CEQA FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS REGARDING THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE CITY OF HOPE CAMPUS PLAN

STATE CLEARINGHOUSE NO. 2015101047

Exhibit A

I. BACKGROUND

The California Environmental Quality Act (CEQA) requires that a number of written findings be made by the lead agency in connection with certification of an environmental impact report (EIR) prior to approval of the project pursuant to Sections 15091 and 15093 of the CEQA Guidelines and Section 21081 of the Public Resources Code. This document provides the findings required by CEQA.

A. PROJECT SUMMARY

The proposed project consists of the City of Hope Campus Plan ("Campus Plan"), including adoption of a specific plan entitled "City of Hope Specific Plan," ("Specific Plan") general plan amendments, and zone changes.

Project Location

The 116-acre project site encompasses the City of Hope campus and is located primarily in the City of Duarte (approximately 89.5 acres) and the remainder is within the City of Irwindale (26.5 acres). Less than one-half acre of the project site is not owned by City of Hope. The cities of Duarte and Irwindale are in the eastern portion of the San Gabriel Valley, approximately 16 miles northeast of downtown Los Angeles. The City of Duarte is situated at the base of the San Gabriel Mountains and is bordered by the City of Irwindale to the south, City of Monrovia to the west, City of Bradbury and the Angeles National Forest for the north, and the City of Azusa to the east.

The project site is generally bounded by Duarte Road to the north; Cinco Robles Drive, the Duarte Flood Control Channel, and Buena Vista Street to the west; and the Santa Fe Flood Control Basin to the east and south. Regional access to the project site is via Interstates 210 and 605 (I-210 and I-605). Local access is provided primarily from Duarte Road, with secondary access provided from Buena Vista Street.

Project Description

The Campus Plan would provide direction for the enhancement and development of the 116-acre project site over a period of approximately 20 years. City of Hope is an independent, nonprofit, comprehensive medical center and research facility. The proposed Campus Plan provides the vision, guidance, and implementation tools to govern the future of the campus. City of Hope endeavors to expand its research and treatment capabilities while accommodating the needs of its patients and their

families, faculty, staff, and the community. The proposed Specific Plan is part of City of Hope's commitment to transform the future of medicine.

The proposed Specific Plan contains required elements to encourage a broad range of design solutions to guide development and improvements. The proposed Specific Plan addresses the replacement of existing outdated and/or obsolete buildings with modern facilities, including outpatient (clinic), inpatient (hospital), research, office, industrial, warehouse, and hospitality uses. The Specific Plan also allows the development of parking structures, surface parking lots, internal roadways, pedestrian amenities, landscaping, open space, and other related improvements. Ultimately, City of Hope Campus Plan would create a more walkable and compact campus core that builds upon and enhances existing inpatient and outpatient facilities, research, office, assembly, parking, and open space uses. In addition, the Specific Plan proposes to consolidate modular buildings that are currently dispersed throughout the campus, demolish outdated buildings, and construct new floor area within larger development sites.

The Specific Plan would act as a bridge between Duarte and Irwindale's general plans and campus development activity. Jurisdictions may adopt specific plans by resolution or ordinance. When a specific plan is adopted by ordinance, it replaces portions or all of the current zoning regulations for specified parcels and becomes an independent set of zoning regulations that govern use and development of properties within the bounds of that specific plan.

The Specific Plan is proposed to be adopted by ordinance by the Duarte City Council and subsequently by the Irwindale City Council. The Specific Plan will function as the regulatory document for implementing zoning for the entire project site, ensuring the orderly and systematic implementation of those cities' general plans. The Specific Plan would establish the necessary land use plan, development standards, regulations, design guidelines, infrastructure systems, and implementation strategies on which subsequent, project-related development activities would be founded. Upon adoption of the Specific Plan, subsequent project-specific design review plans, detailed site plans, grading and building permits, or any other actions requiring either ministerial or discretionary approvals would be required to demonstrate consistency with the Specific Plan.

There are seven residential units—located east of Cinco Robles Drive—within the proposed Specific Plan area that are not owned by City of Hope and not part of its campus. Following adoption of the Specific Plan, these residential uses may continue as residential uses. However, no new residential uses are proposed.

The maximum development capacity has been calculated to provide a conservative estimate of potential environmental impacts from full buildout. As shown in Table 1-1 of the DEIR, maximum buildout under the Specific Plan would consist of approximately 2,639,350 square feet of gross development (1,038,500 net new square feet following the proposed demolition of 387,500 square feet of existing structures). The Specific Plan would allow for the demolition of portable or out-of-date structures, including 335,500 gross square feet within the Core Medical District and 52,000 gross square feet in the Infrastructure and Utility District. No buildings would be demolished in the Cultural Amenity District. This would result in the potential for up to 387,500 gross square feet of structures to be demolished.

Buildout of the proposed Specific Plan would increase population and employment by approximately 2,945 people (employees, patients and visitors) and 1,530 employees.

B. Project Objectives

The following objectives have been established for the proposed project and will aid decision makers in their review of the project and associated environmental impacts.

1. Allow for the flexible, long-term development and enhancement of the entire City of Hope campus in order to augment hospital, outpatient services, research uses, office space and support services and meet the evolving needs of the community, while minimally disrupting the surrounding neighborhood.

2. Facilitate the replacement and/or enhancement of existing medical buildings and support facilities in order to accommodate the projected increase in regional demand for outpatient services through 2035.

3. Maximize the creation of construction jobs and new permanent jobs in the Cities of Duarte and Irwindale and the surrounding community through the long-term expansion and enhancement of the campus, such that at full project buildout there is a jobs-housing balance in the City of Duarte at the top end of the desirable range of jobs to housing (between 1.3:1 and 1.7:1) recommended by the American Planning Association so that Duarte remains a regional employment center with a multitude of jobs in the health care industry that reinforces Duarte's brand as the "City of Health."

4. Develop enhanced and expanded open space on the campus to serve the needs of City of Hope patients, employees and visitors, while concentrating development footprints.

5. Provide a modern, cohesive and contemporary design complemented by landscaping and public art, to create a dynamic relationship between existing and new buildings.

6. Modernize or replace obsolete or outdated buildings and facilities with more efficient development that meets the needs of City of Hope patients, physicians, researchers and other employees.

7. Reinforce public investment in and encourage use of public transit, and maximize employee density in proximity to public transit, including the Gold Line station at Duarte/City of Hope and regional bus lines.

8. Improve and streamline multimodal transportation and access throughout the campus, including by foot, bicycle, car, and shuttle.

9. Maximize employee density in proximity to public transit while reducing new greenhouse gas emissions from construction and operation as much as feasible.

10. Incorporate sustainable design elements to the maximum extent possible throughout the campus, including compliance with green building standards, water and energy efficient design elements, electricity generation, adaptive reuse of buildings, and minimization of solid waste generation.

11. Support proximate parking for patients, visitors and employees, between parking structures and surface lots, and the variety of buildings intended to serve campus populations.

12. Upgrade and expand utilities and infrastructure necessary to support campus growth, while minimizing impacts to the greater community.

13. Augment site improvements, signage and wayfinding to foster a more accessible campus for all populations.

C. ENVIRONMENTAL REVIEW PROCESS

In conformance with CEQA and the State CEQA Guidelines, the City of Duarte conducted an extensive environmental review of the proposed project. The environmental review process has included:

- Completion of an Initial Study (IS)/Notice of Preparation (NOP) on October 13, 2015. The public review period extended from October 16, 2015, to November 16, 2015. The NOP was posted at the Los Angeles County Clerk's office on October 16, 2015 and published in the Pasadena Star-News on October 15, 2015. Copies of the IS/NOP were made available for public review at Duarte City Hall, the Duarte Library, the Duarte Public Safety Office, and the City's website at www.accessduarte.com.
- Completion of the scoping process where the public was invited by the City to participate in a scoping meeting held October 19, 2015 at the Duarte Community Center, 1600 Huntington Drive, Duarte, CA, 91010. The notice of a public scoping meeting was included in the NOP.
- Preparation of a DEIR, which was made available for a 45-day public review period beginning November 15, 2017, and ending January 4, 2018. The scope of the DEIR was determined based on the City's Initial Study, comments received in response to the NOP, and comments received at the scoping meeting conducted by the City. Section 2.3, *Scope of this DEIR*, of the DEIR describes the issues identified for analysis in the DEIR. The Notice of Availability (NOA) for the DEIR was sent to interested persons and organizations, sent to the State Clearinghouse in Sacramento for distribution to public agencies, posted at the City of Duarte, and published in the Pasadena Star-News on November 15, 2017. The NOA was posted at the Los Angeles County Clerk's office on November 15, 2017. Copies of the DEIR were made available for public review at Duarte City Hall, the Duarte Library, the Duarte Public Safety Office, and the City's website at www.accessduarte.com.
- A community meeting was held on December 6, 2017 at the Duarte Community Center, 1600 Huntington Drive, Duarte, CA 91010. The meeting included a presentation on the proposed project, the CEQA process, and a summary of analysis and environmental impacts disclosed in the DEIR.
- Preparation of a Final EIR (FEIR), including comments, the responses to comments on the DEIR, and revisions to the DEIR. The FEIR was released at least 10 days prior to certification of the FEIR and was provided to agencies, organizations, and persons that submitted comment letters.

