

4 ALTERNATIVES

4.1 INTRODUCTION

Environmental impact reports (EIRs) are required to consider alternatives to the project that are capable of reducing or avoiding significant environmental impacts. Section 15126.6(f) of the State California Environmental Quality Act (CEQA) Guidelines states:

Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

Section 15126.6(a) of the Guidelines requires EIRs to describe “... a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project and would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation. An EIR is not required to consider alternatives that are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.” (See also CEQA Guidelines Section 15126.6[f].) This section of the CEQA Guidelines also provides guidance regarding what the alternatives analysis should consider.

The Guidelines require that the EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the project. If an alternative would cause one or more significant effects in addition to those that would be caused by the project, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the project as proposed (CEQA Guidelines Section 15126.6[d]). The Guidelines further require that the “no project” alternative be considered (CEQA Guidelines Section 15126.6[e]).

In defining “feasibility” (e.g., “... feasibly attain most of the basic objectives of the project ...”), CEQA Guidelines Section 15126.6(f)(1) states, in part:

Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

4.2 PROJECT OBJECTIVES

In determining what alternatives should be considered in the EIR, the objectives of the project must be considered, as attainment of most of the basic objectives forms one of the tests of whether an alternative is feasible (see discussion above). UC Davis identified the following project objectives for the Orchard Park Redevelopment component of the 2018 LRDP, as previously described (see Chapter 2, “Project Description” of this volume):

- ▲ optimize an underutilized site within existing UC Davis property based on the current needs of the campus;
- ▲ create an affordable and accessible residential community for students and student families;
- ▲ provide basic amenities and high-quality design to foster the creation of a vibrant, convenient, and well-served community;
- ▲ integrate open space and bicycle, pedestrian, and transit facilities to reduce the need for residents to bring vehicles to campus;
- ▲ enhance the sense of community enjoyed by current campus and community residents; and,
- ▲ provide opportunities for members of the campus to participate fully in the life of the campus and community.

4.3 ALTERNATIVES CONSIDERED IN DETAIL

The following alternatives are under consideration for this project:

- ▲ **Alternative 1: No Project.** Under this alternative, the Orchard Park site would not be developed, and the site would continue as undeveloped open space.
- ▲ **Alternative 2: Reduced Development.** Under this alternative, UC Davis would develop the Orchard Park site with student housing for up to 900 additional student beds, which would be consistent with the initial housing concept for the site identified in May 2017.
- ▲ **Alternative 3: Higher Density Student Housing.** This alternative would include additional development of the site to provide 500 additional student beds for a total of 1,900 student beds, of which 200 would be associated with student family apartments, at the Orchard Park site. This alternative would be consistent with Alternative 4 identified in Volume 1 for the 2018 LRDP.

4.3.1 Summary of Orchard Park Impacts

The summary table provided in the Executive Summary chapter of this volume presents a detailed summary of the potential environmental impacts associated with development of the Orchard Park component of the 2018 LRDP. Please refer to this table (OPR ES-1) for a summary of the potential significant and unavoidable impacts associated with the Orchard Park Redevelopment component. Significant and unavoidable transportation impacts would occur as a result of development of the Orchard Park Redevelopment component.

4.3.2 Evaluation of Alternatives

ALTERNATIVE 1: NO PROJECT

CEQA Guidelines Section 15126.6(e)(1) requires that the ‘no project’ alternative be described and analyzed “to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project.” The no project analysis is required to discuss “the existing conditions at the time the notice of preparation is published...as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services” (Section 15126.6[e][2]). “If the project is...a development project on identifiable property, the ‘no project’ alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects which would occur if the project is approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this ‘no project’ consequence should be discussed. In certain instances, the no project alternative means ‘no build’ wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project’s non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment” (Section 15126[e][3][B]).

Because the Orchard Park site is currently part of UC Davis and is intended for student housing under the 2003 LRDP, the No Project Alternative assumes that the Orchard Park site would not be developed and would continue as undeveloped open space. The previous condition of the site included a student housing development but that remained vacant for several years prior to its demolition. This would be consistent with implementation of Alternative 1 for the 2018 LRDP, as evaluated in Volume 1 of this EIR.

Aesthetics

No change in existing visual conditions would occur on the project site because no site improvements or other development would be implemented. The site would appear substantially similar to the existing condition. By comparison, the Orchard Park Redevelopment component would develop the site with student housing, native and/or drought-tolerant plantings, and recreational improvements and would result in less-than-significant impacts to aesthetics and visual resources. Alternative 1 would eliminate impacts altogether because no changes to the visual character of the site would occur, and no new lighting would be installed. The site would remain as undeveloped open space. Therefore, overall aesthetic impacts associated with Alternative 1 would be less than the Orchard Park Redevelopment component. (*Less Impact*)

Agriculture and Forestry Resources

The Orchard Park site is not currently in agricultural production or designated as Important Farmland. As such, no impacts would occur under this alternative, similar to the project. (*Similar Impact*)

Air Quality

Alternative 1 would not include any new development, and thus, would not generate new construction or operations-related air emissions. By comparison, the Orchard Park Redevelopment component would generate construction-related and operational emissions associated with vehicle trips, energy use, and maintenance of the proposed student housing. As described in Section 3.3, “Air Quality,” the emissions associated with the construction of the Orchard Park Redevelopment component would not exceed applicable thresholds, and no significant impacts would occur.

