CHAPTER 5 Other CEQA Considerations

Section 15126 of the *California Environmental Quality Act* (CEQA) Guidelines requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation. As part of this analysis, the EIR must also identify (1) significant environmental effects of the Proposed Project, (2) significant environmental effects that cannot be avoided if the Proposed Project is implemented, (3) cumulative impacts, (4) significant irreversible environmental changes that would result from implementation of the Proposed Project, (5) growth-inducing impacts of the Proposed Project, (6) mitigation measures proposed to minimize significant effects, and (7) alternatives to the Proposed Project.

5.1 SIGNIFICANT ENVIRONMENTAL EFFECTS

Chapter 3 (Environmental Analysis) of this EIR, which includes Sections 3.1 through 3.15 of this EIR, provides a comprehensive analysis of the Proposed Project's environmental effects, including the level of significance both before and after mitigation.

5.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided even with the implementation of feasible mitigation measures. The environmental effects of the Proposed Project on various aspects of the environment are discussed in detail in Chapter 3 of this EIR. Significant impacts that cannot be avoided if the project is approved as proposed include the following:

Aesthetics

Impacts from increased light and glare would be significant and unavoidable for development on all project sites.

Agricultural Resources

Implementation of the Proposed Project would convert two sites presently designated by the FMMP as prime and unique farmland from agricultural to residential, commercial, and public facilities uses. Specifically, Site 1, which is 387 acres, would be converted to residential and commercial uses, while 45 acres at the north end of the 121-acre Site 7 would be converted to public facilities uses to allow a sports park and civic center/community center. The conversion of Site 1 and a 45-acre portion of Site 7 in the Project Area from agricultural to residential, commercial, and public facilities uses would result in a reduction of the total amount of these farmland types within Orange County by approximately three percent. In addition, the conversion of this land could result in the elimination of approximately 85 percent of the prime and unique farmland within the City's boundaries. Once the land is converted to

urban uses, the ability to use the land for agricultural production will be lost. Although not all of the land is currently being used for agricultural production, the loss of approximately 432 acres of prime and unique agricultural land is considered a substantial and significant conversion. Therefore, implementation of the Proposed Project would have a significant and unavoidable impact on agricultural resources.

Air Quality

The estimated daily operational emissions resulting from buildout of Sites 1 through 6 and 45 acres of Site 7 under the Proposed Project would exceed the SCAQMD recommended thresholds of significance for CO, VOC, NO_X, and PM_{10}. The exceedance of the SCAQMD thresholds for these criteria pollutants is primarily due to the increase in motor vehicles traveling to and from the new land uses within these sites. As no feasible mitigation is available to reduce the amount of motor vehicle trips generated by the new land uses on these sites under the Proposed Project to the extent that motor vehicle emissions would be above the SCAQMD's recommended thresholds, this impact would be significant and unavoidable.

Both construction- and operation-related daily emissions associated with the development projects that are planned to occur on Sites 1 through 7 from implementation of the Proposed Project are anticipated to exceed SCAQMD significance thresholds for criteria pollutants for which the Basin is in nonattainment. Under this condition, the development proposed by the Proposed Project would also make a cumulatively considerable contribution to these criteria pollutants. Therefore, this impact is anticipated to be significant and unavoidable.

Hydrology and Water Quality

Measured concentrations of chlorpyrifos and diazinon in San Diego Creek (at the Campus Station) are approximately 120 ng/L and 848 ng/L, respectively. Therefore, to meet TMDL requirements, existing conditions runoff concentrations will need to be reduced by 90 to 97 percent. Implementation of the Proposed Project will include residential and mixed-use land uses and would remove the current agricultural uses on Sites 1 and 7. This could result in an overall net decrease in the amount of chlorpyrifos and diazinon in runoff water compared to current conditions because these chemicals have been banned for all non-agricultural uses. However, measured concentrations of chlorpyrifos from residential areas in Orange County have ranged from 11.3 to 803 ng/L during dry weather flow and 0 to 270 ng/L during wet weather. Diazinon concentrations ranged from 1159 to 3265 ng/L during dry weather flow and 182.7 to 4327ng/L during wet weather flow (Schiff and Tiefenthaler 2003). These data suggest that even if pesticide concentrations in Proposed Project stormwater are less than existing conditions, TMDL requirements may still be exceeded. Implementation of BMPs to the maximum extent practicable may still result in exceedance of pesticide TMDLs.

Noise (Cumulative)

The Proposed Project would negligibly increase noise in some areas of the City while decreasing it in other areas. The 2030 Project scenario would increase roadway noise by a maximum of 0.9 dBA CNEL over the existing 2030 General Plan scenario and would in fact reduce roadway noise on several roadway

segments by as much as 0.9 dBA CNEL, due to the Proposed Project creating an overall reduction in traffic resulting from the existing General Plan by 52 percent. However, full buildout of the General Plan with the Proposed Project (2030 Project scenario) would increase roadway noise levels by as much as 11.5 dBA CNEL over existing conditions. This is considered a significant increase over existing conditions. While the project contribution may be less than cumulatively considerable when compared to the 2030 General Plan scenario, noise has been classified as a significant and unavoidable cumulative impact based on a comparison of the 2030 Project scenario with existing conditions.

Population and Housing

The residential component of the Proposed Project would substantially increase population growth within the City (by approximately 20 percent); Proposed Project impacts on population growth would therefore be considered significant and unavoidable.

Traffic and Transportation (Cumulative)

The Proposed Project in combination with cumulative development would result in cumulative unmitigated impacts at the following seven intersections, based on a comparison of the 2030 Project Scenario to existing conditions:

- Within the Study Area:
  25. El Toro & Jeronimo
  32. Ridge Route & Rockfield
- Within the Expanded Study Area:
  130. Ridge Route at Moulton Pkwy.
  131. Santa Maria Av. at Moulton Pkwy.
  132. El Toro Rd. at Moulton Pkwy.
  137. Los Alisos Bl. at Trabuco Rd.
  138. Trabuco Rd. at Alicia Pkwy.

These are significant unmitigated cumulative impacts. The project's contribution to these cumulative impacts may be cumulatively considerable when compared to existing conditions. However, it should be noted that cumulative impacts at one of these intersections (25. El Toro & Jeronimo) would be significantly less with Proposed Project than with development of the project sites consistent with the existing General Plan, and the cumulative impact to the remaining six intersections would not be significantly different under the 2030 Project Scenario than the 2030 General Plan Scenario (see Table 3.14-14).

5.2.2 Cumulative Impacts

Cumulative Impacts

CEQA requires that an EIR must discuss cumulative impacts to determine whether the cumulative impact is significant. If the cumulative impact is significant, the project's incremental effect must be analyzed to determine if the effects are cumulatively considerable. According to Section 15065(a)(3) and 15130 of the CEQA Guidelines, this determination is based on an assessment of the project's incremental effects viewed in connection with the effects of past projects, the effects of other current projects, and the effects of foreseeable future projects. The discussion of cumulative impacts must reflect the severity of the impacts and the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. Further, the discussion is guided by the standards of practicality and reasonableness. According to Section 15355 of the CEQA Guidelines:

> "Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.
>
> (a) The individual effects may be changes resulting from a single project or a number of separate projects.
>
> (b) The cumulative impact from several projects is the change in the environment, which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

A significant cumulative impact does not necessarily mean that the project-related contribution to that impact is also significant. According to Section 15130(a):

> An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065(a)(3). 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..

The geographic scope of the cumulative impact analysis varies depending upon the specific environmental issue area being analyzed. In addition to describing the geographic scope of analysis, where appropriate, each section also designates the cumulative context within the designated geographic area. Finally, and where appropriate to the analysis in question, cumulative impacts are assessed with reference to a list of off-site "related projects," as described by CEQA Guidelines §15130(b).

A variety of off-site, related projects contribute to the cumulative context for the Proposed Project. The list of cumulative projects is provided by Tables 1-1 and 1-2 (List of Related Development Projects) and includes those projects that are (1) completed but not fully occupied, (2) currently under construction or beginning construction, (3) proposed with applications on file at the City, or (4) reasonably foreseeable.

Aesthetics

The regional context for a discussion of cumulative impacts to aesthetics and visual quality is the City of Lake Forest, as the City exists within an existing urban fabric of surrounding communities. The analysis includes all cumulative growth therein, as represented by implementation of the City of Lake Forest General Plan and the projects identified in Tables 1-1 and 1-2.

The General Plan would regulate any new development that occurs within the City. With respect to the Project Area, sweeping views of the Project Area are limited, and only exist from adjacent roadways and higher elevations in various locations near the specific sites. In particular, residents of the Portola Hills and Foothill Ranch communities have views of the expanse of open space that exists to the south of these developments, and travelers of SR-241 also have views of this open space. Because all proposed development is proposed adjacent to existing development, or development that would occur under the General Plan on other sites, the visual effect will be a seamless transition from existing to proposed uses. The Santa Ana Mountains may be viewed from numerous vantage points in the City, and cumulative development within the City and in other portions of the Project Area not part of the Proposed Project would not likely result in significant blockages of scenic views. Views from the Project Area of the Santa Ana Mountains to the north would not be significantly affected. Thus, the contribution of the Proposed Project to impacts associated with a substantial adverse effect on a scenic vista would not be considered considerable and would be a less-than-significant impact.

It is possible that certain views of scenic resources, including trees and rock outcroppings, could be affected by cumulative development on a site-by-site basis. It is anticipated that the protections afforded to natural scenic resources through the CEQA review process and local design review procedures will be applied, resulting in a less-than-significant cumulative impact. Further, the Project Area does not contain any specific scenic resources, other than views previously described. Therefore, the Proposed Project itself would have no contribution to this impact and the cumulative impact would be less than significant.

With respect to a substantial degradation of the visual character or quality of the area, cumulative development in the City will be guided by the General Plan and local design review procedures, which would continue to protect the visual character of the area. These processes would ensure the cumulative impact to the visual character or quality of the area would be less than significant. Moreover, the Proposed Project has been planned to provide a seamless transition between existing and proposed development. The Proposed Project will be implemented in a manner that complies with all relevant design guidelines and processes outlined in the Municipal Code such that it is consistent in height, scale, massing, and architectural elements and features to existing development. In addition, implementation of General Plan policies addresses design features, siting, and landform alteration. Thus, contribution of the Proposed Project to cumulative impacts would not be cumulatively considerable, and the Proposed Project would have a less-than-significant contribution to cumulative impacts.