- Public hearings on the proposed project were held, including a Planning Commission hearing on January 16, 2018; and a City Council Hearing on March 13, 2018.

D. RECORD OF PROCEEDINGS

For purposes of CEQA and these Findings, the Record of Proceedings for the proposed Project includes, but is not limited to, the following documents and other evidence:

- The NOP, NOA, and all other public notices issued by the City in conjunction with the proposed project.
- The DEIR and FEIR for the proposed project.
- All written comments submitted by agencies or members of the public during the public review comment period on the DEIR.
- All responses to written comments submitted by agencies or members of the public during the public review comment period on the DEIR.
- All written and verbal public testimony presented during a noticed public hearing for the proposed project.
- The Mitigation Monitoring and Reporting Program.
- The reports and technical memoranda included or referenced in the DEIR and FEIR.
- All documents, studies, EIRs, or other materials incorporated by reference in the DEIR and FEIR.
- The Resolutions adopted by the Planning Commission and City Council in connection with the proposed project, and all documents incorporated by reference therein, including comments received after the close of the comment period and responses thereto.
- Matters of common knowledge to the City, including but not limited to federal, state, and local laws and regulations.
- Any documents expressly cited in these Findings.
- Any other relevant materials required to be in the record of proceedings by Public Resources Code Section 21167.6(e)

E. CUSTODIAN AND LOCATION OF RECORDS

The documents and other materials that constitute the administrative record for the City's actions related to the project are at the City of Duarte, 1600 Huntington Drive, Duarte, CA 91010. The Planning Division of the City's Community Development Department is the custodian of the administrative record for the project. Copies of these documents, which constitute the record of proceedings, are and at all relevant times have been and will be available upon request at the offices of the Planning Division. This information is provided in compliance with Public Resources Code Section 21081.6(a)(2) and Guidelines Section 15091(e).

Because a portion of the proposed project is in the City of Irwindale, documents and other materials related to the project are also publicly available at the City of Irwindale, 16102 Arrow Highway, Irwindale, CA 91706.

II. FINDINGS OF FACT

The City of Duarte, as lead agency, is required under CEQA to make written findings concerning each alternative and each significant environmental impact identified in the DEIR and FEIR.

Specifically, regarding findings, Guidelines Section 15091 provides:

(a) No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:

1. Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the FEIR.

2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the FEIR.

(b) The findings required by subsection (a) shall be supported by substantial evidence in the record.

(c) The finding in subdivision (a)(2) shall not be made if the agency making the finding has concurrent jurisdiction with another agency to deal with identified feasible mitigation measures or alternatives. The finding in subsection (a)(3) shall describe the specific reasons for rejecting identified mitigation measures and project alternatives.

(d) When making the findings required in subdivision (a)(1), the agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental effects. These measures must be fully enforceable through permit conditions, agreements, or other measures.

(e) The public agency shall specify the location and custodian of the documents or other material which constitute the record of the proceedings upon which its decision is based.

(f) A statement made pursuant to Section 15093 does not substitute for the findings required by this section.

The "changes or alterations" referred to in Section 15091(a)(1) may include a wide variety of measures or actions as set forth in Guidelines Section 15370, including:

(a) Avoiding the impact altogether by not taking a certain action or parts of an action.

(b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

(c) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.

(d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.

(e) Compensating for the impact by replacing or providing substitute resources or environments.

A. FORMAT

This section summarizes the significant environmental impacts of the proposed project, describes how these impacts are to be mitigated, and discusses various alternatives to the proposed project, which were developed in an effort to reduce the remaining significant environmental impacts. All impacts are considered potentially significant prior to mitigation unless otherwise stated in the findings.

The remainder of this section is divided into the following subsections:

- **Section B, Summary of Environmental Impacts**, presents the summary of impacts of the proposed Project.
- **Section C, Findings on Impacts Determined to Be Less Than Significant**, presents the impacts of the proposed project that were determined in the DEIR and FEIR to be less than significant without the addition of mitigation measures and presents the rationales for these determinations.
- **Section D, Findings on Impacts Mitigated to Less Than Significant**, presents significant impacts of the proposed project that were identified in the DEIR and FEIR, the mitigation measures identified in the Mitigation Monitoring Program, and the rationales for the findings.
- **Section E, Findings on Significant Unavoidable Impacts**, presents significant impacts of the proposed project that were identified in the DEIR and FEIR, the mitigation measures identified in

the Mitigation Monitoring Program, the findings for significant impacts, and the rationales for these findings.

- **Section F, Findings on Project Alternatives**, presents alternatives to the proposed project and evaluates them in relation to the findings set forth in Section 15091(a)(3) of the State CEQA Guidelines, which allows a public agency to approve a project that would result in one or more significant environmental effects if the project alternatives are found to be infeasible because of specific economic, social, or other considerations.

B. SUMMARY OF ENVIRONMENTAL IMPACTS

Based on the Initial Study, NOP, and DEIR, the following is a summary of the environmental topics considered to have no impact, a less than significant impact, a less than significant impact with incorporation of mitigation measures, or a significant and unavoidable impact.

Less Than Significant Impact or No Impact; No Mitigation Required

- Aesthetics (scenic vistas; scenic resources; shade and shadow; light and glare)
- Agriculture and Forest Resources (all thresholds)
- Air Quality (consistency with applicable air quality management plan; short-term construction and long-term operational emissions exceedance of regional thresholds; exposure of sensitive receptors to substantial concentrations of air pollutants; objectionable odors)
- Biological Resources (consistency with local policies; consistency with habitat conservation plans; riparian habitat; jurisdictional waters and wetlands)
- Cultural Resources (human remains)
- Geology and Soils (all thresholds)
- Greenhouse Gas Emissions (consistency with adopted plans)
- Hazards and Hazardous Materials (airport- and airstrip-related hazards; consistency with adopted emergency response and evacuation plans; fire hazard zones)
- Hydrology and Water Quality (drainage patterns; water quality standards and waste discharge requirements; groundwater supplies and recharge; flooding from levee or dam failure; 100-year flood hazards; seiche, tsunami, and mudflow inundation)
- Land Use and Planning (all thresholds)
- Mineral Resources (all thresholds)
- Noise (airport- and airstrip-related noise; long-term operation-related noise)
- Population and Housing (all thresholds)
- Public Services (all thresholds)
- Recreation (all thresholds)

- Transportation and Traffic (air traffic patterns; exceedance of county congestion management agency service standards; hazardous conditions; emergency access; alternative transportation policies, plans, and programs)
- Utilities and Service Systems (wastewater treatment; solid waste)
- Energy (all thresholds)

Less Than Significant Impact with Mitigation Incorporated

- Aesthetics (visual appearance and character)
- Air Quality (exceedance of local significance thresholds; construction-related cancer risks)
- Biological Resources (habitat for sensitive wildlife or plant species; bird nesting)
- Cultural Resources (historic resources; archeological resources; paleontological resources or unique geologic features)
- Hazards and Hazardous Materials (transport, use, and/or disposal of hazardous materials; hazardous materials sites)
- Noise (short-term groundborne vibration and noise)
- Tribal Cultural Resources (grading-related impacts to tribal cultural resources)
- Utilities and Service Systems (water supply)

Significant and Unavoidable Impact

- Greenhouse Gas Emissions (substantial increase of emissions)
- Noise (temporary construction-related noise increases)
- Transportation and Traffic (trip generation and levels of service)

C. FINDINGS ON IMPACTS DETERMINED TO BE LESS THAN SIGNIFICANT OR WHERE NO IMPACTS WOULD OCCUR

Initial Study

An Initial Study was prepared by the City of Duarte to identify the potential significant effects of the project. The Initial Study was completed and distributed with the Notice of Preparation for the proposed project, dated October 13, 2015.

The Initial Study, included as Appendix A to the DEIR, substantiates that there would be no impacts or less than significant impacts associated with the following environmental topics and associated thresholds:

1. Aesthetics

- **Threshold AE-1:** Scenic Vistas: Campus Plan buildout would not impact the partially obstructed views of the San Gabriel Mountains from Duarte Road because the project site is on the south side of Duarte Road, and views of the mountains are to the north. The spillway channel for the Santa Fe Flood Control Basin is closed to the public and does not afford views of the mountains to the public.
- **Threshold AE-2:** Scenic Resources: The nearest designated state scenic highway is State Route 2 (the Angeles Crest Highway), approximately 10 miles north of the project site. Campus Plan buildout would not impact scenic resources in a state scenic highway.