Nonetheless, implementation of Alternative 1 would not result in any emissions and would represent a reduction in emissions compared to construction and operation of the Orchard Park Redevelopment component. *(Less Impact)*

Archaeological, Historical, and Tribal Cultural Resources

The Orchard Park site has been previously disturbed by development, including the recently demolished Orchard Park apartments. Under Alternative 1, no development and no ground disturbance would occur. Although the potential for encountering new sensitive cultural resources is considered limited at the site, Alternative 1 would avoid disturbance of any previously unknown resources at the site, and no impacts to archaeological, historical, or tribal cultural resources would occur. Therefore, impacts would be less than the Orchard Park Redevelopment component. *(Less Impact)*

Biological Resources

Under Alternative 1, the project site would continue as undeveloped open space into the future. No new ground disturbance would occur under Alternative 1, and no permanent facilities would be placed on the site. Further, under Alternative 1, habitat, although disturbed as a result of previous on-site development and demolition, would continue to be provided for a variety of species. Comparatively, the Orchard Park Redevelopment component would include more intense ground disturbance (grading) and would place permanent facilities on the site. Section 3.4, “Biological Resources,” includes mitigation measures to reduce the project’s potential impacts, including those to nesting birds and raptors, as well as potential bats roosting within trees on-site, to a less-than-significant level. Because Alternative 1 would not require the potential removal of on-site important trees, compared to the Orchard Park Redevelopment component, potential impacts related to conflicts with UC Davis policy regarding heritage or specimen trees and the need to provide replacement trees would be avoided. Therefore, although the Orchard Park component includes mitigation that would reduce impacts to biological resources where feasible to a less-than-significant level, complete avoidance under Alternative 1 would result in reduced impacts. *(Less Impact)*

Energy

Under this alternative, no development of the Orchard Park site would occur, including the development of more energy efficient structures and facilities. Nonetheless, lack of development under this alternative would result in less energy consumption associated with the construction and operation of on-site structures/uses. Therefore, impacts would be less than the Orchard Park Redevelopment component under this alternative. *(Less Impact)*

Geology, Soils, and Seismicity

Implementation of Alternative 1 would result in the continuation of undeveloped conditions at the Orchard Park site. No site improvements or structures would be developed. No construction activities would be required. Implementation of the alternative would result in no impact related to soil- or seismic-related hazards. By comparison, the Orchard Park Redevelopment component includes development of site improvements and structures. Because the Orchard Park Redevelopment component would be developed consistent with all applicable building code requirements and would incorporate recommendations from a site-specific geotechnical survey, potential soil- and seismic-related impacts would be less than significant. Nonetheless, because no development would occur under Alternative 1, no impacts associated with geologic conditions would occur, and impacts would be less than the Orchard Park Redevelopment component. *(Less Impact)*

Greenhouse Gas Emissions and Climate Change

No construction would occur under Alternative 1 and substantially fewer vehicle trips would be generated on a daily basis in comparison to the Orchard Park Redevelopment component. Further,

no increase in electricity or natural gas consumption would occur. Therefore, greenhouse gas (GHG) emissions would be very low. Although the Orchard Park Redevelopment component's GHG emissions would be consistent with UC and state GHG reduction targets, total on-site GHG emissions would be greater than the GHG emissions associated with Alternative 1. As noted in Chapter 6, "Alternatives," of Volume 1, without additional student housing opportunities like the Orchard Park component provided on-campus, per capita GHG emissions associated with students driving to and from campus would likely be greater and could result in greater emissions for UC Davis as a whole. Nonetheless, with respect to the contemplated development at the Orchard Park site, no emissions associated with on-site conditions would occur under this alternative, which would be less than the Orchard Park Redevelopment component. (*Less Impact*)

Hazards and Hazardous Materials

With implementation of the Orchard Park Redevelopment component, on-site construction activities would entail the transport, use, and storage of hazardous materials, and disruption of area roadways during construction may occur hinder traffic flow and affect emergency response. However, impacts would be less than significant with implementation of proper procedures and material handling. However, by not developing the Orchard Park site as part of Alternative 1, no impacts would occur under this alternative, less than that of the Orchard Park Redevelopment component. (*Less Impact*)

Hydrology and Water Quality

Earth-moving activities associated with construction of new student housing at the Orchard Park site would not occur under this alternative, thereby limiting the potential for this alternative to affect hydrology and water quality within the Orchard Park Redevelopment site and surrounding area. For the purposes of this assessment, it is assumed that on-site soils are secured through the establishment of vegetation and that impacts to water quality are not occurring under existing conditions. While implementation of feasible measures as part of the Orchard Park Redevelopment component would result in less-than-significant impacts, no impacts would occur as a result of this alternative. (*Less Impact*)