Some of the City of Lake Forest is composed of single- and multi-family residential neighborhoods that could be sensitive to increases in light or glare. Consequently, growth representing full implementation of the applicable General Plan and related projects could result in the creation of new sources of light or glare that could affect day or nighttime views. Additional development could also increase daytime glare

due to an increase in the number of windows and use of certain types of building materials. Design controls would minimize these effects through lighting placement and direction. However, where development occurs in areas that do not contain substantial existing structures or lighting, the combined effect of related project development would result in changes to the ambient condition. This would result in a significant cumulative impact. Development under the Proposed Project would occur in areas that do not contain substantial existing structures or lighting, resulting in a cumulatively considerable contribution to this impact. The Proposed Project's contribution to cumulative impacts would be significant.

All cumulative development in the City of Lake Forest is subject to design guidelines and development guidelines of the General Plan, applicable Planned Community text, and the Municipal Code. As the Proposed Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, or result in a design that is not permitted by applicable standards and design guidelines or Planned Community text, it would not contribute to any cumulative impact relative to any plan policies. No cumulative impact would result.

Agricultural Resources

The geographic context for the analysis of cumulative agricultural impacts is Orange County. Development of the Proposed Project, in combination with development in Orange County, would convert soils designated as Prime Farmlands, Unique Farmland, and Farmland of Statewide Importance to non-agricultural uses throughout the County. In addition, future development has the potential to convert lands currently used for active agricultural production within the County to nonagricultural uses.

As shown in Figure 3.2-1 and discussed previously, Orange County saw 4,609 acres of land—including 2,346 acres of important farmland—converted to urban uses between 2000-2002. In addition, a net total of 3,535 acres of agricultural land were reclassified to urban land by the FMMP. Further, 7,115 acres of "other" land—neither built-up nor used for agriculture, such as wetlands, low-density "ranchettes" or brush and timberlands unsuitable for grazing—were reclassified as urban. In addition, as described throughout Section 3.2 of the EIR, approximately 432 acres of prime and unique agricultural land in the City will eventually be developed. Therefore, this trend is likely to continue as development pressure throughout the City and County increases. The loss of this prime and unique farmland throughout the County is considered to be a significant cumulative impact. In particular, the conversion of 45 acres on the site of the present Nakase Nursery operations could place additional pressure on the remaining 86 acres on that site to convert to non-agricultural uses, since the nursery operation would be smaller after implementation of the Proposed Project. This could result in a further considerable cumulative impact on the remaining 86 acres of prime and unique farmland on Site 7. Because implementation of the Proposed Project would result in the conversion, and elimination, of a significant amount of prime and unique farmland in the City and County, the contribution of the Proposed Project would be cumulatively considerable. Consequently, the cumulative impacts of the Proposed Project on prime and unique farmland would be significant. Impacts on Williamson Act lands would be less than cumulatively considerable, as no Williamson Act lands are included on the project sites.

Similar to the loss of existing prime and unique farmland throughout the County, a similar argument can be made with respect to the conversion of existing farmland to non-agricultural uses. Not all Farmland is designated by the FMMP as Important Farmland, but there is land throughout the City and County that is presently being operated for agricultural uses. As development increases throughout the County, these agricultural lands may be converted to non-agricultural development such as residential and commercial uses, which would represent a significant cumulative impact. Because implementation of the Proposed Project would result in the conversion, and elimination, of existing farmland in the City and County to non-agricultural uses, the contribution of the Proposed Project would be cumulatively considerable. Consequently, the cumulative impacts of the Proposed Project on the conversion of agricultural uses would be significant.

Air Quality

The geographic context for the air quality cumulative impacts is SRA 19 ('Source Area Receptors' as defined in 3.3 Air Quality) of the Basin, which covers the Saddleback Valley area. The analysis accounts for all anticipated cumulative growth within this geographic area, including ambient growth along with development of the related projects provided in Tables 1-1 and 1-2 in Chapter 1 (Introduction) of this EIR. As discussed in Impact 3.3-3 under the Proposed Project, the significance of cumulative air quality impacts is typically determined according to the project methodology employed by the SCAQMD. For the purposes of impacts relating to objectionable odors, the geographic context is considered to be the City of Lake Forest, due to the limited localized nature of odor impacts.

Cumulative development is not expected to result in a significant impact in terms of conflicting with, or obstructing implementation of, the 2003 AQMP. As discussed in Impact 3.3-1 under the Proposed Project, growth considered to be consistent with the AQMP would not interfere with attainment because this growth is included in the projections utilized in the formulation of the AQMP. Consequently, as long as growth in the Basin is within the projections for growth identified in the Growth Management Chapter of the Regional Comprehensive Plan and Guide, implementation of the AQMP will not be obstructed by such growth. As growth in the Basin has not exceeded these projections, this is considered to be a less-than-significant cumulative impact. Additionally, growth under the Proposed Project would not impair implementation of the AQMP (see Impact 3.3-1 under the Proposed Project). Therefore, the cumulative impact of the Proposed Project regarding potential conflicts with the AQMP would be less than significant.

Because the Basin is currently in nonattainment for ozone, CO, and PM_{10}, cumulative development could violate an air quality standard or contribute to an existing or projected air quality violation. Therefore, this is considered to be a significant cumulative impact. With regard to determining the significance of the Proposed Project contribution, the SCAQMD neither recommends quantified analyses of cumulative construction emissions nor provides methodologies or thresholds of significance to be used to assess cumulative construction impacts. According to the SCAQMD, individual construction projects that exceed the SCAQMD recommended daily thresholds for project-specific impacts would be considered to cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment (Smith 2005). As discussed previously under Impact 3.3-2 under the Proposed Project, the overall construction emissions generated by the Proposed Project are expected to result in short-term

air quality impacts. Thus, construction under the Proposed Project would make a cumulatively considerable contribution to this significant impact. Thus, the cumulative impact of the Proposed Project for construction emissions would be significant and unavoidable.

With regard to daily operational emissions and the cumulative net increase of any criteria pollutant for which the region is in nonattainment, there would be a cumulative significant impact, due to nonattainment of ozone, CO, and PM_{10} standards in the Basin. With respect to determining the significance of the Proposed Project contribution, the SCAQMD has indicated that if an individual project results in project emissions of criteria pollutants (CO, VOC, NO_X, SO_X, and PM_{10}) that exceed the SCAQMD recommended daily thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these criteria pollutants for which the Proposed Project region is in nonattainment under an applicable federal or state ambient air quality standard (Smith 2005). As discussed previously in Impact 3.3-2 under the Proposed Project, operation of the new land uses proposed by the Proposed Project would cause a net increase in daily operation-related emissions of CO, VOC, NO_X, and PM_{10} that would exceed the thresholds of significance recommended by SCAQMD. Since the Basin is in nonattainment for CO, and both VOC and NOx are precursors of ozone, for which the Basin is also in nonattainment, the contribution of daily operational emissions by the Proposed Project would be cumulatively considerable. Thus, the cumulative impact of the Proposed Project for operational emissions would be significant.

Cumulative development is not expected to expose sensitive receptors to substantial pollutant concentrations. As discussed in Impact 3.3-4 under the Proposed Project, the future CO concentrations at the study intersections in 2030 are based on the projected future traffic volumes from the study intersections contained in the traffic study, which takes into account emissions generated from the new land uses under the Proposed Project, future ambient growth, and related projects in the Project Area. As shown in Tables 3.3-5 and 3.3-6, future 8-hour CO concentrations near the study intersections in the Project Area and the "extended study area" would not exceed national or state ambient air quality standards. Therefore, CO hotspots would not occur near these intersections in the future, and this cumulative impact would be less than significant; no significant project cumulative impact would occur for CO. It is also unlikely that future projects will result in long-term future exposure of sensitive receptors to substantial pollutant concentrations, because CO levels are projected to be lower in the future due to improvements in vehicle emission rates predicted by the ARB. Therefore, the cumulative impact of the Proposed Project is considered to be less than significant.

Cumulative development would not have a significant impact in terms of the creation of objectionable odors affecting a substantial number of people. For this threshold, the relevant geographic area would be the City of Lake Forest. Related projects projected to be built in the City include residential, office, commercial, public and religious facilities, and industrial developments, and could include restaurants. Odors resulting from the construction of these projects are not likely to affect a substantial number of people, due to the fact that construction activities do not usually emit offensive odors. In addition, standard construction requirements would be imposed on the developers/applicants associated with these construction projects that would address odors from construction activities. The odor impacts resulting from operation of these projects are not expected to affect a substantial amount of people, as activities typically associated with these uses do not emit offensive odors and solid waste from these

projects would be stored in special areas and in containers as required by City and Health Department regulations. In addition, restaurants are typically required to have ventilation systems that avoid substantial adverse odor impacts. Thus, this cumulative impact would be less than significant. Because a less-than-significant cumulative impact would occur with respect to objectionable odors, the cumulative impact of the Proposed Project would also be less than significant.

Biological Resources

The geographical context for the analysis of cumulative biological impact includes the areas covered by the Central and Coastal Orange County Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) and the associated Implementation Agreement (approximately 325 square miles). The analysis includes all cumulative growth therein, as represented by implementation of each of the thirteen participating City's General Plans and the projects identified in Table A of the GMA for City of Lake Forest.

The primary effects of the Proposed Project, when considered with other projects in the Region (as defined above), would be the cumulative direct loss of open space, vegetation important to raptors, habitat of sensitive or special-status wildlife species, and regional movement corridors that support migratory avian species. Specifically, present and probable future projects in the vicinity of the Proposed Project are anticipated to permanently remove plant and wildlife resources, which could affect special-status species, nesting habitat for resident and migratory avian species, wetlands, sensitive natural plant communities, wildlife movement, and/or local policies or ordinances protecting biological resources.