2. Agricultural Resources

- **Threshold AG-1:** Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance: There is no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) mapped in or near the project site (DLRP 2015). Most of the urbanized areas of central and southern Los Angeles County, including the project site, are not mapped on the California Important Farmland Finder maintained by the Division of Land Resource Protection. Therefore, implementation of the project would not convert mapped farmland to nonagricultural use and no impact would occur.
- **Threshold AG-2:** Conflict with Existing Zoning for Agricultural Use or Williamson Son Act Contract: The majority of the project site within the City of Duarte is zoned H (Hospital), permitting a variety of health care uses. Other portions of the City of Hope in Duarte (on the western portion of the campus) are zoned R-2 (Two-Family Residential) and R-4 (Multiple Family Residential High Density). Per the City of Irwindale zoning map, the portion of the project site within Irwindale is zoned A-1 (Agricultural), M-1 (Light Manufacturing) and C-2 (Heavy Commercial). Under the proposed zone change, the zoning designation of the overall project site would be changed to Specific Plan. However, the portion of the project site that lies within Irwindale and is zoned Agricultural is developed with warehousing, industrial, and parking uses of the City of Hope; also, a small portion lies within the Santa Fe Flood Control Basin. The Agricultural designation was applied due to the adjacency of those areas to the Santa Fe Flood Control Basin, which is also designated as Agricultural and was not intended for future development. However, the Agricultural designation does not reflect the City of Irwindale's determination that the land on the City of Hope campus adjacent to the Flood Control Basin was or is suitable for agricultural uses. Ultimately, agricultural uses within this portion of the project site would not be compatible with the overall uses of the City of Hope campus, nor with the intent and use of the Santa Fe Flood Control Basin. Therefore, the change in zoning designations from Agricultural to Specific Plan would not result in a conflict.

  There are no Williamson Act contracts in effect on or near the project site (DLRP 2013). Therefore, no impacts to agricultural zoning or a Williamson Act contract would occur as a result of implementation of the project.
- **Threshold AG-3:** Conflict with Existing Zoning for, or Rezoning of, Forest Land, Timberland, or Timberland Zoned Timberland Production: The project site is not designated or zoned for forest

or timber land or used for forestry. The project site is in an urbanized area, and the trees onsite would not be considered forest land or timberland. Therefore, implementation of the project would result in no impact on forest land or resources.

- **Threshold AG-4:** Loss or Conversion of Forest Land: See Threshold AG-3, above.
- **Threshold AG-5:** Changes in Existing Environment Resulting in Conversion of Farmland or Forest Land: See Thresholds AG-1, AG-2, AG-3, and AG-4, above.

3. Air Quality

- **Threshold AQ-5:** Objectionable Odors: Future development, revitalization, and/or redevelopment activities that would be accommodated by the Campus Plan would not emit objectionable odors that would affect a substantial number of people. Odors generated by the new nonresidential land uses as part of the project are not expected to be significant or highly objectionable. In addition, emissions from construction equipment would be temporary and would not be expected to affect a substantial number of people, and are controlled by applicable permitting regulations. Therefore, impacts would be less than significant.

4. Biological Resources

- **Threshold B-5:** Conflict with Local Policies or Ordinances Protecting Biological Resources: The cities of Duarte and Irwindale do not have ordinances protecting biological resources applicable to resources within the project site. No impact would occur.
- **Threshold B-6:** Conflict with Habitat Conservation Plans or Natural Community Conservation Plans: The project site is not within a habitat conservation plan or natural community conservation plan and therefore no impact would occur.

5. Cultural Resources

- **Threshold C-4:** Disturbance of Human Remains: There are no known human remains on or near the project site, and the project site is in an urbanized area that has previously been disturbed and developed. Therefore, the likelihood that human remains may be discovered during site clearing and grading activities is extremely low. In addition, any impacts from potential disturbance of human remains during project ground-disturbing activities would be less than significant after compliance with California Health and Safety Code Section 7050.5, CEQA Guidelines Section 15064.5, and Public Resources Code Section 5097.98, which set forth procedures required in the event of such discovery.

6. Geology and Soils

- **Threshold G-1.i:** Exposure to Risk of Rupture of Known Earthquake Fault: No active faults pass through or abut the project site, and there are no Alquist-Priolo Earthquake Fault Zones on or abutting the site. Impacts would be less than significant.

- **Threshold G-1.iii:** The project site is not within a liquefaction zone as designated by the California Geological Survey or an area of potential liquefaction, and shallow groundwater is not anticipated onsite. Therefore, no impacts would occur.
- **Threshold G-1.iv:** Exposure to Risk of Landslides: The project site and surroundings are flat, with a southwest slope of about 1.5 percent grade and is not susceptible to landslide hazards. No impacts would occur.
- **Threshold G-2:** Soil Erosion or Loss of Topsoil: Construction of projects under the Campus Plan would include implementation of Best Management Practices for erosion control and sediment control, as required under State Water Resources Control Board and Regional Water Quality Control Board permits. In the operational phase, the project site would be developed with a mix of land uses, streets and drive aisles, and various hardscape and landscape improvements, and would not contain bare or exposed soil; the potential for soil erosion or loss of topsoil would be expected to be extremely low. Thus, impacts would be less than significant.
- **Threshold G-5:** Soils Incapable of Supporting Use of Septic Tanks or Alternative Waste Water Disposal Systems: Developments under the Campus Plan would include installation of sewer laterals to existing sewer mains and would not involve the use of septic tanks or other alternative wastewater disposal systems. Therefore, no impacts would occur.

7. Hazards and Hazardous Materials

- **Threshold H-5:** Airport-Related Hazards: The project site is not in an airport land use plan, or within two miles of a public-use airport, and therefore no impact would occur.
- **Threshold H-6:** Airstrip-Related Hazards: There are no private airstrips near the project site and therefore no impact would occur.

8. Hydrology and Water Quality

- **Threshold HYD-3:** Drainage Patterns: At completion, individual development projects accommodated by the Campus Plan would consist of buildings, landscaped areas, roads, and other hardscape improvements; no bare areas of soil would be left vulnerable to erosion. Implementation of the project is not anticipated to substantially change the drainage pattern of the project site. Therefore, impacts would be less than significant.
- **Threshold HYD-7:** Housing Within 100-Year Flood Hazard Area: The project site and surrounding—including the adjacent Santa Fe Flood Control Basin Spillway—are mapped as Flood Zone X by the Federal Emergency Management Agency, meaning that they are outside of 100-year and 500-year flood zones. No impacts would occur.
- **Threshold HYD-8:** Structures Within 100-Year Flood Hazard Area: See HYD-7 above.
- **Threshold HYD-9:** Risks of Flooding As a Result of the Failure of a Levee or Dam: The project site is not in an area mapped as protected from 100-year floods by levees. Though the project site is in the dam inundation area for Morris Dam on the San Gabriel River, dam failure is very unlikely given seismic safety requirements, and the Morris Dam does not impound a full reservoir

most of the time; the risk of flooding at the project site due to failure of the Morris Dam is considered low. Impacts would be less than significant.

- **Threshold HYD-10:** Risk of Inundation by Seiche, Tsunami, or Mudflow: There are no aboveground water bodies that could pose a flood hazard to the site due to a seiche; the site is about 30 miles inland and not at risk of flooding due to tsunamis; and the site is flat and not subject to mudflows. Thus, no impacts would occur.

9. Land Use and Planning

- **Threshold LU-1:** Physically Divide an Established Community: The project site is bounded by residential uses to the north opposite Duarte Road and to the west; and by the Santa Fe Dam and San Gabriel River to the east and south, respectively. Campus Plan buildout would not divide an established community, because it would accommodate the development of an additional mix of land uses in various areas of the project site, which is a long-established campus that has existed in the community for decades and does not physically divide the community. Thus, no impacts would occur.
- **Threshold LU-3:** Conflict With Habitat Conservation Plan or Natural Community Conservation Plan: The project site is not in a habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan in the cities of Duarte or Irwindale. Thus, no impacts would occur.

10. Mineral Resources

- **Threshold MR-1:** Loss of Known Mineral Resource of Value: The project site is developed with hospital, office, research, and office uses associated with City of Hope and is not used or available for mining, which would be incompatible with the existing uses onsite. Additionally, the Duarte and Irwindale land uses and zoning designations of the project site do not permit mining uses. Therefore, implementation of the project would not cause the loss of availability of mineral resources valuable to the region or state, nor result in the loss of availability of a locally important mineral resource recovery site. Therefore, no impacts would occur.
- **Threshold MR-2:** Loss of Locally Important Mineral Resource Recovery Site: See Threshold MR-1, above.

11. Noise

- **Threshold N-5:** Airport-Related Noise Impacts: The project site is not within the land use plan or noise contours for the nearest airport, which is the San Gabriel Valley Airport, approximately 3.6 miles to the southwest. No impacts would occur.
- **Threshold N-6:** Airstrip-Related Noise Impacts: The nearest heliport is approximately 3.6 miles away from the project site, and the proposed project would not expose people working or living onsite to excessive noise levels from aircraft noise at this heliport. No impacts would occur.

12. Recreation

- **Threshold R-2:** Recreational Facilities Which Might Have an Adverse Effect on the Environment: The project does not propose development of new or expanded recreational facilities. Thus, no impacts would occur.

13. Transportation/Traffic

- **Threshold T-3:** Change in Air Traffic Patterns: Implementation of the project would not cause any changes in traffic pattern that would lead to safety risks at the San Gabriel Valley Airport. No impacts would occur.