Land Use and Planning

Under Alternative 1, there would be no changes to the existing and undeveloped condition of the site. As a result, no potential conflicts with existing land uses would occur. While the Orchard Park component would be more consistent with the current 2003 and proposed 2018 LRDP land plan, it would result in an intensification of student housing compared to existing and historic conditions at the site. Nonetheless, no land use conflicts are anticipated because of the presence of existing residential uses nearby, and impacts would be less than significant. However, this alternative would not result in further development at the site, and as a result, no impacts would occur, which would be less than the Orchard Park Redevelopment component. (*Less Impact*)

Noise

Noise generated from earth-moving activities (e.g., grading, excavation) would not occur this alternative; in comparison, the Orchard Park Redevelopment component would result in construction noise. Further, no operational noise would be associated with undeveloped space, and as a result no noise impacts would occur with implementation of this alternative. In comparison, operational noise would occur with occupancy of the Orchard Park Redevelopment component. Feasible mitigation measures are available to reduce the impacts of the Orchard Park component to a less-than-significant level, as described in Section 3.12, "Noise." However, compared to the Orchard Park Redevelopment component, impacts would be less under this alternative because of the lack of development and occupancy/activity at the Orchard Park site. (*Less Impact*)

Population and Housing

Under Alternative 1, there would be no new residential units provided at the Orchard Park site (refer to discussion above regarding consistency of this alternative with Alternative 1 of the 2018 LRDP). By not developing the site with additional student housing, implementation of this alternative would not increase the percentage of students living on-campus nor would it accommodate additional student growth that may occur with implementation of the 2018 LRDP. As a planned site for student housing development, not developing the Orchard Park site would necessitate the construction of additional student housing elsewhere within UC Davis. As a result, this alternative would result in potentially greater impacts to population and housing compared to the Orchard Park Redevelopment component should the 2018 LRDP be adopted. (*Greater Impact*)

Public Services

Alternative 1 would not result in increased demands for public services as the Orchard Park site would be maintained as open space and devoid of on-site structures. Under the 2018 LRDP, impacts were determined to be less than significant because the campus is currently located within the service area of, and served by, local public service providers. The site would still be located within the service area of those service providers; however, it would likely demand less from public service providers because of the lack of human activity at the Orchard Park site. Alternative 1 would also result in less-than-significant public service impacts compared to the Orchard Park Redevelopment component but to a lesser degree. (*Less Impact*)

Recreation

Alternative 1 would not increase on-campus population such that additional recreational facilities would be necessary, nor would it provide the additional recreation space for new students identified in the 2018 LRDP. Under the 2018 LRDP, impacts were determined to be less than significant because new student housing would include recreational facilities where appropriate. Retention of the site in an undeveloped condition may result in its use for passive recreational opportunities, but anticipated use would be minimal. Nonetheless, impacts to recreational facilities would be less than significant, similar to the Orchard Park Redevelopment component. (*Similar Impact*)

Transportation, Circulation, and Parking

Implementation of Alternative 1 would not result in new students/faculty/staff traveling to and from the Orchard Park site each day, compared to the Orchard Park component, which would include additional student vehicle trips to and from campus. As a result, impacts on intersections, freeways, or local neighborhood traffic would be less under this alternative than the Orchard Park Redevelopment component. (*Less Impact*)

Utilities and Service Systems

Under Alternative 1, there would be no demand for utilities and service systems as a result of the construction and operation of on-site uses. No impact would occur, which would be less than the projected demands associated with the Orchard Park Redevelopment component. (*Less Impact*)

Achievement of Project Objectives

Under Alternative 1, no new student housing would be provided at the Orchard Park site, which would not achieve any of the objectives stated above for the Orchard Park Redevelopment component.

ALTERNATIVE 2: REDUCED DEVELOPMENT

Under this alternative, UC Davis would develop the Orchard Park site with student housing for up to 900 additional student beds, which would be consistent with the initial housing concept for the site identified in May 2017. This would represent a 36 percent reduction compared to the Orchard Park Redevelopment component (1,400 student beds) evaluated in this volume of the EIR. It is assumed that up to 300,000 sf of new construction would occur under this alternative, compared to the approximately 430,000 sf of new construction that would occur with implementation of the Orchard Park Redevelopment component.