With respect to special-status species, including sensitive natural plant communities and raptor foraging habitat, although habitat present within different sites of the Proposed Project vary from high to low quality, it does provide open spaces for foraging, refuge, and areas of limited disturbance that can be utilized for reproduction. However, anticipated cumulative impacts have been addressed within the region by the Central and Coastal NCCP/HCP. Specifically, the Southern Coastal NCCP/HCP region was approved in 1996 and established a 37,380-acre reserve system that includes significant areas of twelve major habitat types and covers thirty-nine sensitive plant and animal species. The plan was designed to guide habitat conservation and compatible land use over 209,000 acres of developed land and open space in two noncontiguous areas of Orange County (the Central and Coastal subregions). The plan establishes a permanent reserve of about 38,000 acres of several types of habitat, including 19,000 acres of coastal sage scrub habitat. As the NCCP/HCP focuses on multiple species and habitats and address the conservation of these species on a regional context, the NCCP/HCP by design addresses cumulative biological impacts for take of covered species within the Plan Area. Specifically, as stated on page ES-2 of the NCCP/HCP, specific project purposes of the NCCP/HCP include:

> Planning for the protection of multiple-species and multiple-habitats within the coastal sage scrub habitat mosaic by creating a habitat reserve system that contains substantial costal sage scrub, chaparral, grasslands, riparian, oak woodlands, cliff and rock, forest, and other habitats;
>
> Developing a conservation program that shifts away from the current focus on project-by-project, single species protection to conservation and management of many species and multiple habitats on a subregional level;

> Protection non-CSS [sic, coastal sage scrub] within the CSS habitat mosaic at a level comparable to the protection provided for CSS, thereby contributing to the protection of a broader range of species than just the target species or CSS species;
>
> Addressing the habitat needs of the non-target species within subregions [sic, of the NCCP/HCP region] and the non-CSS habitats

Thus, the NCCP/HCP addresses biological impacts for take of covered species within the Plan Area. Impacts to covered species and establishment and implementation of a regional conservation strategy and other measures included in the NCCP/HCP are intended to address the federal, state, and local mitigation requirements for these species and their habitats. Specifically, as stated on page ES-5 of the NCCP/HCP:

> Approval and implementation of the NCCP/HCP allows the conservation of large, diverse areas of natural habitat … Satisfactory implementation or the NCCP/HCP and terms of the Implementation Agreement satisfies state and federal mitigation requirements for designated development and adequately provides for the conservation, protection, and management of the coastal California gnatcatcher and thirty-eight [other] "identified species" and their habitats.

As public and private development, including construction of buildings, structures, infrastructure, and all alterations of the land that are implemented within areas that are outside of the Reserve Areas are permitted under the Plan, cumulative impacts would be less than significant provided that the terms of the NCCP/HCP are fully implemented. This is due to the fact that the creation of the Reserve System provides essential habitat necessary to sustain the target and identified species within each subregion. The commitment of land mitigates the loss of habitat value while the mitigation fees provide for future management of the Reserve System as well as providing lands, and funds for future habitat restoration and enhancement (refer to page II-423 of the NCCP/HCP).

The Proposed Project would comply with the requirements of the NCCP/HCP and, thus, would not conflict with its adopted policies. Cumulative impacts to special-status species, including sensitive natural communities and raptor foraging habitat, are fully addressed within the Plan and are considered less than significant. Accordingly, in combination with the project-specific requirements established by mitigation measures MM 3.4-1 through MM 3.4-3 the Proposed Project's contribution to cumulative impacts would also be less than significant.

Sites 1, 2, 3, and 6 are known to contain areas that would be considered either wetlands or other aquatic habitats (i.e., stream channels) and implementation of the Proposed Project would thus affect waters of the United States (including wetlands), which are regulated by Sections 401 and 404 of the Clean Water Act, as well as Section 1600 of the California Fish and Game Code. These regulations ensure that no net impact to waters of the United States occurs through the proper application of mitigation measures and other conditions established through the Section 401 and 404 permitting processes and, with respect to state regulated waters, through the process of obtaining a Streambed Alteration Agreement as detailed in Section 1600 of the California Fish and Game Code. Therefore, on a cumulative basis, impacts would be considered less than significant. Similarly, the Proposed Project's contribution to those impacts would also be less than significant as a result of the project-specific permitting process.

The Central and Coastal sub regions of the NCCP/HCP supports a number of wildlife movement corridors (California Wilderness Coalition. 2000). While the area is becoming increasingly urbanized, which could restrict wildlife movement, the NCCP/HCP, and the reserve areas established therein, were developed with several goals that specifically support wildlife movement, including the following:

- Conserve large habitat blocks
- Conserve habitat diversity
- Keep conservation areas contiguous and connected;

Accordingly, cumulative impacts to wildlife movement are less than significant. As previously mentioned, the Proposed Project sites that could support wildlife movement would either preserve open space (i.e., green belts) that would connect similar habitats such as the existing open space and the Whiting Ranch Wilderness Park to the regional park/open space area of Site 2, as well as the Aliso Creek corridor, or they would not substantially block the movement of wildlife across them (e.g., Site 6). Therefore, with implementation of mitigation measure MM 3.4-5 shall be implemented the project's contribution to this cumulative impact would be less than significant.

The cumulative context for complying with local policies and/or ordinances protecting biological resources is the City of Lake Forest, which is the area within which the General Plan and/or any applicable ordinances would apply. It is assumed that as part of the development review and entitlement process the City would ensure compliance with any and all applicable local policies and/or ordinances since they were developed for the primary purpose of providing a framework for future development. Therefore, the cumulative impact is anticipated to be less than significant. As previously discussed, the Proposed Project is consistent and will be required to comply with all local General Plan policies protecting biological resources, and no ordinances apply. Thus, the Proposed Project's contribution to this cumulative impact is less than significant.

Cultural Resources

The geographic context for a discussion of cumulative impacts to cultural resources is the City of Lake Forest. The analysis includes all cumulative growth therein, as represented by implementation of the City of Lake Forest General Plan and the projects identified in Tables 1-1 and 1-2 in Chapter 1.0, Introduction.

Cumulative development in the City and surrounding jurisdictions could result in the adverse modification or destruction of historic buildings, which could contribute to the erosion of the historic and architectural fabric of the region. However, there are no historic resources located on the Proposed Project sites. The Proposed Project's contribution to any loss of historical resources would, therefore, be less than cumulatively considerable, and this cumulative impact would be less than significant.

Development in the City of Lake Forest and adjacent jurisdictions would require grading and excavation that could potentially affect archaeological and paleontological resources, including human remains. The cumulative effect of these projects would contribute to the continued loss of subsurface cultural resources (archaeological and paleontological resources, including human remains) if these resources are not protected upon discovery. CEQA requirements for protecting archaeological resources and CEQA

and Health Code requirements related to the treatment of human remains are applicable to development in the City of Lake Forest and adjacent jurisdictions, as are local cultural resource protection provisions. If subsurface cultural resources are protected upon discovery as required by law, impacts to those resources would be less than significant. Further, with the mitigation measures that would be imposed and enforced throughout construction of the Proposed Project, the contribution of the Proposed Project to the cumulative destruction of subsurface cultural resources throughout Lake Forest and the region would not be cumulatively considerable, and this cumulative impact would be less than significant.

Geology, Soils, and Mineral Resources

The geographic context for the analysis of cumulative soils, geology, seismicity, and mineral resource impacts is the City of Lake Forest, which assumes full buildout of the General Plan.

The Proposed Project would attract an increased number of people to an area exposed to the potential effects related to seismic hazards such as groundshaking or liquefaction. Implementation would increase the number of structures that could be subject to the effects of expansive soils or other soil constraints that could affect structural integrity, roadways, or underground utilities, but would not affect known mineral resources. Site preparation and development would create temporary and/or permanent ground surface changes that could alter erosion rates.

Potentially adverse environmental effects associated with seismic hazards, as well as those associated with expansive soils, topographic alteration, and erosion, usually are site-specific and generally do not combine with similar effects that could occur with other projects in the City. Implementation of the provisions of the City's Building Code, the National Pollution Discharge Elimination System permit requirements, and the General Plan Safety Policies would ensure that potential site-specific geotechnical conditions would be addressed fully in the design of the project and that potential impacts would be maintained at less-than-significant levels.

Potentially adverse environmental effects associated with loss of access to known mineral resources are site-specific. Because the closure of aggregate resource operations on the one Project Site containing mineral resources was planned to occur, and none of the other sites contain mineral resources there would be no cumulative effect to mineral resources in the Study Area.

Under the cumulative development scenario, soils, geology, and seismicity conditions would be as described for the Proposed Project wherein it is shown that all potentially hazardous geotechnical conditions would be controlled or eliminated through compliance with of the existing state and City regulatory framework. Therefore, the project would not contribute to adverse soils, geologic, or seismic effects. Consequently, the soils, geologic, or seismic impacts of project implementation would not be cumulatively considerable.

Hazards and Hazardous Materials

The geographic context for the cumulative analysis of hazards and hazardous materials is Orange County, based on the geographic area that could be affected by hazardous materials use or accidental

release into the environment. The cumulative context for the hazards analysis includes development under the Proposed Project, in combination with the development projects listed in the Cumulative Projects list identified in Chapter 1 (Introduction), Tables 1-1 and 1-2, of this EIR and development of other unrelated projects in Orange County.

Cumulative development of both related and unrelated projects elsewhere within the City and County would include some industrial and commercial uses, which could involve the use of greater quantities and variety of hazardous products. Commercial, office, retail, and residential development in the area would also increase the use of household-type hazardous materials within the area. Hazardous materials use, storage, disposal, and transport would result in a foreseeable number of spills and accidents. As discussed in Section3 .7, new development in the County would be subject to hazardous materials regulations codified in Titles 8, 22, and 26 of the CCR. Furthermore, all construction and demolition activities in the County would be subject to Cal/OSHA regulations concerning the release of hazardous materials. Compliance with all state, federal and local regulations during the construction and operation of new developments in the County would ensure that there are no cumulatively considerable significant hazards to the public or the environment associated the routine transportation, use, disposal or release of hazardous materials.