DEIR

The following summary briefly describes those environmental topics that were found not to be significant with implementation of existing regulations, as detailed in each respective topical section of Chapter 5 of the DEIR. Note that Impacts 5.1-1, 5.3-1, 5.4-1, 5.7-1, 5.10-3, and 5.16-2 are addressed in both Sections II C and II.D below.

1. Aesthetics

Impact 5.1-1:	**Implementation of the Campus Plan would alter the visual appearance and character of the project site. [Threshold AE-3]**

Support for this environmental impact conclusion is fully discussed in Section 5.1, *Aesthetics*, starting on page 5.1-11 of the DEIR. This discussion covers operational impacts under this environmental impact conclusion. The discussion covering construction impacts under this environmental impact conclusion is set forth in Section II.D, below.

As described in Chapter 3, *Project Description*, of the DEIR, the Campus Plan would provide direction for the enhancement and development of the 116-acre City of Hope campus over a period of approximately 20 years. The proposed Specific Plan provides the vision, guidance, and implementation tools to govern the future of the campus.

Operational Impacts

As shown in Figure 3-5, *Illustrative Site Plan*, of the DEIR, buildout of the proposed Campus Plan would add new buildings on the project site and replace existing buildings with larger, more visually prominent buildings. Parking areas are also planned to be expanded and reconfigured. Over time, these changes to the City of Hope campus would alter its visual character and appearance. However, most new buildings and structures are planned for the center of the campus, which is currently a cluster of dense, urban-scaled buildings. Maximum heights are established to strategically locate taller structures toward the interior of the campus and away from adjacent residential neighborhoods. Therefore, overall, the proposed Campus Plan is not anticipated to have a substantial impact on the character of the project site.

Notable exceptions are changes to the central campus and new buildings proposed for the periphery of the project site. These are the largest changes proposed for the project site, and their potential aesthetic impacts are discussed below.

- **Changes to Central Campus**. One of the largest changes proposed for the project site is the introduction of a large medical building on the east-central part of the project site currently occupied by sprawling one-story wings of the Main Medical Building and other structures. By replacing one-story buildings with a larger, multistory building, this area of the campus would look substantially different than under existing conditions. However, upon implementation of development standards and design guidelines in the proposed Specific Plan, the new building would visually tie together what is now a mismatched collection of buildings. This is considered a beneficial aesthetic impact. Furthermore, this area of the project site is generally not visible from surrounding neighborhoods. Therefore, changes to the central City of Hope campus are not anticipated to dramatically alter the project site's character and appearance as seen from the surrounding community.
- **Parking Structure #1**. A multistory parking structure with approximately 1,750 parking spaces is proposed to replace the surface parking lot in the northeast corner of the project site; this would alter the character of this part of the project site. The structure would be near the project site's edge and would be visually prominent from Duarte Road. To minimize any potential adverse effects of such a structure, the proposed Specific Plan identifies development standard and design guidelines aimed at minimizing the visual bulk and overall visual impact of the project's parking structures. As discussed in Chapter 4, Mobility & Streetscape, of the Specific Plan, these provisions would require 1) parking areas visible from the public right-of-way to be appropriately screened, 2) parking structures to "appear more similar to a campus building and not as a structure," and 3) parking structure walls adjacent to residential areas to minimize vehicular entry points to minimize noise and lighting impacts. Subterranean or semi-subterranean parking structures are encouraged in order to reduce the height and mass of structures. The Specific Plan also requires that parking structures be designed to align with the architectural character and quality of campus buildings, including complementing the character, mass, and scale of campus buildings in the immediate area. In addition to these and other guidelines related specifically to parking structures, numerous development standards and design guidelines in the proposed Specific Plan address community compatibility. Upon implementation of these provisions, future parking structures, including the one conceptually planned for the northeast corner of the project site, would not generate significant adverse impacts to the project site's character and appearance.
- **Parking Structure #2**. Another multistory parking structure with approximately 1,230 parking spaces is conceptually proposed for the west-central portion of the project site on its western edge. This site currently features small single-story buildings, portable buildings, an outdoor basketball court, a small grass yard/play field, and surface parking. Low-density residential uses are offsite to the west, across the Duarte Flood Control Channel. Because this parking structure would replace single-story structures, it would substantially change the visual appearance of this part of the campus. Furthermore, it would make the campus more visible from residential uses to the west. However, the adjacent drainage channel is approximately 50 feet wide and would serve as a buffer between the structure and residential uses. This parking structure would also be required to

comply with the same design guidelines described above, including the reduction of visual bulk by landscaping and avoidance of spill light. Thus, the proposed parking structure would not adversely alter the project site's character and appearance.

- **Replacement of Hope Village**. Proposed hospitality uses in the northwest corner of the project site would replace the existing "Village of Hope" housing units and a portion of Pioneer Park. A hotel or other similar uses would change the visual appearance of the campus as viewed from Duarte Road and would slightly diminish the corridor of green space visible from the public right-of-way. However, the specific design and orientation of new buildings in this location are unknown at this time. Future hospitality buildings would be required to comply with development standards and design guidelines in the proposed Specific Plan, including those related to community compatibility and urban design. As identified in Table 4 in Chapter 3, *Land Use & Development Standards*, of the Specific Plan, all new buildings would be required to be set back 50 feet from Duarte Road. This setback would accommodate a landscape buffer that would visually tie the site with the greenery of Pioneer Park directly to the east. Thus, the proposed hospitality uses would not adversely alter the project site's character and appearance.

Avoidance of Existing Visual Resources

In addition to providing a robust set of development standards and design guidelines aimed at creating a unified and aesthetically appealing visual environment, the land use plan for the proposed Campus Plan is sensitive to existing visual resources on the project site, which contribute to its overall character. The following visual resources—described earlier in this section—would remain in their existing locations according to the illustrative site plan developed for the proposed Campus Plan (see Figure 3-5 in the DEIR):

- Pioneer Park (eastern two-thirds)
- Rose garden and sculpture garden
- Japanese garden
- Kaplan Pavilion
- Graff Plaza (alterations proposed, but same location)
- Visitor center and House of Hope
- "Spirit of Life" fountain and sculpture (alterations proposed but fountain/sculpture expected to remain)

The land use plan and illustrative site plan prepared for the proposed Campus Plan are conceptual in nature and do not represent the final design and orientation of buildings and public spaces on the project site. However, these exhibits demonstrate the project's effort to preserve existing visual resources. Furthermore, the proposed reorientation and reorganization of the campus's central cluster of buildings would create enhanced pedestrian linkages between the project site's green spaces (see Figure 3-5 in the DEIR). This reorientation and enhanced linkage would represent a beneficial aesthetic impact of the proposed Campus Plan related to character and visual appearance.

Further, with the exception of Pioneer Park, the Visitor Center, House of Hope and the Rose Garden, none of the other visual resources discussed on the project site, including Heritage Park, are visible from outside the City of Hope campus. Therefore, any modifications or changes to those internal campus resources would not adversely affect the project site's character and appearance.

Development Standards and Design Guidelines

The proposed Specific Plan's development standards and design guidelines are designed to develop an "established identity and sense of place" (see Goal 2 in Chapter 2, Vision & Goals, of the proposed Specific Plan). They are intended to develop a "cohesive and contemporary design character for the campus" and create an enhanced campus entrance. Standards and guidelines in the Specific Plan address a number of aesthetic considerations, including:

- Building orientation, height, and setbacks
- Open space and landscaping
- Buffering and screening of utilities and service areas
- Architectural character and building form
- Building colors and materials
- Fences and walls
- Lighting
- Wayfinding
- Public art

Implementation of these provisions and adherence to land use regulations of the cities of Duarte and Irwindale (see Section 5.1.1.1, *Regulatory Setting*, in the DEIR) would ensure that buildout of the proposed Campus Plan would create a unified character on the campus and buildings that are more architecturally compatible than under existing conditions. Design guidelines in the Specific Plan would supersede existing City of Duarte and City of Irwindale design guidelines in effect on the site. In particular, the proposed Specific Plan's focus on compatibility between buildings and on developing a system of meaningful, connected public spaces would result in beneficial aesthetic impacts on the project site.

Public Art

Section 5.8 of the Specific Plan Design Guidelines, *Campus Public Art*, requires that public art be installed on the campus concomitant with the certificate of occupancy for any new building of over 5,000 square feet outside of the IU District. Public art may be placed in exterior or interior spaces in areas of relatively high public activity. The value of the public art shall be at least 0.25 percent of the value of the new building per the City of Duarte's building permit fee schedule.

Setbacks

The proposed Specific Plan includes development standards to ensure visual compatibility between proposed uses and existing residential development. 50-foot-wide Duarte Flood Control Channel sets the campus back from residences nearest the western site boundary. The parking structure conceptually proposed for this area would be limited to a maximum height of 60 feet. Buildings in the Transitional Medical and Residential Medical Flex districts must be set back 30 feet from Cinco Robles Drive and include landscaping. These setbacks and height limitations would ensure visual compatibility with the existing adjacent uses; impacts would be less than significant.