Aesthetics

Changes in existing visual conditions would occur at the Orchard Park site but to a lesser degree than the proposed Orchard Park Redevelopment component. As currently proposed, on-site structures with implementation of the Orchard Park Redevelopment component would be up to six stories tall, whereas under this alternative, on-site structures would more likely be two to three stories high, at most. Nonetheless, as the current condition of the Orchard Park site is undeveloped open space, and both the Orchard Park Redevelopment component and Alternative 2 would result in the construction of multi-story student housing buildings, overall impacts to aesthetics and visual conditions would be less than significant under this alternative and similar to the Orchard Park Redevelopment component. *(Similar Impact)*

Agriculture and Forestry Resources

The Orchard Park site is not currently in agricultural production or designated as Important Farmland. As such, no impacts would occur under this alternative, similar to the Orchard Park Redevelopment component. *(Similar Impact)*

Air Quality

Alternative 2 would not include as much new development as the Orchard Park Redevelopment component, and thus, would generate fewer air emissions during construction. From an operational perspective, this alternative would result in fewer operational air emissions associated with operation of student housing facilities, including mobile emissions associated with student travel. Construction and operational air quality impacts associated with the Orchard Park Redevelopment component were determined to be less than significant with incorporation of mitigation measures, which would also be incorporated as part of this alternative. Therefore, air quality impacts associated with this alternative would be less than significant following mitigation incorporation but less than the Orchard Park component because of the lesser level of construction and development. *(Less Impact)*

Archaeological, Historical, and Tribal Cultural Resources

Earth-moving activities within the Orchard Park site have the potential to disturb archaeological, tribal cultural, and/or historic resources or result in accidental discovery of human remains. With development of the Orchard Park Redevelopment component, ground-disturbing activities (e.g., grading, excavation) could result in discovery of archaeological resources, tribal cultural resources, or human remains; however, feasible mitigation measures and regulatory requirements/procedures would reduce these impacts to a less-than-significant level. Although the overall level of development would be less under this alternative, the area required for development would likely be similar and result in similar potential impacts to archaeological, historical, and tribal cultural resources. *(Similar Impact)*

Biological Resources

Under Alternative 2, UC Davis would likely lower the height of on-site structures compared to the proposed Orchard Park Redevelopment Component, thereby resulting in the same acreage of effect

and potential to impact biological resources located on-site and nearby. Therefore, impacts would be similar to the Orchard Park component and less than significant. (*Similar Impact*)

Energy

Under this alternative, lesser development would occur, including the development of more energy efficient structures and facilities at the Orchard Park site. While lesser development would involve lesser fuel consumption because of a less populated campus, energy efficiency per person would likely be less under this alternative than would be accomplished with the Orchard Park component, however the degree to which that would occur is speculative. Therefore, impacts would be less than significant under this alternative and less than the Orchard Park component due to the lesser overall demand for energy at the site. (*Less Impact*)

Geology, Soils, and Seismicity

Earth-moving activities associated with construction, have the potential to affect geology, soils, and seismicity. The types of impacts that could occur from development on campus, include: geotechnical issues, increased erosion, and exposure of buildings and people to seismic hazards. Existing regulations and permitting requirements, such as California Building Code requirements, National Pollutant Discharge Elimination System (NPDES) permit conditions, and best management practices, would minimize potential impacts to a less-than-significant level. Similarly, this alternative would result in less than significant impacts. Even though this alternative involves a lesser overall level of development under this alternative, the area required for development would likely be similar, and as a result, the potential for impacts campus-wide related to geology, soils, and seismicity would also be similar. (*Similar Impact*)

Greenhouse Gas Emissions and Climate Change

Due to the lesser level of development at the site under this alternative, there would be fewer GHG emissions associated with new development during construction. With respect to operation, this alternative, like the Orchard Park component, involves the placement of new energy efficient structures within available land and adjusting land use patterns to capture efficiencies related to alternative transportation. As this project would involve operation of a smaller development at the Orchard Park site, operational GHG emissions would also be smaller than those identified for the Orchard Park component. However, neither this alternative nor the Orchard Park component would conflict with UC or statewide sustainability goals or GHG emission targets, through UC Davis' commitment to achieve the UC Sustainable Practices Policy and actions outlined in the UC Davis Climate Action Plan. As noted in Chapter 6, "Alternatives," of Volume 1, without additional on-campus student housing opportunities like the Orchard Park component as part of the 2018 LRDP, per capita GHG emissions associated with total number of UC Davis students driving to and from campus would likely be greater and could result in greater emissions for UC Davis as a whole. Nonetheless, with respect to the contemplated development at the Orchard Park site, fewer emissions associated with on-site conditions would occur under this alternative. Thus, this alternative would also result in less than significant impacts, albeit to a lesser degree than the Orchard Park component. (*Less Impact*)

Hazards and Hazardous Materials

Construction activities under this alternative would entail the transport, use, and storage of hazardous materials; and release of hazardous materials from a site of known or potential contamination. In addition, disruption of area roadways during construction may hinder traffic flow and affect emergency response. However, feasible mitigation measures are available to reduce these impacts to a less-than-significant level. Similar types of impacts would occur under this alternative. (*Similar Impact*)

Hydrology and Water Quality

Earth-moving activities associated with construction of the Orchard Park component and this alternative have the potential to affect hydrology and water quality within the site. Existing regulations and permitting requirement, such as NPDES permit conditions, a storm water pollution prevention plan, and a stormwater quality control plan would reduce potentially significant impacts to a less-than-significant level. Similarly, under this alternative, development of on-site structures and facilities would be required to comply with existing regulations and implement similar mitigation to the Orchard Park component. Although to a lesser level of development would occur under this alternative, the degree to which these measures would need to be implemented would likely be similar. Impacts under this alternative would, therefore, be less than significant with mitigation and similar to the Orchard Park component. *(Similar Impact)*