One of the Proposed Project sites is listed on the SWIS database as a hazardous materials site. Mitigation has been included for the project that would reduce any potential impacts from hazardous materials to a less-than-significant level. Future projects in the City and County would be regulated to ensure that either new development would not occur on such sites, impacts would be mitigated by appropriate remediation, or that the development would result in no impact. Consequently, the Proposed Project would not contribute to any cumulative impact resulting from development of hazardous materials sites, and the impact would not be cumulatively considerable and therefore, less than significant.

Construction and demolition activities associated with buildout of the Proposed Project and other projects in the county could expose schools to hazardous emissions. Various regulations and guidelines pertaining to abatement of, and protection from, exposure to asbestos and lead have been adopted for demolition activities, and would apply to all new development in the County. All demolition that could result in the release of lead and/or asbestos must be conducted according to Cal/OSHA standards. The regulation and programs discussed in Section 3.7 would be followed during construction and demolition activities for all new development in the County. Compliance with these regulations would ensure that schools and the general public would not be exposed to any unusual or excessive risks related to hazardous materials during construction and demolition activities. Therefore, the cumulative impacts associated with the exposure of schools to hazardous emissions would not be cumulatively considerable and therefore be less than significant.

The Proposed Project in combination with development of other projects in the County could result in an increase in traffic on roads and could interfere with the response times of emergency vehicles. Mitigation measures implemented as part of the Proposed Project would require the City to update their Emergency Preparedness Plan to address potential for accidental release of hazardous materials that may be used, stored, and/or transported at any new facility. These mitigation measures would ensure that

interference with emergency response plans or emergency evacuation plans would not be cumulatively considerable and therefore, less than significant.

As discussed in Impact 3.7-7, the Proposed Project could expose people or structures to a significant risk of loss, injury or death involving wildland fires. Implementation of MM 3.7-5, MM 3.12-1, and MM 3.12-2 would reduce the potential impact involving wildfires to a less-than-significant level. This mitigation would also ensure that cumulative impacts associated with buildout of the Proposed Project and other development in the City would not be cumulatively considerable and therefore be less than significant.

As discussed in Impacts 3.7-8, none of the project locations is currently within two miles of a public airport. The only hazardous materials that would be utilized with regularity as part of the project would be diesel and other fuels, and widely used consumer products such as pesticides for landscaping purposes. Standard construction materials such as paints and solvents would also be used during construction, and most likely intermittently throughout the life of the project. Any transport of hazardous materials associated with the Proposed Project would be subject to a number of regulations that exist to minimize the potential for accidental release of hazardous materials. Consequently, because of the limited amounts of hazardous materials associated with the project, the presence of regulations that govern transport of such materials, and the fact that the Proposed Projects are not in proximity to a public airport, the cumulative risk to individuals working at the public airports would not be cumulatively considerable and therefore would be less than significant.

Hydrology and Water Quality

The cumulative context for hydrology and water quality impacts includes the San Diego Creek and Aliso Creek watersheds for surface water impacts, and the Irvine Sub-basin area of the Orange County Groundwater Basin for groundwater impacts.

Surface Water

San Diego Creek

Reaches of San Diego Creek and Newport Bay have been listed (303(d)) as impaired by bacteria, pesticides, metals, toxics, sediment, and nutrients. Primary causes of impairment identified are urban runoff and storm sewers and unknown nonpoint sources. Total Maximum Daily Loads (TMDLs) have been developed for sediment, nitrogen, phosphorous, chlorpyrifos, and diazinon. TMDLs for other toxics have been developed by the U.S. Environmental Protection Agency (US EPA), but the State Water Resources Control Board (SWRCB) has not yet adopted them. Applicable water quality goals and limits are included in the Regional Basin Plan.

A large portion of flow within San Diego Creek and its tributaries is from groundwater seepage (base flow). Consequently, contaminants in shallow groundwater will likely migrate with the base flows to local streams and, eventually, Upper Newport Bay. Analysis of surface water samples indicate that high levels of nutrients and selenium present in San Diego Creek surface waters are primarily the result of

weathering and dissolution of naturally occurring geologic materials and not as highly influenced by land use (Hibbs 2000).

The U.S. Army Corps of Engineers, Los Angeles District, in conjunction with the California Department of Fish and Game, is currently undertaking development of a Special Area Management Plan/Master Streambed Alteration Agreement. SAMPs are designed to be conducted in geographic areas of special sensitivity under intense development pressure to achieve a balance between aquatic resource protection and reasonable economic development. There are two main goals of the SAMP process: to establish a watershed-wide aquatic resource reserve program, and to minimize individual and cumulative impacts of future projects in these watersheds.

Urban areas within the SAMP study area include portions of Santa Ana, Tustin, Laguna Hills, Costa Mesa, Irvine, and Lake Forest. Large parts of the SAMP study area are currently developed for agriculture, residential and commercial uses. Aquatic resources in the remaining undeveloped portions of the SAMP study area consist of intermittent and ephemeral drainages, riparian wetlands, and small areas of alkali marshes. The major tributaries of San Diego Creek include Peters Canyon Wash, Hicks Canyon Wash, Rattlesnake Canyon Wash, Borrego Canyon Wash, Serrano Creek, Agua Chinon Wash, Bommer Canyon Creek, Shady Canyon Creek, Round Canyon Wash, Bee Canyon Wash, Trabuco Channel, Bonita Canyon Wash, and Sand Canyon Wash

Additionally, the Irvine Ranch Water District (IRWD) has recently completed a Revised Draft Environmental Impact Report for the proposed Natural Treatment System. The Natural Treatment System is a plan to construct 31 water quality wetlands to help clean urban runoff within the San Diego Creek Watershed of Orange County and to improve water quality in Upper Newport Bay.

Full buildout of the San Diego Creek watershed will include full buildout of portions of the cities of Costa Mesa, Irvine, Laguna Woods, Lake Forest, Newport Beach, Orange, Santa Ana, and Tustin. Development within this watershed is subject to Basin Plans, DAMP, NPDES Permits, Orange County Codes, pertinent City Codes, and the Orange County Groundwater Management Plan requirements. Potential future adoption of the SAMP and draft TMDLs may result in additional protective requirements. Consequently, full buildout of the area will be required to implement design and plan features that minimize impacts to surface water runoff, groundwater recharge, groundwater elevations, and water quality at least at a similar level as the Proposed Project.

Aliso Creek

The Aliso Creek watershed encompasses a drainage area of approximately 36 square miles that extends 19 miles from the foothills of the Santa Ana Mountains to the Pacific Ocean south of Laguna Beach. Major tributaries include Wood Canyon, Sulphur Creek, Aliso Hills Channel, Dairy Fork, Munger Creek, and English Canyon. The majority of the Aliso Creek watershed is urbanized with residential developments of up to 18 units per acre and includes portions of Lake Forest, Laguna Beach, Foothill Ranch, Portola Hills, Mission Viejo, Laguna Hills, Aliso Viejo, and Laguna Niguel.

Aliso Creek is listed as impaired by nutrients (phosphorous), pathogens (bacteria), and unknown toxicity (303(d) list). Causes of impairment are identified as urban runoff and storm sewers, unknown point sources, and unknown nonpoint sources. No TMDLs have yet been developed for Aliso Creek.

Full buildout of the Aliso Creek watershed will include full buildout of portions of Lake Forest, Laguna Beach, Foothill Ranch, Portola Hills, Mission Viejo, Laguna Hills, Aliso Viejo, and Laguna Niguel. Development within this watershed is subject to Basin Plans, DAMP, NPDES Permits, and City and Orange County Codes requirements. Future development of TMDLs for listed impairments will result in additional regulations for protecting water resources. Consequently, full buildout of the area will be required to implement design and plan features that minimize impacts to surface water runoff, groundwater recharge, groundwater elevations, and water quality at least at a similar level as the Proposed Project.

Groundwater

~~Irvine Sub-basin area of the Orange County Groundwater Basin flows generally westward, away from the Proposed Project area. A water table depression occurs within the region of the IRWD Dyer Wellfields that has resulted in overall groundwater flow within the sub-basin towards the wellfield area.~~

~~Contour maps indicate that local water table elevations fluctuated over the past 50 years, and have dropped by almost ten feet from 2000 through 2003 (OCWD, 2000-03), partially due to both increasing demands and recent climatic drought conditions.~~

~~MTBE is a frequent and widespread contaminant in shallow groundwater throughout California, including the Irvine Sub-basin area. The high mobility and resistance to degradation indicates progressive accumulation. Lawrence Livermore Laboratories have developed a GIS system to manage the threat of MTBE to groundwater supplies. This site can be accessed at: http://geotracker.swrcb.ca.gov/~~

~~Currently, water supplies from the IRWD Dyer Wellfields are within applicable drinking water standards. However, high salts and nitrates are known to occur within aquifers of the Irvine Sub-basin groundwater that are the result of natural geology and historic agricultural practices.~~

~~A one by five-mile groundwater contaminant plume, approximately 200 feet below ground surface, is located west of the MCAS. This plume was generated by spills and disposal of used solvents (e.g., degreasers) at the MCAS that eventually seeped into the groundwater aquifer. Off-station groundwater data have been collected by the OCWD since 1985, when routine monitoring detected trichloroethylene in irrigation wells less than one-half mile from the El Toro MCAS boundary. This plume has the potential for continued migration to drinking water supply wells.~~

~~The OCWD and IRWD began the process for implementation of the Desalter Project in 1990 to clean up the high salinity groundwater for non-potable irrigation use, in addition to remediation of the MCAS contaminant plume. Construction on this project was started summer of 2005 (MCAS El Toro Restoration Advisory Board, 2005). The Desalter Project is expected to provide an additional 8,000 acre-feet of water, some of which would be used for irrigation (40 percent) and the rest as potable water (60 percent) (OCWD, 2001).~~

~~The non-potable portion of the system will accept flow from wells either within or near the plume of groundwater contaminated with volatile organic compounds (VOC), primarily trichloroethylene (TCE) on or near the former El Toro MCAS. There are two components to the non-potable water system: (1) Approximately 400 gallons per minute (gpm) or 0.58 mgd of groundwater from extraction wells within shallow groundwater unit (SGU) will be treated using air stripping. The SGU treatment system is located on the former site of MCAS El Toro. The primary method of disposal will be groundwater injection. However, if the injection well is out of service or the flow rate from SGU wells exceed the capacity of the injection well, the treated water will be directed to disposal through the Aliso Creek Ocean Outfall (ACOO). (2) Approximately 1,000 gpm (1.44 mgd) of groundwater from IRWD well ET-1 will be treated using air stripping and distributed by the IRWD for irrigation and other non-potable uses within the Santa Ana Basin. Flow from well ET-1 will not be discharged through the ACOO. Approximately 1,900 gpm (2.74 mgd) of groundwater from IRWD wells 78 and 113 (also known as ET-2) will be distributed untreated by the IRWD for irrigation and other non-potable uses within the Santa Ana Basin. Flow from wells 78 and 113 will not be discharged through the ACOO.~~