Conclusion

Buildout of the proposed Campus Plan would add buildings, parking structures, and other improvements to the project site, which would alter its visual appearance. In particular, new buildings at the periphery of the project site, including two parking garages (near Duarte Road and Cinco Robles Drive) and hospitality uses along Duarte Road, would change the campus's appearance from surrounding land uses. However, the proposed Specific Plan's comprehensive set of development standards and design guidelines, when implemented, would ensure that new improvements would contribute to a unified sense of place that minimizes visual impacts on surrounding uses. Furthermore, the conceptual site plan accommodates preservation of existing visual resources on the project site that contribute to its visual character. Upon adherence to existing regulations enforced by the cities of Duarte and Irwindale and provisions of the proposed Specific Plan, operational impacts would be less than significant. Additionally, pursuant to SB 743 (Public Resources Code section 21099(d)(1)), aesthetic impacts of the project, including impacts related to aesthetic/visual character, are not considered significant within one-half mile of the Gold Line Station – which includes the northern portion of the project area.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that long term visual character impacts would be less than significant.

Impact 5.1-2: Implementation of the Campus Plan could cause shade and shadow impacts on surrounding uses. [Threshold AE-3]

Support for this environmental impact conclusion is fully discussed in Section 5.1, *Aesthetics*, starting on page 5.1-16 of the DEIR.

The issue of shade and shadow pertains to whether onsite buildings or structures block direct sunlight from adjacent properties. Shading is an important environmental issue because the users or occupants of certain land uses have expectations for direct sunlight and warmth from the sun for function, physical comfort, or conduct of commerce. Factors that influence the extent of shading include: season; time of day; weather (i.e., sunny vs. cloudy day); building height, bulk, and scale; topography; spacing between buildings; sensitivity of adjacent land uses; and tree cover. The longest shadows are cast during the winter months, when the sun is lowest on the horizon, and the shortest shadows are cast during the summer. Shadows are also longer in the early morning and late afternoon. Consequences of shadows on

land uses may be positive, such as cooling effects during warm weather, or negative, such as the loss of natural light necessary for solar energy or the loss of warming influences during cool weather. The relative effects of shading from structures are site specific.

The proposed Campus Plan allows dense, multistory development throughout the project site. However, as shown in Table 5.1-1 of the DEIR, the tallest buildings would be toward the center of the site, adjacent to existing midrise buildings. Tall buildings in this area would only cast shade and shadows on other medical buildings and public spaces on the project site. The nearby land uses most sensitive to shade and shadow—residential uses to the west of the project site—are adjacent to the proposed Transitional Medical District where building heights are limited. As shown in Table 5.1-1 of the DEIR, the parking structure conceptually proposed for this area would be limited to a maximum height of 60 feet. Residential uses to the west would generally not fall into the shadows cast by this structure because of the 50-foot-wide drainage channel that separates them from the project site and the additional setbacks required by the proposed Specific Plan. In the Transitional Medical and Residential Medical Flex districts, buildings also must be setback 30 feet from Cinco Robles Drive.

Because the proposed Campus Plan is a long-range planning effort and does not propose specific buildings, it is unknown at this time how much of the allowable building height would be utilized. However, all new buildings would be required to adhere to the development standards and design guidelines in the proposed Specific Plan that address visual bulk and compatibility between buildings. Because most of the project site is surrounded by nonresidential uses (roadways, drainage basins, and flood control facilities) and because provisions of the proposed Specific Plan ensure that new development would be sensitive to surrounding land uses, shade and shadow impacts of the proposed Campus Plan would be less than significant. Additionally, pursuant to SB 743 (Public Resources Code section 21099(d)(1)), aesthetic impacts of the project, including impacts related to shade and shadow, are not considered significant within one-half mile of the Gold Line Station-which includes the northern portion of the project area encompassing the majority of the Core Medical Zone where the tallest buildings would be allowed.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that shade and shadow impacts would be less than significant.

Impact 5.1-3: Buildout of the proposed Campus Plan would generate additional light and glare at the project site. [Threshold AE-4]

Support for this environmental impact conclusion is fully discussed in Section 5.1, *Aesthetics*, starting on page 5.1-17 of the DEIR.

Nighttime illumination and glare impacts are the effects of a project's exterior lighting on adjoining uses and areas. Light and glare impacts are determined by comparing existing light sources with the proposed lighting plan or policies.

The project site has many existing sources of nighttime illumination, including street and parking area lights, security lighting, and exterior lighting on buildings. Additional onsite light and glare is caused by surrounding land uses, I-210 to the north, and I-605 to the east.

The proposed Campus Plan would alter and intensify land uses and their related lighting. In addition to new building, security, and parking lighting throughout the site, the proposed Campus Plan's larger buildings would be expected to have additional exterior glazing (i.e., windows and doors) that could result in new sources of glare. However, despite new and expanded sources of nighttime illumination and glare, the proposed Campus Plan is not expected to generate substantial increases in light or glare due to the project site's existing built character. Section 4.5, *Lighting*, of the proposed Specific Plan addresses issues related to outdoor lighting, including lighting pollution and security. Project compliance with the following guidelines in the Specific Plan would ensure that new land uses on the project site do not generate excessive light.

- All lighting should eliminate light spill by utilizing full cut off luminaries and shielding to eliminate off-site glare onto adjacent residential areas.
- Lighting should promote Crime Prevention Through Environmental Design (CPTED) measures by creating well-lit entryways, pathways, open spaces and parking lots.
- All campus entry driveways and vehicle circulation routes within the campus should be lit so that they are visible from approaching vehicles
- Lighting design should include consideration of control systems to reduce light levels during low-usage times while not sacrificing uniformity or safety.
- Light fixtures should be made of materials that have long life spans and are able to withstand exposure to harsh weather elements and constant use.
- Similar or identical lighting fixtures should be used for building, signage, parking, internal road, and pathway lighting to maintain a consistent and cohesive theme across the City of Hope campus.
- Special and subtle illumination is encouraged on and around new buildings to accent main building entrances, special architectural elements (such as distinctive building elements or rooftops), and landscaping.
- Parking lot lights should be of modest scale and height, utilizing more, smaller light poles rather than fewer, taller light poles. Exposed rooftop lights on parking structures are prohibited.
- Pedestrian pathways and zones and near campus directories should be lighted to properly guide wayfinding and provide safety with appropriately-scaled pole lighting and lighted bollards at the ground level, outside of pedestrian walkways.
- Warm white light is encouraged throughout the campus. Blinking, flashing, and oscillating lights are prohibited. Overly bright or glaring lights should be avoided.
- Areas along the perimeter of the Campus should be well-illuminated to enhance the perimeter landscape, support pedestrian activity, and provide accent lighting for campus identity markers, but should not interfere with drivers' visual perception.

In addition, the following guideline related to parking structures (see Section 4.7 of the Specific Plan) would minimize light and glare generated within parking structures:

- Headlight walls used to screen parking should be used in parking structures to minimize the impact of headlight glare. These walls should be low enough for safety and security purposes, but high enough to block headlight beams, approximately 42 inches high.

Design guidelines in the proposed Specific Plan also reduce light and glare spillover from the project site to surrounding land uses by buffering new development with landscaping and trees. Replacement of older buildings with newer buildings adhering to Specific Plan lighting guidelines, and surface parking with screened parking structures, would also reduce the amount of spill light potentially impacting surrounding land uses.

Last, future development on the project site would be required to comply with California's Building Energy Efficiency Standards for Residential and Nonresidential Buildings (24 CCR, Part 6), which outlines mandatory provisions for lighting control devices and luminaires.

Upon adherence with existing regulations and proposed Specific Plan provisions and because the project site and surrounding area are largely developed, the lighting and buildings associated with the proposed Specific Plan would not substantially increase nighttime light and glare within the project site or its surroundings. Therefore, project impacts relating to light and glare would be less than significant. Additionally, pursuant to SB 743 (Public Resources Code section 21099(d)(1)), aesthetic impacts of the project, including impacts related to light and glare, are not considered significant within one-half mile of the Gold Line Station – which includes the northern portion of the project area

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that light and glare impacts would be less than significant.

2. Air Quality

Impact 5.2-1:	**The proposed project would be consistent with the South Coast Air Quality Management District's Air Quality Management Plan. [Threshold AQ-1]**

Support for this environmental impact conclusion is fully discussed in Section 5.2, *Air Quality*, starting on page 5.2-24 of the DEIR.

The South Coast Air Quality Management District (SCAQMD) is directly responsible for reducing emissions from area, stationary, and mobile sources in the South Coast Air Basin (SoCAB) to achieve the National and California ambient air quality standards (AAQS). SCAQMD has responded to this requirement by preparing an AQMP. On March 3, 2017 the SCAQMD Governing Board adopted the 2016 AQMP, which is a regional and multiagency effort (SCAQMD, California Air Resources Board [CARB], the Southern California Association of Governments [SCAG], and U.S. Environmental Protection Agency [EPA]). A consistency determination with the AQMP plays an important role in

local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the AQMP.

The two principal criteria for conformance with an AQMP are:

1. Whether the project would exceed the assumptions in the AQMP.

2. Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timeline attainment of air quality standards.