Land Use and Planning

Under Alternative 2, the Orchard Park site would be developed to a lesser degree with student housing. However, UC Davis would likely lower the height of on-site structures compared to the Orchard Park component, thereby resulting in the same acreage of effect and potential to impact adjacent land uses. As noted in Section 3.11, "Land Use and Planning," no significant impacts related to potential land use conflicts as the project site is located adjacent to existing student housing along Orchard Park Drive. Impacts would be less than significant and similar to the Orchard Park component. *(Similar Impact)*

Noise

Earth-moving activities associated with construction of new student housing would occur under both this alternative and the Orchard Park component, thereby resulting in similar noise and vibration impacts. Feasible mitigation measures are available to reduce these impacts to a less-than-significant level, as described in Section 3.12, "Noise." Although the overall level of development would be less under this alternative, the land area required for plan implementation would likely be similar and result in similar impacts compared to the Orchard Park component. *(Similar Impact)*

Population and Housing

Under Alternative 2, there would be fewer residential units constructed and operated at the Orchard Park site. By not developing the site with additional student housing, implementation of this alternative would not increase the percentage of students living on-campus nor would it accommodate additional student growth that may occur with implementation of the 2018 LRDP. Similar to the Orchard Park component, this alternative would not induce substantial employment growth as it would provide solely student housing and would not necessitate a substantial increase in the number of employees on-campus. As a planned site for student housing development, choosing not to develop the Orchard Park site to the extent proposed as part of the Orchard Park component may necessitate the construction of additional student housing elsewhere within UC Davis. As a result, this alternative would result in potentially greater impacts to population and housing compared to the Orchard Park component should the 2018 LRDP be adopted. *(Greater Impact)*

Public Services

Alternative 2 would result in an increase in demand for public services similar to the Orchard Park component. Under Alternative 2, the Orchard Park component would be developed to a lesser degree with student housing. However, UC Davis would likely lower the height of on-site structures compared to the Orchard Park component, thereby resulting in the same acreage of effect and potential to impact local public service providers. Alternative 2 would also result in less-than-significant public service impacts as neither alternative would involve an increase in service area boundaries or introduce uses that would require special consideration by public service providers. *(Similar Impact)*

Recreation

Alternative 2 would increase on-campus population and recreational needs but would, similar to the Orchard Park component, provide additional on-site recreational opportunities proximate to new student housing such that additional recreational facilities would not be necessary. Impacts for the Orchard Park component were determined to be less than significant because new student housing would include recreational facilities where appropriate. Impacts would similarly remain less than significant under this alternative. *(Similar Impact)*

Transportation, Circulation, and Parking

Under Alternative 2, development of new student housing at the Orchard Park site would increase commute trips on a daily basis compared to existing, undeveloped conditions. However, under this alternative, UC Davis would not provide as much student housing at the site, thereby reducing the number of trips (vehicle, pedestrian, bicycle, and transit) generated at the Orchard Park site. As a result, general transportation network congestion would be less under this alternative than the Orchard Park component, although impacts would likely still be significant, at least with respect to alternative transportation. *(Less Impact)*

Utilities and Service Systems

Under Alternative 2, the Orchard Park component would be developed to a lesser degree with student housing. However, UC Davis would likely lower the height of on-site structures compared to the Orchard Park component, thereby resulting in the same acreage of effect and need to extend utility service across the site. While the overall demand for utilities at the Orchard Park site would likely be less than the Orchard Park component's demand because of the lesser degree of development and lower number of students living on-site, the existing utilities and service systems provided by UC Davis would generally be sufficient to meet the additional demands associated with this alternative, similar to the 2018 LRDP. In general, impacts would be similar under this alternative but remain less than significant. *(Similar Impact)*

Achievement of Project Objectives

Under Alternative 2, new student housing would be provided at the Orchard Park site, but to a lesser degree than the Orchard Park component. As a result, this alternative would attain most of the project objectives identified above but not to the degree of the Orchard Park component. In particular, this alternative would not optimize the use of a currently underutilized site (undeveloped open space) to the degree of the Orchard Park component.

ALTERNATIVE 3: HIGHER DENSITY STUDENT HOUSING

Under this alternative, UC Davis would develop the Orchard Park site with student housing for up to 1,900 student beds. This would represent a 36 percent increase beyond the currently proposed Orchard Park component (1,400 student beds) evaluated in this volume of the EIR. It is assumed that up to 800,000 sf of new construction would occur under this alternative, compared to the approximately 642,000 sf of new construction that would occur with implementation of the Orchard Park component. This would be accomplished through the addition of floors/stories to the currently proposed structures. Instead of structures up to six stories in height, structures with up to eight floors may be required. This alternative would be consistent with Alternative 4 identified in Volume 1 for the 2018 LRDP.