~~The potable portion of the water system (out side of the MCAS contaminant plume) will treat approximately 4,100 gpm (4.61 5.9 mgd) of groundwater from IRWD wells located upgradient of the contaminated groundwater plume using reverse osmosis (RO) to remove total dissolved solids, nitrates, and selenium. The treated water will be distributed by IRWD as potable water. Approximately 457 600 gpm (0.66 0.864 mgd) of RO reject, or brine, will be directed for disposal through the ACOO (RWRCB 2004).[#] – [#]Irvine Ranch Water District. 2006. Comment letter on, "Draft Program Environmental Impact Report (DPEIR) for the Opportunities Study. Prepared by Richard Diamond, Dir. of the Water Resources and Environmental Quality Division, Irvine Ranch Water District, March 24, 2006.~~

IRWD provides a water supply from several sources including groundwater, the quality is regulated and this project would not affect drinking water quality of have an environmental impact in terms of drinking water quality because this project will receive service from IRWD's general portable water distribution system and not any particular location or source.

~~Full buildout of the San Diego Creek and Aliso Creek watersheds could result in more impervious areas that would affect both peak flow rate and amount of runoff. Increased development often results in more directly connected impervious surfaces that contribute to higher runoff rates and volumes. Higher runoff could exceed existing facilities conveyance capacities, contribute to downstream flooding, and raise the 100-year flood elevation by more than one foot. However, County and City regulations for FEMA compliance will minimize or prevent any significant (more than one foot) increases in flood elevation, and the Orange County Flood Control District (OCFCD) is responsible for regional flood control planning within the County. Where increased runoff could contribute to stream bank erosion, streambed siltation, or otherwise degrade water quality and habitat, the existing NPDES permit prevents discharge of stormwater at rates exceeding existing conditions. Additionally, the overall Proposed Project will reduce runoff from the developed sites compared to existing conditions. Therefore, cumulative impacts to flooding and runoff will be less than significant and the Proposed Project contributions to regional flooding impacts are not cumulatively considerable. Consequently, the Proposed Project will have a no cumulative impact on regional flooding and stormwater runoff.~~

~~Grading activities associated with development are likely to alter existing drainage patterns and may alter watercourses. Existing city ordinances, however, require a grading permit prior to initiation of construction. Disturbance of watercourse beds or banks, and changes in drainage patterns, would require prior approval and project requirements that would be identified during the permitting process. For example: alteration of streambeds and banks will require permits from the California Department of Fish and Game to assure that any alterations will not significantly impact riparian and aquatic habitat and species; alterations in drainage patterns that might change the flood elevation by more than one foot will require FEMA analysis and a CLOMR or CLOMA as explained in Section 3.8; and, alterations in drainage patterns that would increase bank erosion or flow rates would contribute to habitat degradation, would be required to mitigate impacts for compliance with the NPDES permit. Implementation of the Southern Orange County Special Area Management Plan (SAMP) would also assist in mitigating potential cumulative effects of development within the San Diego Creek watershed. Compliance with the sediment TMDL for San Diego Creek would assist in assuring that impacts to drainage patterns are less than significant. Compliance with the existing DAMP would assist in assuring that all drainage pattern alterations are less than significant for the entire region. Therefore, cumulative impacts to regional drainage patterns would be less than significant with implementation of mitigation. The Proposed Project impacts to local drainage patterns are also less than significant. Therefore, Proposed Project contributions to drainage pattern alterations are not cumulatively considerable and the Proposed Project will have a less than significant cumulative impact.~~

Full buildout of the Irvine Sub-basin of the Orange County Groundwater Basin could have an impact on groundwater that is inconsistent with a groundwater management plan. When the development is in compliance with existing regulations, this impact is considered less than significant and it would not cause or contribute to depletion or degradation of groundwater resources.

Implementation of SB610 and SB221 requires that a Water Supply Assessment be prepared for development activities with a potential consumptive water demand greater than a certain threshold. This Water Supply Assessment would be used in conjunction with the Groundwater Management Plan to assure that adequate water supplies are available for development, without significant impacts on either groundwater or surface water resources within the Orange County Groundwater Basin. If additional Aliso Creek Basin water demands are projected, the WSA would also assess adequacy of this groundwater supply for meeting projected demands.

Full buildout of the region would likely increase demand on water supplies. Irvine Ranch Water District (IRWD) has performed a Water Supply Assessment (see Utilities Section for details) that shows there will be adequate water resources are available to meet Proposed Project needs and future projected growth (2025) without contributing to degradation of the groundwater basin. Approximately 50 percent of the water supplied by the IRWD, within the entire district, is groundwater; colored groundwater and recycled water is used as a non-potable supply.

The Desalter Project, which will ~~begin construction in the summer of 2005~~ be constructed by the summer of 2006, will also provide remediation of a contaminated groundwater plume that threatens Irvine sub-basin drinking water supply wells. The Desalter Project will also remediate high salt content water. This project will therefore protect current groundwater supplies, as well as increase supplies by

cleaning up currently unusable water. California's ban on MTBE use in gasoline fuel will help prevent further groundwater contamination and allow for natural attenuation of existing contamination. Compliance with MTBE MCLs will prevent degradation of drinking water.

The Orange County Water District (OCWD) aggressively manages the Orange County Groundwater Basin resources to minimize impacts through the OCWD Groundwater Management Plan. Recycled water, imported water for groundwater storage, spreading grounds for groundwater recharge, injection wells, and conduct monitoring and research programs are used to further manage groundwater resources. Several projects have been implemented to recharge groundwater, prevent salt water intrusion, and make effective use of available resources. Most development within the San Diego Creek watershed would be subject to the Groundwater Management Plan. Almost all development within the Irvine Sub-basin would be within the OCWD, and therefore, subject to the OCWD Groundwater Management Plan. ~~However, d~~Development within the Aliso Creek may not be subject to the Groundwater Management Plan since it is not located within the groundwater basin.~~, nor is groundwater from this basin used for water supplies.~~ However, the Los Alisos Reclamation Plant provides reclaimed water that is used to supplement the potable water supplies, which reduces demand on the Orange County Basin, and the small Aliso Creek Basin can provide some potable water (less than 3,000 to 4,500 acre-feet per year) supplies (Municipal Water District of Orange County, 2000).

~~Implementation of SB610 and SB221 requires that a Water Supply Assessment be prepared for development activities with a potential consumptive water demand greater than a certain threshold. This Water Supply Assessment would be used in conjunction with the Groundwater Management Plan to assure that adequate water supplies are available for development, without significant impacts on either groundwater or surface water.~~

Minimization of reduced recharge impacts, implementation of enhanced recharge strategies, maintenance of the salt water intrusion barrier, and no plans for installation of new water supply wells for the Irvine Sub-basin, would create conditions where there would be no change in groundwater flow direction or gradient, and no sustained reduction in groundwater recharge.

Surface Water

Additionally, existing NPDES stormwater regulations (e.g., construction activities, post construction BMPs, and others) would prevent direct contamination and degradation of groundwater resources. Compliance with regulations set forth in the NPDES General Construction Activity and Industrial Permits, the DAMP, the Groundwater Management Plan, City Codes, and County of Orange codes will prevent discharges of pollutants to groundwater or landscapes where they may infiltrate to groundwater. Compliance with existing regulations would result in potential cumulative impacts that are less than significant and the Proposed Project or would not contribute considerably to cumulative impacts. Given the foregoing, there would be a less than significant cumulative impact of the Proposed Project on groundwater.

Full buildout of the San Diego Creek and Aliso Creek watersheds could result in more impervious areas that would affect both peak flow rate and amount of runoff. Increased development often results in more directly connected impervious surfaces that contribute to higher runoff rates and volumes. Higher runoff could exceed existing facilities conveyance capacities, contribute to downstream flooding, and

raise the 100-year flood elevation by more than one-foot. However, County and City regulations for FEMA compliance will minimize or prevent any significant (more than one foot) increases in flood elevation, and the Orange County Flood Control District (OCFCD) is responsible for regional flood control planning within the County. Where increased runoff could contribute to stream bank erosion, streambed siltation, or otherwise degrade water quality and habitat, the existing NPDES permit prevents discharge of stormwater at rates exceeding existing conditions. Additionally, the overall Proposed Project will reduce runoff from the developed sites compared to existing conditions. Therefore, cumulative impacts to flooding and runoff will be less than significant and the Proposed Project contributions to regional flooding impacts are not cumulatively considerable. Consequently, the Proposed Project will have a no cumulative impact on regional flooding and stormwater runoff.

Grading activities associated with development are likely to alter existing drainage patterns and may alter watercourses. Existing city ordinances, however, require a grading permit prior to initiation of construction. Disturbance of watercourse beds or banks, and changes in drainage patterns, would require prior approval and project requirements that would be identified during the permitting process. For example: alteration of streambeds and banks will require permits from the California Department of Fish and Game to assure that any alterations will not significantly impact riparian and aquatic habitat and species; alterations in drainage patterns that might change the flood elevation by more than one foot will require FEMA analysis and a CLOMR or CLOMA as explained in Section 3.8; and, alterations in drainage patterns that would increase bank erosion or flow rates would contribute to habitat degradation, would be required to mitigate impacts for compliance with the NPDES permit. Implementation of the Southern Orange County Special Area Management Plan (SAMP) would also assist in mitigating potential cumulative effects of development within the San Diego Creek watershed. Compliance with the sediment TMDL for San Diego Creek would assist in assuring that impacts to drainage patterns are less than significant. Compliance with the existing DAMP would assist in assuring that all drainage pattern alterations are less than significant for the entire region. Therefore, cumulative impacts to regional drainage patterns would be less than significant with implementation of mitigation. The Proposed Project impacts to local drainage patterns are also less than significant. Therefore, Proposed Project contributions to drainage pattern alterations are not cumulatively considerable and the Proposed Project will have a less than significant cumulative impact

Full buildout of the San Diego Creek and Aliso Creek watersheds could contribute pollutants to receiving waterbodies with stormwater concentrations that might violate water quality standards, waste discharge requirements, or result in an increase in any pollutant for which a water body is listed as impaired (303(d) list).

