrical energy to the project area.

There are a number of development projects in the vicinity of the City of Anderson and Shasta County that would be served by PG&E and result in a cumulative demand for electric service (see Section 4.0). To serve the cumulative development conditions, PG&E has indicated that substations would need to be upgraded or added, and additional distribution lines would need to be added. It is not expected that the proposed project would trigger the need for transmission upgrades. It is estimated that the project would require less than 51.5 GWh/year to serve the residential component of the project and less than 373.0 GWh/year to serve the nonresidential component of the project. When combined, this would add to the cumulative demand on electrical supplies.

The project would also be required to comply with recently adopted changes to Title 24 of the California Code of Regulations regarding energy efficiency that became effective in September 2005. These new energy efficiency standards were developed in response to the state's energy crisis as well as AB 970 and SB 5X in regards to improving residential and nonresidential building energy efficiency, minimizing impacts to peak energy usage periods and to reduce impacts on overall state energy needs.

No specific mitigation measures were determined to be necessary concerning electric power.

Concerning natural gas service under cumulative conditions, PG&E would continue to provide natural gas service to the City of Anderson residents. Individual development projects would continue to receive natural gas service from smaller gas lines that connect to the main transmission line. In order for future development areas to receive natural gas service, they would need to tap into the main transmission line and construct separate distribution gas lines that would extend into each development. Additional pressure reduction equipment and pressure regulators would also be required to provide adequate gas pressure to all future PG&E natural gas customers.

As addressed under Impact 4.12.4.6, implementation of the proposed project and other reasonably foreseeable projects would require additional natural gas. This is considered a less than significant cumulative impact on natural gas supplies and service. It is estimated that the proposed project would use less than 2.64 million therms of gas on an annual basis to serve the 5,528 new residential units and less than 2.76 million therms of gas to serve the nonresidential uses. PG&E did not express concern regarding the availability of supplies to serve the project. The company would have sufficient natural gas to supply the proposed development but would need to add: a new connection to the transmission line within the Highway State Route 273 right-of-way; pressure reduction equipment; pressure regulators; and distribution pipelines to serve this additional development. The environmental effects of this extension would be limited to temporary construction effects associated with air quality, noise, water quality and temporary construction traffic control. Mitigation measures identified in Sections 4.5 (Noise), 4.6 (Air Quality)

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and 4.7 (Hydrology and Water Quality) would reduce these temporary impacts. No specific mitigation measures were determined to be necessary concerning natural gas supply.

Overall, cumulative impacts concerning utilities and service systems, after application of various mitigation measures for construction activity already proposed in the EIR, are determined to be **less than significant**.

AESTHETICS AND VISUAL RESOURCES

Section 4.13, Aesthetics and Visual Resources, addresses the cumulative impacts of the project concerning visual resources. The cumulative setting for visual resources includes the viewshed to and from the area and existing, proposed, planned, approved and reasonably foreseeable development in the vicinity.

Impact 4.13.7 recognizes that the proposed project, in combination with anticipated development in the region, would alter the visual character of the area to some extent. This will result in a change to public views as well as increased daytime and nighttime glare and lighting levels. Development of the Vineyards at Anderson project and other development projects will transform much of the area in the Interstate 5 corridor from vacant grazing land and woodland habitat to urban/suburban type development. This loss of rural landscape would contribute to the conversion of the greater area's rural landscape characteristics. However, the Vineyards at Anderson project is not highly visible from Interstate 5 or State Route 273, and is certainly much less visible than other development taking place along state highways in the area (e.g., the Anderson Marketplace and Wal-Mart, development in southeast Anderson and Cottonwood, the proposed Del Webb project in Tehama County, etc.).

Cumulatively, it can be expected that, over time, most of the landscape in the Interstate 5 corridor from Red Bluff to Shasta Lake City will become urbanized. This transition is already taking place. The pockets of "scenic" views remaining along the corridor will largely be dependent on the amount of agricultural land and wildlife habitat that will be maintained over time, and the hills and mountains in the distance that serve as a backdrop. Increasingly, visual resources in the urban foreground will be more a matter of highlighting architectural and landscape design features than natural open space landscapes.