Aesthetics

Changes in existing visual conditions would occur at the Orchard Park site but to a greater degree than the Orchard Park component. As currently proposed, on-site structures with implementation of

the Orchard Park component would be up to six stories tall, whereas under this alternative, on-site structures would more likely be up to eight stories high to accommodate the additional residential space. While the taller structures could be set further back from Russell Boulevard, the overall height of the on-site residential structures under this alternative would be higher than other residential structures in the area and would be taller than any development within the City of Davis. It is anticipated that such structures would be visible across long distances, especially from within UC Davis, and could impact existing long-distance views because of their additional height. As a result, this alternative would result in greater and potentially significant impacts when compared to the Orchard Park component. (*Greater Impact*)

Agriculture and Forestry Resources

The Orchard Park site is not currently in agricultural production or designated as Important Farmland. As such, no impacts would occur under this alternative, similar to the Orchard Park component. (*Similar Impact*)

Air Quality

Alternative 3 would include a greater level of development than the Orchard Park component, and thus, would generate greater air emissions during construction. From an operational perspective, this alternative would result in greater operational air emissions associated with student housing facilities, including mobile emissions associated with student travel, but would likely not exceed applicable thresholds of the Yolo Solano Air Quality Management District. The additional height of on-site structures would likely require a lengthened construction period and increased use of certain types of heavy equipment (e.g., cranes), but would not be anticipated to increase daily emissions, which would be determined by the number of pieces of equipment in operation within the same acreage as the Orchard Park component. From an operational perspective, per capita emissions would be expected to decrease as a result of fewer students driving to and from campus, however, overall emissions at the site itself would be expected to increase as a result of the additional intensity of development. Construction and operational air quality impacts associated with the Orchard Park component were determined to be less than significant with incorporation of mitigation measures, which would also be incorporated as part of this alternative. Therefore, air quality impacts associated with this alternative would be less than significant following mitigation incorporation but greater than the Orchard Park component because of the greater level of development. (*Greater Impact*)

Archaeological, Historical, and Tribal Cultural Resources

Earth-moving activities within the UC Davis campus have the potential to disturb archaeological, tribal cultural, and/or historic resources or result in accidental discovery of human remains. With implementation of the Orchard Park component, ground-disturbing activities (e.g., grading, excavation) could result in discovery of archaeological resources, tribal cultural resources, or human remains; however, feasible mitigation measures and regulatory requirements/procedures would reduce these impacts to a less-than-significant level. Although the overall level of development would be greater under this alternative, the area required for development would likely be similar and result in similar potential impacts to archaeological, historical, and tribal cultural resources. (*Similar Impact*)

Biological Resources

Under Alternative 3, UC Davis would likely increase the height of on-site structures compared to the Orchard Park component, thereby resulting in the same acreage of effect and potential to impact biological resources located on-site and nearby. Therefore, impacts would be similar to the Orchard Park component and less than significant with mitigation. (*Similar Impact*)

Energy

Under this alternative, a greater level of development would occur, including the development of more energy efficient structures and facilities at the Orchard Park site. A greater level of development at the site would involve higher fuel and energy consumption due to a more populated site, however, energy efficiency per person would likely be better under this alternative than would be accomplished with the Orchard Park component, however the degree to which that would occur is speculative. Therefore, impacts would be less than significant under this alternative and greater than the Orchard Park component because of the greater overall demand for energy at the site. (*Greater Impact*)

Geology, Soils, and Seismicity

Earth-moving activities associated with construction, have the potential to affect geology, soils, and seismicity. The types of impacts that could occur from development on campus, include: geotechnical issues, increased erosion, and exposure of buildings and people to seismic hazards. Existing regulations and permitting requirements, such as California Building Code requirements, NPDES permit conditions, and best management practices, would minimize potential impacts to a less-than-significant level. Similarly, this alternative would result in less than significant impacts. Even though this alternative involves a greater overall level of development under this alternative, the area required for development would likely be similar, and as a result, the potential for impacts campus-wide related to geology, soils, and seismicity would also be similar. (*Similar Impact*)

Greenhouse Gas Emissions and Climate Change

Due to the greater level of development at the site under this alternative, there would be more GHG emissions generated as a result of construction. With respect to operation, this alternative, like the Orchard Park component, involves the placement of new energy efficient structures within available land and adjusting land use patterns to capture efficiencies related to alternative transportation. Nonetheless, because of the greater intensity of on-site operation associated with the larger development, operational GHG emissions would be greater than those identified for the Orchard Park component. However, neither this alternative nor the Orchard Park component would conflict with UC or statewide sustainability goals or GHG emission targets, through UC Davis' commitment to achieve the UC Sustainable Practices Policy and actions outlined in the UC Davis Climate Action Plan. As noted in Chapter 6, "Alternatives," of Volume 1, without additional student housing opportunities on-campus like the Orchard Park Redevelopment component, per capita GHG emissions associated with the total number of students driving to and from campus would likely be greater and could result in greater emissions for UC Davis as a whole. Nonetheless, with respect to the contemplated Orchard Park Redevelopment component, greater emissions associated with on-site conditions would occur under this alternative, which would be greater than those associated with the Orchard Park Redevelopment component. Thus, this alternative would also result in less than significant impacts, albeit to a greater degree than the Orchard Park Redevelopment component. (*Greater Impact*)