Changing land use and land cover associated with development and urbanization can cause increased concentrations and loads of certain types of pollutants in stormwater. San Diego Creek and Aliso Creek are already listed as impaired by certain pollutants. TMDLs have been developed for some pollutants for San Diego Creek. However, no TMDLs have been developed for Aliso Creek or for certain causes of impairment for San Diego Creek. The RWQCBs are charged with developing and implementing TMDLs for all 303(d) listed impairments. Consequently, cumulative conditions will also include development and implementation of TMDLs for all listed causes contributing to impairment. Additionally, compliance with the NPDES Permits, DAMP, County and City Codes, Groundwater Management Plan, and Basin

Plans' objectives will reduce potential water quality impacts to the maximum extent practicable. In the case of certain constituents, e.g., the pesticides diazinon and Chlorpyrifos, reducing contributions of pollutants to the maximum extent practicable may still result in exceedance of TMDLs or otherwise contribute to degradation of water quality. Cumulative impacts on water quality could therefore be potentially significant and unavoidable for pesticides. However, total Proposed Project contributions to surface water quality impairment are likely to be small in comparison to watershed contributions; with the exception of pesticides, the Proposed Project would not contribute considerably to the cumulative impacts. Therefore, Proposed Project cumulative impacts would be less than significant for all but pesticides.

As explained more fully above, under Significant and Unavoidable Impacts, measured concentrations of chlorpyrifos and diazinon in San Diego Creek (at the Campus Station) are approximately 120 ng/L and

848 ng/L, respectively, well above the TMDL requirements. These data suggest that even if pesticide concentrations in Proposed Project stormwater are less than existing conditions, TMDL requirements may still be exceeded. The project would therefore contribute to a significant cumulative impact of pesticides on the watershed.

Land Use and Planning

The geographic context for the cumulative impacts associated with land use issues is the City of Lake Forest, which assumes full buildout of the General Plan.

It is anticipated that Citywide growth in general will be reviewed for consistency with adopted land use plans and policies by the City of Lake Forest in accordance with the requirements of CEQA, the State Zoning and Planning Law, and the *State Subdivision Map Act*, all of which require findings of plan and policy consistency prior to approval of entitlements for development. For this reason, cumulative impacts associated with inconsistency of future development with adopted plans and policies would be less than significant. In addition, the contribution of the Proposed Project to such cumulative impacts would not be considerable as new development would be compatible with surrounding land uses and consistent with applicable plans, policies, and regulations. As a result, development under the Proposed Project would have a less than significant contribution to cumulative impacts associated with plan or policy inconsistency.

It is also anticipated that future growth within the City, in general, would result in changes to the existing land use environment in the area through the conversion of vacant land and low-density uses to higher density uses. However, it is assumed that this future development would be consistent with the City of Lake Forest General Plan, as well as zoning requirements. It is possible that cumulative impacts on land use compatibility might occur with respect to one or more of the related projects (or unknown future projects permitted in the area) due to specific issues associated with these projects or their location. This development is also anticipated to be consistent with CEQA review, mitigation requirements, and design review, which would address site-specific issues. Therefore, it can be assumed that through these requirements, future development would be substantially compatible with existing land uses. For this reason, cumulative impacts on land use as a result of incompatibilities between existing and future development would be less than significant. Impacts on land use compatibility under the Proposed Project would be mitigable to less-than-significant levels, such that the contribution to land use impacts would not be cumulatively considerable. This contribution to cumulative impacts would be less than significant.

Noise

The geographic context for the analysis of cumulative noise impacts resulting from implementation of the Proposed Project is the City of Lake Forest, which includes all cumulative growth within the City, as represented by full implementation of the City of Lake Forest General Plan. Noise by definition is a localized phenomenon, and drastically reduces in magnitude as distance from the source increases. Consequently, only projects and growth accounted for in the City of Lake Forest General Plan near a particular project site would be likely to contribute to cumulative noise impacts.

Future construction in the City of Lake Forest is not expected to result in a cumulatively significant impact in terms of substantial temporary or periodic increases in ambient noise levels as a result of City Municipal Code construction noise controls. In order to achieve a substantial cumulative increase in construction noise levels, construction activities would need to occur simultaneously on properties adjacent to one another. The City of Lake Forest Municipal Code Section 4-6-7(e) provides an exemption for construction activities from noise limits established in the Code for construction activities that occur between the hours of 7:00 A.M. and 8:00 P.M. on Monday through Saturday, and does not occur on Sundays and federal holidays. Therefore, the Proposed Project's cumulative impact is less than significant.

Cumulative development in the City of Lake Forest should not result in the exposure of people to or the generation of excessive groundborne vibration, due to the localized nature of vibration impacts and the fact that all construction would not occur at the same time and at the same location. No other projects are proposed in close enough proximity to the Proposed Project sites to affect the same receptors as the Proposed Project. Only sensitive receptors located in close proximity to each construction site would be potentially impacted by each development. Therefore, it is assumed for the purposes of this analysis that future development would result in a less-than-significant cumulative impact.

The Proposed Project would negligibly increase noise in some areas of the City while decreasing it in other areas. The 2030 Project scenario would increase roadway noise by a maximum of 0.9 dBA CNEL over the existing 2030 General Plan scenario and would in fact reduce roadway noise on several roadway segments by as much as 0.9 dBA CNEL, due to the Proposed Project creating an overall reduction in traffic resulting from the existing General Plan by 52 percent. However, full buildout of the General Plan with the Proposed Project (2030 Project scenario) would increase roadway noise levels by as much as 11.5 dBA CNEL over existing conditions. This is considered a significant increase over existing conditions. While the project contribution may be less than cumulatively considerable when compared to the 2030 General Plan scenario, noise has been classified as a significant and unavoidable cumulative impact based on a comparison of the 2030 Project scenario with existing conditions.

Population and Housing

The geographic context for the analysis of cumulative population and housing impacts is the City of Lake Forest. The cumulative context within this geographic area includes all growth envisioned by SCAG in the Regional Transportation Plan Growth Forecast, as well as all growth anticipated to occur in the City. As shown in Table 1-1 in Chapter 1 (Introduction) of this EIR, the cumulative development projects within the City include industrial, office, hotel, retail, business park, and commercial developments.

Table 5-1 summarizes total related project development within the City. Although no residential units are currently proposed within the City on the cumulative projects list, it is assumed that approximately 25 percent of the employees from the new non-residential development would choose to relocate to the City. Related development would result in approximately 16,212 new employees, out of which 4,053 would be assumed to relocate to the City, creating demand for an equivalent number of housing units. Based on average household size, this would result in a total increase in population of approximately 12,078 persons.

Table 5-1 Related Development Summary	
Use	*Quantity*
Commercial/Retail	964,392 sf
Office	101,737 sf
Business Park	6,586,654 sf
Industrial	370,380 sf
Hotel	83,000 sf (189 rooms)
Total	*8,106,163 sf*
Total New Employees (1 person/500 sf)	16,212 persons
Employees within the City/Demand for additional housing units	4,053 persons
Population Increase (2.98 persons per household)	12,078 persons

The maximum buildout of residential and non-residential uses under the Proposed Project along with the related development projects would result in a direct increase in the City's population as a result of the additional housing proposed and persons potentially choosing to relocate to the City. Population increase would total 29,811 persons (17,103 persons resulting from the Proposed Project and 12,078 persons resulting from the cumulative development projects) within the City. Compared with the City's 2004 population of 77,700, the addition of 29,811 persons would represent an approximate 38 percent increase in population over existing conditions. Implementation of the Proposed Project in addition to the cumulative development projects in the City of Lake Forest would result in a total population of 107,511, which would exceed SCAG's population projection of 82,943 persons for the City in 2030. Therefore, cumulative impacts on population growth would be considered significant. The population growth of 17,103 persons resulting from the Proposed Project would also represent a cumulatively considerable contribution to this impact. Therefore, the Proposed Project's contribution to cumulative impacts associated with the potential to induce substantial population growth would be significant.

In general, future development within the City and County would not be anticipated to displace existing housing or people. In the rare instances that housing or people are displaced by new development, existing regulations are in place, such as relocation assistance programs, to ensure that residents are given fair compensation for their loss. As such, cumulative impacts are considered less than significant. Although implementation of the Proposed Project would displace existing housing or people, the additional residential units would be more than sufficient to compensate for the initial loss of units within the Project Area. As such, the contribution of the Proposed Project would not be cumulatively considerable, and the Proposed Project's contribution to cumulative impacts associated with the displacement of existing housing or people would be less than significant.

Public Services

The geographic context for the analysis of cumulative public services impacts differs depending on the type of public service analyzed. With respect to police and fire, the geographic context includes all unincorporated areas of Orange County and cities that contract with OCFA and OCSD, whereas the cumulative context for schools includes all areas within the SVUSD boundaries. The geographic context for libraries has been limited to the City of Lake Forest although the Orange County Public Library does

operate branch libraries outside of the City limits due to the size of branch libraries and their capacities being dictated by local, and not county, population.

Police and Fire

As additional development occurs in the County of Orange, there may be an overall increase in the demand for law enforcement and fire protection services, including personnel, equipment, and/or facilities. However, increases in demand are routinely assessed by these agencies as part of their budgeting process, and law enforcement and fire protection services in the County are anticipated to be adequate to accommodate future growth in the County. This is accomplished through collection of mitigation fees and development fees for police and fire protection services and/or facilities, as detailed above. The cumulative impact, therefore, on police and fire services in the County would be less than significant, as every new development within the County would be required to pay the applicable fees to fund planned improvements and ensure adequate staffing and equipment levels. Consequently, the cumulative impact of the Proposed Project would also be less than significant.