SCAG is SCAQMD's partner in the preparation of the AQMP, providing the latest economic and demographic forecasts and developing transportation measures. Regional population, housing, and employment projects developed by SCAG are based in part on a city's general plan land use designations. These projections form the foundation for the emissions inventory of the AQMP and are incorporated into the regional transportation plan/sustainable communities strategy prepared by SCAG to determine priority transportation projects and vehicle miles traveled in the SCAG region. Because the AQMP strategy is based on projections from local general plans, projects that are consistent with the local general plan are considered consistent with the air quality-related regional plan. Additionally, only large projects have the potential to substantially affect the demographic forecasts in the AQMP.

CEQA Guidelines Section 15206(b) states that a proposed project is of statewide, regional, or area-wide significance if the project is a residential development of more than 500 dwelling units or a commercial office building of 250,000 square feet or more or that employs 1,000 or more employees. The proposed project would introduce a net of approximately 1,038,500 square feet of new medical campus buildings (excludes the two planned parking structures) in addition to 2,841 new jobs. These numbers would exceed the standards determining whether a project is of statewide, regional, or area-wide significance, but any growth associated with the proposed project in regard to households would be within the assumed SCAG growth projections for the cities of Duarte and Irwindale (see Impact 5.11-1, Section 5.11, *Population and Housing*, of the DEIR). Thus, implementation of the proposed project would not have the potential to substantially affect SCAG's demographic projections beyond what is already anticipated for the area.

With respect to the second criterion, the analyses for Impact 5.2-3 demonstrate that the proposed project would not generate long-term emissions of criteria air pollutants that would exceed SCAQMD's regional operation-phase significance thresholds, which were established to determine whether a project has the potential to cumulatively contribute to the SoCAB's nonattainment designations.

Finding:

The proposed project would not result in an increase in the frequency or severity of existing air quality violations; cause or contribute to new violations; or delay timely attainment of the AAQS. Therefore,

overall, the proposed project would be considered consistent with the AQMP, and impacts would be less than significant.

Impact 5.2-2:	**Construction activities associated with the proposed project would not generate short-term emissions in exceedance of SCAQMD'S regional threshold criteria. [Thresholds AQ-2 and AQ-3]**

Support for this environmental impact conclusion is fully discussed in Section 5.2, *Air Quality*, starting on page 5.2-25 of the DEIR.

At full buildout, the proposed project would develop approximately 670,000 building square feet of hospital, 250,000 building square feet of medical office, 371,000 building square feet of research and development, 75,000 building square feet of hospitality, and 30,000 building square feet of industrial space in addition to a 30,000-square-foot data center, two parking structures, and surface lots. Construction activities associated with the proposed project would produce combustion emissions from various sources, such as onsite heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. Site preparation activities produce fugitive dust emissions (coarse and fine inhalable particulate matter; PM10 and PM2.5) from soil-disturbing activities, such as grading and excavation. Air pollutant emissions from construction activities onsite would vary daily as construction activity levels change. Table 5.2-13, *Maximum Daily Regional Construction Emissions by Development Phase*, in the DEIR shows the construction emissions for the proposed project. As shown in the table, project-related construction emissions would not exceed the SCAQMD regional construction significance thresholds. Through compliance with regulatory requirements, construction-related regional air quality impacts would be less than significant.

Finding:

Project-related construction emissions would not exceed SCAQMD regional construction significance thresholds. Therefore, construction-related regional air quality impacts would be less than significant.

Impact 5.2-3:	**Long-term operation of the project would not generate additional emissions in exceedance of SCAQMD's regional significance thresholds. [Thresholds AQ-2 and AQ-3]**

Support for this environmental impact conclusion is fully discussed in Section 5.2, *Air Quality*, starting on page 5.2-28 of the DEIR.

Phase 1

Phase 1 of the project would result in an overall net decrease of 920 average daily trips and 13,156 vehicle miles per day (see Appendix J1 in the DEIR) compared to existing conditions. The results of the CalEEMod modeling are shown in Table 5.2-14, *Phase 1: Net Maximum Daily Operation-Phase Emissions*, of the DEIR. The net change in emissions is based on the new emissions generated by the new facility buildings subtracted by the emissions associated with the existing buildings proposed to be demolished. Furthermore, the net change in emissions is also attributed to the net change in vehicle trips. As shown

in the table, the net emissions generated from implementation of the proposed project would not exceed the SCAQMD regional operation-phase significance thresholds.

Phase 2

Phase 2 of the project would generate a net increase of 641 average daily trips and 9,166 vehicle miles per day (see Appendix J1 in the DEIR). The results of the CalEEMod modeling are shown in Table 5.2-15, *Phase 2: Net Maximum Daily Operation-Phase Emissions*, of the DEIR. The net change in emissions is based on the new emissions generated by the new facility buildings and the additional vehicle trips associated with the additional visitors, patients, and employees subtracted by the emissions associated with the existing buildings proposed to be demolished. As shown in the table, the net emissions generated from implementation of the proposed project would not exceed the SCAQMD regional operation-phase significance thresholds.

Phase 3

Phase 3 of the project would generate a net increase of 2,572 average daily trips and 36,779 vehicle miles per day (see Appendix J1 in the DEIR). The results of the CalEEMod modeling are shown in Table 5.2-16, *Phase 3: Net Maximum Daily Operation-Phase Emissions*, in the DEIR. The net change in emissions is based on the new emissions generated by the new facility buildings and the additional vehicle trips associated with the additional visitors, patients, and employees subtracted by the emissions associated with the existing buildings proposed to be demolished. As shown in the table, the net emissions generated from implementation of the proposed project would not exceed the SCAQMD regional operation-phase significance thresholds.

Phase 4 (Full Buildout)

Full buildout of the project would generate a net increase of 4,753 average daily trips and 67,968 vehicle miles per day (see Appendix J1 in the DEIR). The results of the CalEEMod modeling are shown in Table 5.2-17, *Phase 4 (Full Buildout): Net Maximum Daily Operation-Phase Emissions*, in the DEIR. The net change in emissions is based on the new emissions generated by the new facility buildings and the additional vehicle trips associated with the additional visitors, patients, and employees subtracted by the emissions associated with the existing buildings proposed to be demolished. As shown in the table, the net emissions generated from implementation of the proposed project would not exceed the SCAQMD regional operation-phase significance thresholds. Therefore, long-term impacts would be less than significant.

Finding:

Long-term operation of the project would not generate additional emissions in exceedance of SCAQMD's regional significance thresholds. Through compliance with regulatory requirements, impacts would be less than significant.

Impact 5.2-6:	Implementation of the proposed City of Hope Campus Plan would not expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-4]

Support for this environmental impact conclusion is fully discussed in Section 5.2, *Air Quality*, starting on page 5.2-36 of the DEIR.

Operation of new land uses consistent with the Campus Plan would result in new area/stationary and mobile sources of criteria air pollutants and toxic air contaminants (TACs) in the plan area.

Operational LSTs

The types of land uses that typically generate substantial amounts of stationary source emissions include industrial land uses. The City of Hope Campus Plan would guide expansion of the City of Hope medical office facilities to meet the medical needs of the region. The City of Hope operates a Central Plant to offset campus-wide energy needs associated with building and cooling. These facilities are constructed at institutional facilities, such as hospitals, universities, and county facilities, because they offer co-benefits that reduce the overall energy needs and the amount of electricity and natural gas the agency needs to purchase from the grid/energy purveyor. The existing Central Plant at the City of Hope Campus includes three boilers and chillers. Additionally, the City of Hope campus maintains emergency generators for back-up power to support critical services. These types of equipment require a permit to operate by the SCAQMD.

The proposed project would result in an increase in electricity and natural gas use on the campus (see Table 5.2-17 in the DEIR). To accommodate the increase in electricity and natural gas use, the City of Hope may purchase additional energy from electricity purveyors or expand the Central Plant so that it can offset the increase in energy use. At this time, information on the specific equipment that the City of Hope would use to improve the Central Plant and that SCAQMD would permit at the Central Plant is not known. Additionally, installation of additional boilers, chillers, emergency generators, and other stationary equipment (e.g., cogeneration unit) necessary to provide heating and cooling and power needs to the City of Hope would require a permit to operate from SCAQMD as required under SCAQMD Regulation XIII, *New Source Review*. This permitting process would be separate from the general occupancy permits issued either by the City of Duarte or City of Irwindale and would provide a control for emissions associated with any new or modified future stationary equipment and ensure that applicable emissions standards are met and potential impacts are less than significant.

Although operation of the proposed project would result in the use of standard on-site mechanical equipment (such as heating, ventilation, and air conditioning units) and occasional use of landscaping equipment for project site maintenance, air pollutant emissions generated from these activities would be below the SCAQMD screening-level LSTs thresholds, as shown in Table 5.2-20, *Maximum Daily On-Site Localized Operation Emissions at Full Buildout*, in the DEIR. Therefore, localized air quality impacts related to stationary-source emissions would be less than significant.