Hazards and Hazardous Materials

Construction activities associated with the development of student housing at the Orchard Park site would entail the transport, use, and storage of hazardous materials; and release of hazardous materials from a site of known or potential contamination. In addition, disruption of area roadways during construction may hinder traffic flow and affect emergency response. However, feasible mitigation measures are available to reduce these impacts to a less-than-significant level. Similar types of impacts would occur under this alternative. (*Similar Impact*)

Hydrology and Water Quality

Earth-moving activities associated with construction of the Orchard Park component and this alternative have the potential to affect hydrology and water quality within the site. Existing

regulations and permitting requirement, such as NPDES permit conditions, a storm water pollution prevention plan, and a stormwater quality control plan would reduce potentially significant impacts to a less-than-significant level. Similarly, under this alternative, development of on-site structures and facilities would be required to comply with existing regulations and implement similar mitigation to the Orchard Park component. Although a greater level of development would occur under this alternative, the degree to which these measures would need to be implemented would likely be similar. Impacts under this alternative would, therefore, be less than significant with mitigation and similar to the Orchard Park component. *(Similar Impact)*

Land Use and Planning

Under Alternative 3, the Orchard Park site would be developed to a greater degree with student housing. However, UC Davis would likely increase the height of on-site structures compared to the Orchard Park component, thereby resulting in the same acreage of effect and potential to impact adjacent land uses. As noted in Section 3.11, “Land Use and Planning,” no significant impacts related to potential land use conflicts would occur as the project site is located adjacent to the existing student housing and multi-family housing within the City of Davis. Impacts would be less than significant and similar to the Orchard Park component. *(Similar Impact)*

Noise

Earth-moving activities associated with construction of new student housing would occur under both this alternative and the Orchard Park component, thereby resulting in similar noise and vibration impacts. Feasible mitigation measures are available to reduce these impacts to a less-than-significant level, as described in Section 3.12, “Noise.” Although the overall level of development would be greater under this alternative, the land area required for plan implementation would likely be similar and result in similar impacts compared to the Orchard Park component. *(Similar Impact)*

Population and Housing

Under Alternative 3, there would be more student beds constructed and operated at the Orchard Park site. By developing the site with additional student housing, implementation of this alternative would further increase the percentage of students living on-campus and would accommodate more of the UC Davis student enrollment than envisioned by the 2018 LRDP or proposed as part of the Orchard Park component. Similar to the Orchard Park component, this alternative would not induce substantial employment growth as it would provide solely student housing and would not necessitate a substantial increase in the number of employees on-campus. As a planned site for student housing development, choosing to develop the Orchard Park site to a greater extent than the Orchard Park component would either alleviate the need to construct student housing elsewhere within UC Davis at locations identified in the 2018 LRDP or allow for a higher percentage of the UC Davis student body to live on campus. As a result, this alternative would result in potentially less impacts to population and housing compared to the Orchard Park component should the 2018 LRDP be adopted. *(Less Impact)*

Public Services

Alternative 3 would result in an increase in demand for public services similar to the Orchard Park component. However, under Alternative 3, the Orchard Park site would be developed to a greater degree and with taller structures than currently proposed. While on-site structures would likely be built within the same acreage and result in the same area requiring coverage by local public service providers, the height of the on-site structures may require the acquisition of additional fire protection equipment. While this is not anticipated to necessitate the construction of additional fire protection facilities, it may also require specialized training for fire protection personnel. Nonetheless, the purchasing of additional equipment and specialized training would not be anticipated to result in

new significant impacts, and as a result, Alternative 3 would also result in less-than-significant public service impacts. *(Similar Impact)*

Recreation

Alternative 3 would increase on-campus population and recreational needs but would, similar to the Orchard Park component, provide additional on-site recreational opportunities proximate to new student housing such that additional recreational facilities would not be necessary. Impacts for the Orchard Park component were determined to be less than significant because new student housing would include recreational facilities where appropriate. Impacts would similarly remain less than significant under this alternative. *(Similar Impact)*

Transportation, Circulation, and Parking

Under Alternative 3, development of new student housing at the Orchard Park site would increase commute trips on a daily basis. Under this alternative, UC Davis would provide more student housing at the site, thereby potentially increasing the number of trips (vehicle, pedestrian, bicycle, and transit) generated at the Orchard Park site. As a result, general transportation network congestion would be greater under this alternative than the Orchard Park component, and impacts would be significant. *(Greater Impact)*