Schools

Cumulative development projects within the SVUSD boundaries would consist of a total of approximately 8,405,685 sf of non-residential development. No residential units are identified on the cumulative projects list within the SVUSD boundaries because none had been proposed within the SVUSD boundaries at the time the NOP for the Proposed Project was issued. Should non-residential cumulative projects generate a demand for the construction of additional housing within the SVUSD boundaries, the new housing development would be subject to the requirements of Government Code Section 65996 requiring the payment of school mitigation fees, which according to State law mitigate school impacts. For this reason, no cumulative impacts are anticipated.

Libraries

Within the Orange County Public Library system, there is currently one additional 10,000 sf branch library planned in the western portion of the City of Irvine. No other branch libraries or expansions of existing facilities are planned. Currently, the countywide resources of the Orange County Public Library are approximately 2.5 million volumes. As detailed in Section 3.11, cumulative development in the City would result in a population increase in the City of approximately 12,078 persons. Based on the Orange County Public Library's standards, approximately 2,415 sf of library space and 18,117 volumes would be necessary to adequately serve the population resulting from cumulative development. In conjunction with the Proposed Project, 5,651 sf of library space and 42,387 volumes would be required to conform to Orange County Public Library standards. The current branch library resources available to City of Lake Forest residents total approximately 145,000 volumes. Cumulative development in the City would result in the need for a 29 percent increase of Orange County Public Library resources locally, 17 percent of which would be attributed to the Proposed Project. However, implementation of MM 3.12-5 would reduce the impact from the Proposed Project on library services to less than significant. With payment of these required fees, the Proposed Project's contribution to the cumulative impact would not be cumulatively considerable, and would be less than significant.

Recreation

The geographic context for the analysis of cumulative recreational impacts is the City of Lake Forest, including all cumulative growth therein, as represented by full implementation of the City of Lake Forest General Plan and development of the related projects within the City of Lake Forest provided in Table 1-1 in Chapter 1 (Introduction) of this EIR.

Development under the Proposed Project, in combination with development proposed throughout the City, would entail the addition of both persons and parkland to City inventory. Because the Proposed Project includes more parkland than required by the City standard, the Proposed Project's contribution to any recreation impacts resulting from cumulative development would not be cumulatively considerable.

Transportation/Traffic

The 2030 Project Scenario (existing conditions, plus cumulative projects, plus the Proposed Project, plus MPAH funded and unfunded improvements) cumulative analysis includes past, present and reasonably foreseeable cumulative projects within the City and nearby jurisdictions identified to occur within the vicinity of the project site, in addition to General Plan buildout conditions identified to year 2030 as well as the Proposed Project. The traffic analysis considers trips generated by cumulative projects in its development of future baseline conditions. Therefore, the cumulative impact analysis is incorporated into the Year 2030 analyses presented in Section 3.14.6. Ad identified above, impacts would be cumulatively considerable at selected intersections. As shown in Table 3.14-13, the 2030 Project Scenario would result in a worsening or new exceedance of intersection LOS standards at the following 23 intersections compared to existing conditions:

- Within the Study Area:
  - 2. Bake & Portola
  - 10. Lake Forest & Rancho
  - 12. El Toro & Portola/Santa Margarita
  - 14. Bake & Irvine/Trabuco
  - 17. El Toro & Trabuco
  - 22. Bake & Jeronimo
  - 25. El Toro & Jeronimo
  - 26. Los Alisos & Jeronimo
  - 30. Los Alisos & Muirlands
  - 32. Ridge Route & Rockfield
  - 34. Los Alisos & Rockfield
  - 36. Lake Forest & I-5/Carlota
  - 37. Paseo De Valencia & Carlota

39. El Toro & Avd Carlota

41. Alton & Towne Centre Dr.

- Within the Expanded Study Area:

105. Alton Pkwy. at Irvine Bl.

117. Alton Pkwy. at Toledo Wy.

125. Bake Pkwy. at Rockfield Bl.

130. Ridge Route at Moulton Pkwy.

131. Santa Maria Av. at Moulton Pkwy.

132. El Toro Rd. at Moulton Pkwy.

137. Los Alisos Bl. at Trabuco Rd.

138. Trabuco Rd. at Alicia Pkwy.

The LFTM program, which is part of the Proposed Project, would reduce the impact of cumulative development and the project at all but the following intersections to less than significant (i.e all the intersections but those listed below would operate within the Performance Standards):

- Within the Study Area:

2. Bake & Portola

14. Bake & Irvine/Trabuco

22. Bake & Jeronimo

25. El Toro & Jeronimo

26. Los Alisos & Jeronimo

30. Los Alisos & Muirlands

32. Ridge Route & Rockfield

36. Lake Forest & I-5/Carlota

- Within the Expanded Study Area:

105. Alton Pkwy. at Irvine Bl.

130. Ridge Route at Moulton Pkwy.

131. Santa Maria Av. at Moulton Pkwy.

132. El Toro Rd. at Moulton Pkwy.

137. Los Alisos Bl. at Trabuco Rd.

138. Trabuco Rd. at Alicia Pkwy.

However, the LFTM program, which is part of the Proposed Project, would reduce the Proposed Project's contribution to cumulative impacts at the following intersections to less than cumulatively considerable, (See Table 3.14-15) under the 2030 LFTM Scenario, although the intersection would still exceed standards in either the A.M. or P.M. peak period as a result of cumulative development:

- Within the Study Area:
  - 2. Bake & Portola
  - 14. Bake & Irvine/Trabuco
  - 22. Bake & Jeronimo
  - 26. Los Alisos & Jeronimo
  - 30. Los Alisos & Muirlands
  - 36. Lake Forest & I-5/Carlota
- Within the Expanded Study Area:
  - 105. Alton Pkwy. at Irvine Bl.

The Proposed Project in combination with cumulative development would thus result in cumulative unmitigated impacts at the following remaining intersections, based on a comparison of the 2030 Project Scenario to existing conditions:

- Within the Study Area:
  - 25. El Toro & Jeronimo
  - 32. Ridge Route & Rockfield
- Within the Expanded Study Area:
  - 130. Ridge Route at Moulton Pkwy.
  - 131. Santa Maria Av. at Moulton Pkwy.
  - 132. El Toro Rd. at Moulton Pkwy.
  - 137. Los Alisos Bl. at Trabuco Rd.
  - 138. Trabuco Rd. at Alicia Pkwy.

These are significant unmitigated cumulative impacts. The project's contribution to these cumulative impacts may be cumulatively considerable when compared to existing conditions. However, it should be noted that cumulative impacts at one of these intersections (25. El Toro & Jeronimo) would be significantly less with Proposed Project, than with development of the project sites consistent with the existing General Plan, and the cumulative impact to the remaining six intersections would not be significantly different under the 2030 Project Scenario than the 2030 General Plan Scenario (see Table 3.14-14).

Utilities and Service Systems

The geographic context for the analysis of cumulative water supply impacts is IRWD's service area. The District's service area includes all of the City of Irvine and a majority of Lake Forest. The geographical context for both wastewater and solid waste is Orange County. The service providers for these issues areas are: the Orange County Sanitation District and the Orange County Integrated Waste Management

Department, respectively, both of which serve the entire County. For cumulative impacts related to electricity and natural gas, the geographic context is the service areas of SCE and SCGC, respectively.

Water

Development of cumulative projects within IRWD's service area would demand additional quantities of water, depending on net increases in population, square footage, and intensity of uses. These projects would contribute to the overall regional water demand, which has been estimated by IRWD to be approximately 102,350 AF/yr and 42,337 (potable water) AF/yr (nonpotable water) by 2025. According to IRWD's WSA, the demand estimated for the Proposed Project is included in IRWD's current planning projection. Because IRWD will have water supplies for projected growth through 2025, cumulative impacts to water supply would be less than significant. The contribution of the Proposed Project to impacts to water supply would not be cumulatively considerable.

Solid Waste

Adequate capacity currently exists at the Orange County IMWD solid waste disposal facilities used by the City. Frank R. Bowerman, Olinda Alpha, and Prima Descheca currently have additional landfill space and remaining daily tonnage capacity that is adequate to accommodate the Proposed Project's solid waste disposal needs. The projected project would generate 20.9 tons of solid waste per day. Even if the entire waste stream from the Proposed Project were sent to each facility separately, 20.9 tpd represents between a 0.28 percent and 0.79 percent increase in the daily tonnage, depending on the landfill used. As discussed, all three facilities are currently operating under full utilization.

The cumulative projects considered in the cumulative impact analysis include new commercial/retail, office, business park, industrial, and residential uses. Despite the reported excess capacity at the facilities, any existing capacity that currently exists at Orange County landfill facilities is finite. Thus, it is considered that, without specific plans for substantial expansion of Orange County IMWD facilities, solid waste generation from the cumulative projects in these cities would exacerbate regional landfill capacity issues in the future. That is, any additional solid waste incrementally added to existing facilities will decrease the amount of time until they are completely full. The implementation of source reduction measures would be required on a project-specific basis and plans such as those for recycling would partially address landfill capacity issues by diverting additional solid waste at the source of generation. However, because of the issues discussed above, the impacts of development associated with cumulative projects within and around the City would be significant . The project's contribution, however, would, be less than cumulatively considerable..

Wastewater

Development of cumulative projects within the IRWD service area would generate additional quantities of wastewater, depending on net increases in population, square footage, and intensification of uses. These projects would contribute to the overall regional demand for wastewater treatment service. The wastewater for this project would go to LAWRP with only a portion going to MWRP. MWRP is operating at 78 percent capacity. Presently, plans are currently underway to increase the treatment

capacity of MWRP to 33 mgd. This improvement is anticipated to begin in December 2006. This cumulative impact is considered less than significant. The City would continue to implement water conservation measures that would result in a decrease in wastewater generation. Therefore, as the plant retains excess capacity, cumulative impacts are considered less than significant.

LAWRP currently has sufficient capacity to treat the wastewater from the project. Cumulative growth in the IRWD service area could result in the need for additional conveyance infrastructure, and due to the partially developed nature of the service area, it is expected that such expansion of conveyance infrastructure could result in significant cumulative environmental effects. Although the Proposed Project would require the expansion of existing infrastructure in order to establish connections to existing conveyance infrastructure, there would be adequate capacity in the existing IRWD water treatment plants to serve future flows. The contribution of the Proposed Project would not be cumulatively considerable, and the project's cumulative impact would be less than significant.