Projects being developed in the area will introduce new sources of nighttime lighting to previously undeveloped areas, resulting in a cumulative increase in ambient light levels. Implementation of the Vineyards at Anderson Specific Plan policies and the Planned Development Ordinance would minimize adverse nighttime light and illumination effects to adjacent areas. However, the overall increase in illumination from site development as compared to existing conditions would be significant and unavoidable. On a cumulative basis, the overall increase in illumination from development in the area as compared to existing conditions is considered to be significant and unavoidable.

Overall, therefore, the cumulative impacts to aesthetics and visual resources involving this and other development projects in the area, especially considering the increase in illumination and impacts of the night sky, are found to be **significant and unavoidable**.

AGRICULTURAL RESOURCES

EIR Section 4.14, Agricultural Resources, addresses cumulative impacts relative to the proposed project. The Vineyards at Anderson project is located within and adjacent to the City of Anderson. The City and the surrounding area of Shasta County, including the community of

Cottonwood, has been considered for the purpose of evaluating land use issues, including agriculture, on a cumulative level.

Impact 4.14.5 recognizes that the project would convert approximately 2,248 acres of grazing land to urban uses. This loss would contribute to the cumulative loss of agricultural land in the region and could contribute to cumulative conflicts with agricultural uses. In the context of cumulative impacts, this impact would be potentially significant. However, the farmland involved with the proposed project is not considered "Important Farmland" by the Farmland Mapping and Monitoring Program, nor is it defined as "prime agricultural land" pursuant to Section 56064 of the Government Code.

The project site is designated as part of the City of Anderson Planning Area, which anticipates the expansion of urban land uses in the General Plan. As discussed in the EIR for the City's last General Plan revision (2007), the City's overall policy position concerning Farmland is that the City is the appropriate place for urban-type land use and development densities. Although the City recognizes the various economic, social and environmental values of agricultural land, it does not recognize that lands within the City's planning area and sphere of influence that might be classified by the State as "Important Farmland" generally have resource values that warrant exclusive agriculture status. The principal related policy in the City's General Plan, contained in the Open Space and Conservation Element, is AP-1: "Agricultural land can best be preserved by encouraging development within the City Limits so that viable agricultural operations in the unincorporated area can continue."

Furthermore, in the City's Open Space and Conservation Element, under Section 4.3.4, Agricultural Resources, the City acknowledges that, while the City recognizes the historic role of agriculture within the Anderson community and supports continued agriculture, the transition from agriculture to urban uses limits the potential for large-scale commercial agriculture within the city limits. The City conceded that the proposed General Plan Update would, in part, facilitate the on-going conversion of lands that are classified as "important farmland" within the city limits to uses other than agricultural uses. The City felt that the limited amount of conversion, which by definition would be considered "significant", is justified and acceptable in the context of the orderly expansion of the City. Therefore, the impact on important farmland was, in the General Plan EIR, considered significant and unavoidable, and the City adopted a statement of overriding consideration.

However, the impacts to prime agricultural land in the city or surrounding unincorporated area, as addressed in the General Plan, is barely relevant to the Vineyards at Anderson project. As noted in the EIR's setting discussion for the project, and in Impact 4.14.1, soils on the project site are considered marginal for agricultural use (see Table 4.14-9). Conversion of the project site would result in the approximate loss of 0.67 percent of the total amount of estimated grazing land in the County (408,927 acres in 2004). This would not substantially reduce the overall agricultural production of the County. This conversion would also occur in an area where intensive agricultural operations are limited as a result of the foothill topography, highly variable soil conditions and the proximity to developed areas (i.e., City of Anderson). Given that the project site does not include Important Farmland and would only result in the conversion of marginal grazing land, the project's contribution to the loss of agricultural resources in the area is considered less than significant, even under cumulative conditions.

As noted under Impact 4.14.2, the project could result in conflicts with adjoining agricultural land uses, which is a regional and statewide issue. As noted in the setting discussion above, the project area soil conditions and limited water sources limit the extent of future expanded agricultural activities (beyond existing conditions). Implementation of mitigation measures MM

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4.14.2a and MM 4.14.2b would further reduce the project's contribution to cumulative impacts on agriculture resources to **less than significant**.