Utilities and Service Systems

Under Alternative 3, the Orchard Park component would be developed to a greater degree with student housing. UC Davis would likely increase the height of on-site structures compared to the Orchard Park component, thereby resulting in the same acreage of effect and need to extend utility service across the site. While the overall demand for utilities at the Orchard Park site would likely be higher than the Orchard Park component's demand because of the greater degree of development, the existing utilities and service systems provided by UC Davis would generally be sufficient to meet the additional demands associated with this alternative, similar to the 2018 LRDP. In general, impacts would be similar under this alternative but remain less than significant. *(Similar Impact)*

Achievement of Project Objectives

Under Alternative 3, new student housing would be provided at the Orchard Park site to a greater degree than the Orchard Park component. As a result, this alternative would achieve most of the project objectives identified above. However, the density required at the Orchard Park component under this alternative would be greater than that of anywhere else on campus and would be considered a potential change in culture/community compared to other on-campus housing opportunities at UC Davis. This alternative could also result in higher construction costs on a per-square-foot basis for the taller buildings which could conflict with the project objective to create an affordable residential community for students and student families. As a result, development of this alternative would be considered somewhat contrary to the project objectives related to enhancing the existing sense of community at UC Davis and may provide less opportunity for students to participate fully in the life of the campus and community.

4.4 COMPARISON OF ALTERNATIVES

Table 4-1 summarizes the environmental analyses provided above for the project alternatives.

Table 4-1 Comparison of the Environmental Impacts of the Alternatives in Relation to the Orchard Park Redevelopment Component

Environmental Topic	Orchard Park Redevelopment	Alternative 1 No Project	Alternative 2 Reduced Development	Alternative 3 Higher Density Student Housing
Aesthetics	LTS/M	<	=	>
Agricultural Resources	NI	=	=	=
Air Quality	LTS/M	<	<	>
Archaeological, Historical, and Tribal Cultural Resources	LTS/M	<	=	=
Biological Resources	LTS/M	<	=	=
Energy	LTS	<	<	>
Geology, Soils, and Seismicity	LTS/M	<	=	=
Greenhouse Gas Emissions and Climate Change	LTS	<	<	>
Hazards and Hazardous Materials	LTS/M	<	=	=
Hydrology and Water Quality	LTS/M	<	=	=
Land Use and Planning	LTS	<	=	=
Noise	LTS/M	<	=	=
Population and Housing	LTS	>	>	<
Public Services	LTS	<	=	=
Recreation	LTS	=	=	=
Transportation, Circulation, and Parking	SU	<	<	>
Utilities and Service Systems	LTS/M	<	=	=

Impact Status:

LTS = Less Than Significant Impact

= - Impacts would be similar to those of the project.

LTS/M = LTS with Mitigation

< - Impacts would be less than those of the project.

SU = Significant and Unavoidable

> - Impacts would be greater than those of the project.

Source: Data compiled by Ascent Environmental in 2018

4.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines section 15126.6 states that an EIR should identify the “environmentally superior” alternative. “If the environmentally superior alternative is the ‘no project’ alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.” As shown in the Executive Summary chapter of this volume of the EIR, there would be significant impacts associated with the project. These impacts are related to aesthetics, agricultural resources, air quality, cultural resources, biological resources, geology and soils, hazards, hydrology, noise, traffic, and utilities. Each of the alternatives presented would result in lesser environmental impacts

than the 2018 LRDP in certain areas while greater impacts in other areas, primarily because of differences in the level and type of development. None of the alternatives presented would only reduce impacts associated with the 2018 LRDP.

When considering objectives, the Orchard Park Redevelopment component would best meet the purpose and need. In contrast, Alternative 1 would not provide additional housing to accommodate any growth in student enrollment. Alternative 2 would not provide additional on-campus housing to the degree of the Orchard Park component and assist in UC Davis achieving the goals of the 2018 LRDP. While Alternative 3 would achieve a greater level of on-campus student housing than envisioned by the 2018 LRDP, it would likely increase the overall scale of campus development and further intensify construction activities within central campus and result in higher construction costs that could decrease affordability for UC Davis students. Because the No Project Alternative (Alternative 1) would represent the least amount of development compared to existing conditions and thus, least potential physical environmental impacts, Alternative 1 would be considered the environmentally superior alternative.

Consistent with State CEQA Guidelines (California Code of Regulations Section 15126.6 [e][2]), because the environmentally superior alternative was identified as the No Project Alternative, another environmentally superior alternative shall be identified. Based on the environmental analysis contained in this Draft EIR, Alternative 2 would result in less impacts compared to the Orchard Park component but not to a degree of eliminating any significant impacts. However, Alternative 2 would result in potentially greater impacts to population and housing, as implementation of the 2018 LRDP with Alternative 2 may necessitate the construction of additional student housing elsewhere, which could result in additional environmental effects.

In conclusion, the environmentally superior alternative would be either the Orchard Park Redevelopment component or Alternative 2, depending on decisions about the priority of types of environmental benefits and adverse effects by UC Davis. Therefore, the environmental impact differences between these two alternatives are not substantial enough that one is clearly superior over the others.