Although the Proposed Project would require the expansion of existing infrastructure in order to establish connections to existing conveyance infrastructure, there would be adequate capacity in the existing IRWD water treatment plant to serve future demand.

Energy

Development of cumulative projects within the City in combination with all other development within the SCE service area would result in the permanent and continued use of electricity resources, which may require electricity providers to expand their existing facilities to serve new development within the City. However, SCE has indicated they are a "reactive" utility, and will provide electricity as customers request their services. As such, SCE constantly evaluates the potential growth that is expected to occur within its service area to determine the future demand for electricity that would be generated by the growth. From the projected future demand, SCE would construct new and/or expand its existing facilities to ensure that adequate electricity would be provided to meet the demands generated by the projected growth in its service area. Therefore, cumulative impacts related to the ability to provide adequate electricity for cumulative growth would be less than significant. Consequently, the cumulative impact of the Proposed Project is less than significant.

Continued development within the SCGC service area would result in the permanent and continued use of natural gas resources, which may require natural gas providers to expand their existing facilities to serve new development. However, SCGC has indicated that it is a "reactive" utility and they will provide natural gas as new customers request its services. Thus, SCGC would continually construct new and/or expand its existing facilities, to the extent necessary, to ensure that adequate natural gas would be provided to meet the demands generated by projected future growth in its service area. As such, cumulative impacts related to the ability to provide adequate natural gas for cumulative growth would be less than significant. Consequently, the cumulative impact of the Proposed Project would also be less than significant.

5.3 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL EFFECTS

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by the Proposed Project. Significantly, Section 15126.2(c) states:

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

Generally, a project would result in significant irreversible environmental changes if

- The primary and secondary impacts would generally commit future generations to similar uses
- The project would involve a large commitment of nonrenewable resources
- The project would involve uses in which irreversible damage could result from any potential environmental accidents associated with the project
- The proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy)

Development of the Proposed Project would result in the continued commitment of the majority of the Proposed Project sites to urban development, thereby precluding any other uses for the lifespan of the project. Restoration of the Project Sites to pre-developed conditions would not be feasible given the degree of disturbance, the urbanization of the area, and the level of capital investment in the area.

Resources that will be permanently and continually consumed by implementation of the Proposed Project include water, electricity, natural gas, and fossil fuels. However, the amount and rate of consumption of these resources would not result in the unnecessary, inefficient, or wasteful use of resources. With respect to operational activities, compliance with all applicable building codes, as well as mitigation measures, planning policies, and standard conservation features, would ensure that all natural resources are conserved to the maximum extent possible. It is also possible that new technologies or systems will emerge, or will become more cost-effective or user-friendly, to further reduce the reliance upon nonrenewable natural resources. Nonetheless, construction activities related to the Proposed Project would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobiles and construction equipment.

As required by the City's building code, build out of the Proposed Project will include lighting and other energy conservation measures and will construct all structures with up-to-date energy-saving equipment. Lighting conservation efforts in new construction include installation of occupancy sensors to automatically turn off lights when not in use, lighting reflectors, electronic ballasts, and energy-efficient lamps. Conservation efforts are also expected to involve improved HVAC systems with microprocessor-controlled energy management systems. In addition, all development shall comply with specifications contained in Table 24 of the California Code of Regulations (CCR).

The CEQA Guidelines also require a discussion of the potential for irreversible environmental damage caused by an accident associated with the Proposed Project. While the project would result in the use, transport, storage, and disposal of hazardous wastes, as described in Section 3.7 (Hazardous Materials and Public Safety), all activities would comply with applicable state and federal laws related to hazardous materials, which significantly reduces the likelihood and severity of accidents that could result in irreversible environmental damage.

Implementation of the Proposed Project would also result in the reduction of natural vegetation and wildlife communities; alteration of the visual character of the site; increased generation of pollutants; and the short-term commitment of non-renewable and/or slowly renewable natural and energy resources, such as lumber and other forest products, mineral resources, and water resources during construction activities. As previously discussed, operations associated with future uses would also consume natural gas and electrical energy. While many of these impacts can be avoided, lessened, or mitigated, some of these impacts are irreversible consequences of urban growth, and are described in detail in the appropriate sections of this EIR (see Chapter 3).

5.4 GROWTH-INDUCING IMPACTS

As required by Section 15126.2(d), an EIR must discuss ways in which a Proposed Project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Also, the EIR must discuss the characteristics of the project that could encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. Growth can be induced in a number of ways, such as through (1) the elimination of obstacles to growth, (2) the establishment of policies or other precedents that directly or indirectly encourage additional growth, or (3) the provision of short- or long-term job opportunities.

In general, a project may foster spatial, economic, or population growth in a geographic area if the project removes an impediment to growth (e.g., the establishment of an essential public service, the provision of the new access to an area; a change in zoning or general plan amendment approval); or economic expansion or growth occurs in an area in response to the project (e.g., changes in revenue base, employment expansion, etc). These circumstances are further described below:

- **Elimination of Physical or Regulatory Obstacles to Growth:** This refers to the extent to which a Proposed Project removes infrastructure limitations or provides infrastructure capacity, or removes regulatory constraints that could result in growth unforeseen at the time of project approval
- **Employment Effects:** This refers to the extent to which a Proposed Project could result in increased short-term or long-term employment opportunities.

5.4.1 Elimination of Obstacles to Growth

Removal of Infrastructure Limitations or Provision of Capacity

The City of Lake Forest, which is approximately 16.6 square miles (or 10,624 acres), is nearly fully developed with urban uses. While the Proposed Project represents the largest area of undeveloped land

in the City, totaling approximately 838 acres, or approximately 8 percent of the City, it is located in seven non-contiguous sites that are fully surrounded by other development. Therefore, due to the location of the Proposed Project with respect to adjacent development, there are no significant physical constraints that would be removed such that additional growth would be induced. Typical physical obstacles to growth include

- Limited capacity of the roadway system
- Limited capacity of the potable water system
- Limited capacity of the recycled water system
- Limited capacity of the wastewater system
- Limited capacity of the electrical transmission system

While each of these systems would require some level of improvement to accommodate the project and cumulative growth, the backbone infrastructure system to provide adequate transportation and utilities services is already in place and no significant improvements are anticipated.

Removal of Regulatory Constraints

Starting in the 1960s, the Orange County Board of Supervisors approved a series of residential communities, industrial areas, and commercial developments in what is now the City of Lake Forest. The land use patterns found in much of Lake Forest are similar to those found in many master-planned communities approved by the County during this era, with the exception of the area straddling SR-241. Due to the aircraft flight patterns from the former MCAS El Toro and resultant noise from the aircraft, restrictions were placed on a large swath of land, which includes the Project Area, in the heart of present-day Lake Forest. The Project Area is located in the area formerly encumbered by the 65 Community Noise Equivalent Level (CNEL) contours, which restricted the development of noise-sensitive land uses due to aircraft flight patterns at the former MCAS El Toro. As Lake Forest developed in the southern and northern sections of the city with residential and commercial development, as well as parks, trails, and other recreational uses, the Project Area was developed with non-noise sensitive industrial, office, and commercial uses that are devoid of the open space and trail linkages found in the rest of the City. Consequently, the land use restrictions effectively segregated the northern and southern portions of the city.

With the decision to utilize the former MCAS El Toro property for non-aviation uses, the restriction on development in the City of Lake Forest in the path of the former aircraft flight patterns is no longer necessary. Development pressures in Orange County and the need for additional housing sparked an interest by landowners to seek changes to the designated land uses to allow residential development. In fact, the City's General Plan Land Use Element includes the following policy statement:

> Should the future use of USMC El Toro reduce or eliminate significant aircraft noise experience by Lake Forest, the future use of land presently impacted by aircraft noise will be reconsidered.

In combination with the past actions of the County of Orange with respect to the closure of MCAS El Toro and the possible future actions of the City of Lake Forest with respect to approval of the Proposed Project, a long-standing regulatory obstacle to residential development in the central portion of the City would be removed, which would stimulate future residential growth in the area.

5.4.2 Employment Effects

The discussion of the demographic changes caused by the Proposed Project is presented in Section 3.11 (Population, Employment, and Housing), which provides an estimate of the jobs that would be generated by construction and operational activities. These estimates are based upon data from the United States Bureau of the Census, the Southern California Association of Governments (SCAG), the Orange County Council of Governments (OCCOG), the City of Lake Forest General Plan 2000–2005 Housing Element (Housing Element), and the most recent data available (2004) from the California Department of Finance (Demographic Research Unit) population estimates.

Short-Term Employment Generation

Development of the Proposed Project would generate some short-term, construction-related employment opportunities. While the magnitude of development is relatively large, the construction phases of the project would require a temporary labor force due to the short-term nature of construction employment. Given the supply of construction workers in the local work force, including those that already serve the rapidly growing Orange County and Inland Empire region, it is assumed that these workers would be readily available and would not relocate to the Lake Forest area as a result of the project's short-term employment opportunities.

Long-Term Employment Generation

While development of the Proposed Project would generate some long-term employment opportunities, the primary component of the Proposed Project is residential uses, consisting of approximately 5,415 units. Commercial uses account for 650,000 square feet, and parks, open space, and public facilities account for approximately 96 acres. Therefore, the primary purpose of the Proposed Project is to respond to existing residential development pressures in Orange County given the County's central location in the region and the quality of life opportunities provided by local resources and amenities, such as employment opportunities, transportation infrastructure, shopping centers, and open space and parkland. Any long-term employment opportunities generated by the Proposed Project are not anticipated to provide a substantial and stand-alone source of growth inducement. Instead, long-term employment opportunities are anticipated to be satisfied by existing workers in the local region.

5.4.3 Impacts of Induced Growth

The growth induced directly and/or indirectly by the Proposed Project would contribute to a number of environmental impacts in the City, as well as the extended study area, including: traffic congestion; air quality deterioration; loss of agricultural land; loss of habitat and wildlife; and impacts on utilities and services. All project-specific impacts are addressed in Chapter 3 of this EIR.