Toxic Air Contaminants

The proposed project would result in development of approximately 60,000 square feet of industrial-type land uses within the City of Hope campus. However, it is not anticipated that these industrial-type land uses, which would include a 30,000 square-foot data center, would be large emitters of TACs. In addition, and as stated, land uses that have the potential to be substantial stationary sources that would require a permit from SCAQMD for emissions of TACs include industrial land uses, such as chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. Emissions of TACs would be controlled by SCAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under SCAQMD Rule 1401. The permitting process ensures that stationary source emissions would be below the SCAQMD significance thresholds of 10 in a million cancer risk and 1 for acute risk at the maximally exposed individual. There may be a possibility that new medical buildings accommodated under the proposed Campus Plan would include stationary sources of emissions such as from an emergency generator or cogeneration unit. For example, the proposed central plant would be located on the southeastern edge of the campus adjacent to undeveloped land. The structure would be located more than 1,000 feet from existing off-site sensitive receptors. Emissions disperse rapidly from the source and would not be expected to result in a substantial impact to off-site receptors. Therefore, equipment installed through the SCAQMD permitting process would not be expected to result in toxic air contaminant impacts to off-site receptors.

Furthermore, as stated above, any new stationary sources of emissions introduced under the proposed project would require an SCAQMD permit to operate, which would provide a control for emissions to ensure impacts are less than significant. Therefore, overall, impacts related to TACs are considered less than significant.

Carbon Monoxide Hot Spot Analysis

Areas of vehicle congestion have the potential to create pockets of carbon monoxide (CO) called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9.0 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduce speeds.

The SoCAB has been designated in attainment under both the national and California AAQS for CO. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix (i.e., bridges and tunnels)—in order to generate a substantial CO impact (BAAQMD 2011). The proposed project would generate up to approximately 519 net peak hour trips and would be significantly less than the volumes cited above (Fehr & Peers 2016). Furthermore, the SoCAB has since been designated attainment under both the national and California AAQS for CO. Thus, the proposed project would not have the potential to substantially increase CO hotspots at intersections in the vicinity of the project site, and impacts would be less than significant.

Finding:

Compliance with existing regulations would ensure that implementation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. Therefore, impacts would be less than significant.

3. Biological Resources

Impact 5.3-1:	**Implementation of the Campus Plan would not impact habitat for sensitive wildlife or plant species; however, construction noise could impact adjacent sensitive wildlife. [Threshold B-1]**

Support for this environmental impact conclusion is fully discussed in Section 5.3, *Biological Resources*, starting on page 5.3-10 of the DEIR. This discussion covers hydrology, water quality, and lighting-related biological resources impacts under this environmental impact conclusion. The discussion covering noise-related impacts under this environmental impact conclusion is set forth in Section II.D, below.

On-Site

Development has the potential to impact sensitive plants and wildlife species when it results in the removal of suitable habitat for these species. The majority of the project site is developed with few remaining vacant parcels. A biological survey was conducted and determined that the project site is characterized as developed, ornamental, disturbed, and ruderal habitat, and there is no native undisturbed suitable habitat for sensitive plant species. As a result, development within the project area would not impact sensitive plant species.

The proposed project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or the U.S. Fish and Wildlife Service (USFWS). There is no native undisturbed suitable habitat for federal or state threatened or endangered wildlife species on the project site. As indicated, two sensitive bird species—Cooper's hawk, a California Watch List species, and white-tailed kite, a State Fully Protected species—may occasionally roost and forage onsite. These species are not expected to breed onsite due to a lack of suitable nesting habitat. Based on the extensive amount of suitable roosting, foraging and breeding habitat located offsite within the Santa Fe Flood Control Basin/Recreation Area, onsite loss of ornamental vegetation potentially utilized for roosting and/or foraging would not represent a significant impact. Implementation of the Campus Plan would not impact sensitive bird species or other wildlife because there is no suitable habitat for these species on site. Impacts are considered less than significant.

Off-Site

The Santa Fe Flood Control Basin (immediately southeast of project site) and Santa Fe Dam Recreational Area (approximately 3,000 feet southeast of project site and I-605) are both potential and occupied habitat for species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Specifically, the federal/state

endangered least Bell's vireo and federal threatened coastal California gnatcatcher have been documented within the Santa Fe Dam Recreational Area, as illustrated in Figure 6 in the DEIR, USFWS Sensitive Species Occurrences of Appendix D to the DEIR.

Development in accordance with the Campus Plan would not result in any direct impact to these areas, because it consists of infill development that would be confined to the project site and surrounding roadways.

Potential indirect impacts to habitat areas adjacent to the project site could occur if development resulted in hydrological modification, increased stormwater discharge, increased lighting, or construction noise.

Hydrology and Water Quality

Off-site and indirect impacts to biological resources could occur if development would result in a substantial increase in stormwater runoff or substantially degrade water quality of sensitive habitat. Hydrology and water quality impacts are analyzed in Section 5.7, *Hydrology and Water Quality*, of the DEIR, and impacts were determined to be less than significant.

As discussed in Section 5.7 of the DEIR, the Campus Plan is required to comply with the stormwater and urban runoff pollution control provisions of the Los Angeles RWQCB's NPDES permit for municipal separate storm sewer system (MS4) discharges during construction. In addition, development must comply with the Duarte and Irwindale municipal codes (Chapter 6.15 of the Duarte Municipal Code, and Chapter 8.28 of the City of Irwindale Municipal Code.) The MS4 NPDES and Duarte and Irwindale code provisions regulate non-stormwater discharge to the storm drain system and reduction of pollutants in stormwater and urban runoff to the maximum extent practicable.

Operationally, urban runoff could include a variety of contaminants that could impact water quality. Runoff from buildings and parking lots typically contains oils, grease, fuel, antifreeze, byproducts of combustion (such as lead, cadmium, nickel, and other metals), fertilizers, herbicides, pesticides, and other pollutants. Precipitation at the beginning of the rainy season may result in an initial stormwater runoff (first flush) with high pollutant concentrations. The Campus Plan includes stormwater treatment features to treat the first flush stormwater in accordance with Los Angeles County MS4 Permit requirements and the guidance provided in the Los Angeles County Department of Public Works' Low-Impact Development Standards Manual.

Implementation of the Campus Plan would not substantially alter the existing drainage pattern. The stormwater measures incorporated into the project would result in an overall decrease in runoff of 11 cubic feet per second as compared to existing conditions, resulting in lower flow rates than under existing conditions. Therefore, there would be not exceedance of the capacity of existing or planned storm drain system.

Impacts to hydrology and water quality would be less than significant during both construction and operation (i.e., compliance with NPDES permit and MS4 code provisions would ensure no impacts to

species, and compliance with County MS4 permit requirements and LID manual would also ensure no impacts to species).

Lighting

The project site has many existing sources of nighttime illumination, including street and parking area lights, security lighting, and exterior lighting on buildings. Additional onsite light and glare is caused by surrounding land uses, I-210 to the north, and I-605 to the east. As discussed in Section 5.1, *Aesthetics*, of the DEIR, implementation of the Campus Plan would increase land uses and related lighting for building security, parking lot lighting, pedestrian lighting, and other sources. The Specific Plan includes a number of guidelines to ensure that new land uses do not generate excessive light or spill light onto adjacent properties, including the Santa Fe Flood Control Basin. Since the project site is developed and implementation of the Specific Plan contains a number of requirements to reduce excessive lighting and eliminate spill light, indirect impacts to sensitive wildlife species are not expected to occur. Impacts related to lighting would be less than significant during both construction and operation. Night lighting associated with the proposed project would not be directed toward the Santa Fe Flood Control Basin located immediately southeast of the project site and no indirect impacts to wildlife species will occur. No significant impacts are anticipated.

Finding:

The proposed project would not cause the loss of sensitive wildlife or plant species. Therefore, impacts would be less than significant.

Impact 5.3-2: Implementation of the Campus Plan would not cause the loss of riparian habitats or sensitive natural communities. [Threshold B-2]

Support for this environmental impact conclusion is fully discussed in Section 5.3, *Biological Resources*, starting on page 5.3-13 of the DEIR.

The majority of the project site is developed, with few remaining vacant parcels. As described, the project site is characterized as developed, ornamental, disturbed, and ruderal and does not contain any riparian, sensitive, or native habitats. The biological report identified a single sensitive vegetation community (alluvial fan sage scrub) abutting the southeast project site boundary. However, this vegetation would not be impacted by buildout of the proposed Campus Plan, since no development or other off-site improvements would occur in this area. Impacts are considered less than significant.

Finding:

The proposed project would not cause the loss of riparian habitat or sensitive natural communities. Therefore, with compliance with regulatory requirements, impacts would be less than significant.

Impact 5.3-3:	Implementation of the Campus Plan would not impact jurisdictional waters or wetlands jurisdictional to the Corps, CDFW, or Los Angeles RWQCB. [Threshold B-3]

Support for this environmental impact conclusion is fully discussed in Section 5.3, *Biological Resources*, starting on page 5.3-13 of the DEIR.

No wetlands regulated by the United State Corps of Engineers (Corps), California Department of Fish and Wildlife (CDFW), or Regional Water Quality Control Board (RWQCB) were documented within or adjacent to the project site. Therefore, implementation of the Campus Plan would not impact any wetlands.

The unvegetated, concrete-lined Duarte Flood Control Channel is a jurisdictional feature, and any impacts to the existing outfall structures would be regulated by the Corps, CDFW, and Los Angeles RWQCB. The Duarte Flood Control Channel bisects the southwest region of the project site and drains south to an existing currently unvegetated sediment basin. High flow rates extend south through a series of sediment basins and concrete-lined channels that ultimately drain to Long Beach Harbor. In the event that any phase of the proposed project would require the construction, improvement, or relocation of existing outfall structures leading to the Duarte Flood Control Channel or Santa Fe Flood Control Basin, the project applicant would be required to conduct a formal jurisdictional delineation and obtain all applicable permits, including a 404/408 Permit from the Corps, 1602 Streambed Alteration Agreement from CDFW, and a 401 Certification issued by the RWQCB pursuant to the California Water Code Section 13260, as warranted.

Finding:

Compliance with the federal and state regulatory requirements would reduce any potential impacts to jurisdictional resources to less than significant during both construction and operation of developments under the Campus Plan.

4. Cultural Resources

Impact 5.4-1:	Buildout of the Campus Plan could impact an identified historic resource. [Threshold C-1]

Support for this environmental impact conclusion is fully discussed in Section 5.4, *Cultural Resources*, starting on page 5.4-15 of the DEIR. This discussion covers indirect impacts under this environmental impact conclusion. The discussion covering direct impacts under this environmental impact conclusion is set forth in Section II.D, below.

Two historical resources were identified in the study area, the House of Hope and Visitors Center buildings. These resources are eligible for listing under both the National Register of Historic Places and California Register of Historic Resources.

Under CEQA, a project has a significant impact on a historical resource if it "would result in the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings

such that the significance of an historical resources would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1)). Material impairment would occur if the project would result in demolition or material alteration of those physical characteristics that convey the resource's historical significance (CEQA Guidelines Section 15064.5(b)(2)).

Indirect Impacts

Implementation of the Campus Plan would have the potential to result in indirect impacts to historical resources if it would result in new development that is incompatible, spatially obstructive, or would otherwise damage the integrity of a historical resource.

The Secretary of the Interior's Standards (Standard) Number 9 and 10 provide guidance in evaluating the potential for indirect impacts. Standard Number 9 states:

> New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

The new construction proposed in the Campus Plan is in the Core Medical District to the south and west of the two historical resources. New research and hospitality buildings would replace existing buildings and are set back from the street. All proposed buildings are physically distant from both the House of Hope and Visitors Center buildings. Given the physical separation between the historical resources and proposed buildings, there would be no destruction of any historic materials or features.

The maximum building height for the Core Medical District is 140 feet and the minimum setback is 10 feet from internal roadways. Because all proposed new construction is physically removed from the historical resources, this proposed maximum building height would have no impact on the historical resources. The maximum building height for the Cultural Amenity District is 50 feet, and the minimum setback is 10 feet from internal roadways. This is appropriate and acceptable and would ensure that any new construction in the Cultural Amenity District does not visually overwhelm the historical resources.

The existing landscape and open space around the House of Hope and Visitors Center buildings would be maintained as part of the Campus Plan. Therefore, the spatial relationships that characterize the buildings would not be affected.

Standard #10 states:

> New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Similar to the analysis of project impacts under Standard #9, new construction proposed as part of the Campus Plan would not impair the essential form or integrity of the historical resources on campus. The new construction would be physically removed from both the House of Hope and Visitors Center buildings, so that its removal in the future would not affect the integrity of either building. The environment surrounding both buildings would also remain intact. As stated above, the existing open space around the buildings would be maintained by the proposed Campus Plan. Therefore, the integrity of the surrounding environment would also be unimpaired. In summary, both identified historical resources would continue to convey their significance under the proposed Campus Plan. Therefore, the proposed plan would have a less than significant indirect impact on historical resources.

Finding:

Compliance with the federal and state regulatory requirements would reduce any potential indirect impacts to historical resources to less than significant.

5. Geology and Soils

Impact 5.5-1:	**Project workers, visitors, and structures would be subject to strong ground shaking. [Threshold G-I.ii])**

Support for this environmental impact conclusion is fully discussed in Section 5.5, *Geology and Soils*, starting on page 5.5-12 of the DEIR.

Structures that would be built and renovated by the project would likely be subject to strong ground shaking within their design lifetimes. However, no fault lines traverse the project site.

The estimated peak ground acceleration onsite with a 2 percent probability of exceedance in 50 years—that is, an average return period of 2,475 years—is 0.860g, where g is the acceleration of gravity (CGS 2016). Seismic design parameters for the project site were calculated in the geotechnical reports prepared by RTF&A in 2008 and 2009 (see Appendix F to the DEIR). Ground acceleration of 0.860g correlates with intensity IX on the Modified Mercalli Intensity (MMI) Scale (Wald 1999), a subjective scale of how earthquakes are felt by people and the effects of earthquakes on buildings. The MMI Scale is a 12-point scale where Intensity I earthquakes are generally not felt by people; in Intensity XII earthquakes damage is total, and objects are thrown into the air. In an intensity IX earthquake, damage is considerable in specially designed structures and well-designed frame structures are thrown out of plumb. Damage is great in substantial buildings, with partial collapse. Buildings are shifted off of foundations (USGS 2016).

Pursuant to California Building Code (CBC) requirements, buildings developed pursuant to the Campus Plan would be required to conduct geotechnical investigations conducted for their specific sites within the overall project site. The geotechnical investigation reports would include seismic design parameters calculated based on CBC requirements. The design and construction of buildings and other improvements developed in conformance with the Campus Plan are required to comply with recommendations of such geotechnical reports. Seismic performance goals for structures generally expect that some property damage will be sustained in a moderate to large earthquake, but damage

should be repairable and not life threatening. Structures should be able to resist minor earthquakes with no damage; resist moderate earthquakes with some nonstructural damage; and resist major earthquakes with some structural damage, but with a low likelihood of collapse.

The CBC contains provisions for earthquake safety based on factors including occupancy type, the types of soil and rock onsite, and the strength of ground motions with specified probability of occurring at the site. Many of the proposed buildings would be essential facilities as defined in CBC Section 1604.5, which include buildings containing surgical facilities and buildings containing certain quantities of highly toxic materials. Geotechnical reports would be required to take this into consideration when designing recommendations. Upon implementation of applicable CBC provisions, impacts related to seismic shaking would be less than significant.

Finding:

Compliance with adopted building codes and other regulations would ensure that impacts related to strong ground shaking would be less significant.

Impact 5.5-2:	**Project workers, visitors, and structures would not be subjected to substantial hazards from ground subsidence, collapsible, or expansive soils. [Thresholds G-3 and G-4]**

Support for this environmental impact conclusion is fully discussed in Section 5.5, *Geology and Soils*, starting on page 5.5-13 of the DEIR.

Ground Subsidence

The major cause of ground subsidence is the excessive withdrawal of groundwater. The project site is above the Main San Gabriel Groundwater Basin (Basin). Groundwater levels in the Basin are managed by the Main San Gabriel Valley Watermaster to avoid overdraft of the Basin (MSGBW 2016); historic high groundwater levels are approximately 150 feet bgs. Because the basin is actively managed and there is a low groundwater table, project development would not subject workers, visitors, or structures to substantial hazards arising from ground subsidence, and impacts would be less than significant.

Collapsible Soils

Collapsible soils shrink upon being wetted and/or being subject to a load. The geotechnical investigation reports provided for the proposed project in the Draft EIR recommended that artificial fill soils onsite be removed to expose natural soils during site grading; removal depths were estimated to be up to two feet below existing grades. Geotechnical investigation reports for specific buildings developed in accordance with the Campus Plan would test subsurface soil samples to determine the suitability of such soils for supporting the proposed buildings. Such reports would include recommendations for removal of unsuitable soils and replacement with engineered compacted soils; and for foundation design to adequately support buildings on soils after finish grading. Such developments would comply with recommendations in geotechnical investigation reports for each respective building. Campus Plan buildout would not subject people or structures to substantial hazards arising from collapsible soils after

geotechnical investigations and compliance with recommendations in ensuing reports. Impacts would be less than significant.

Expansive Soils

Expansive soils contain substantial amounts of clay, which swells when wetted and shrinks when dried. The swelling or shrinking can shift, crack, or break structures built on such soils. Samples of subsurface site soils tested during the geotechnical investigations yielded expansion indices ranging from 0 to 35 (RTF&A 2008). Soils with expansion indices of over 20 are considered expansive per CBC Section 1803.5.3. Geotechnical investigation reports for specific buildings developed in accordance with the Campus Plan would test subsurface soil samples for expansion index. Such reports would include recommendations for engineering site soils and for foundation design to adequately support buildings on soils after finish grading. Such developments would comply with recommendations in geotechnical investigation reports for each respective building. Campus Plan buildout would not subject people or structures to substantial hazards arising from expansive soils, and impacts would be less than significant.

Finding:

Buildout of the Campus Plan would not subject people or structures to substantial hazards arising from collapsible soils after geotechnical investigations, compliance with recommendations in ensuing reports, and compliance with applicable building codes. Impacts would be less than significant

6. Greenhouse Gas Emissions

Impact 5.6-2:	**Implementation of the proposed City of Hope Campus Plan would not conflict with plans adopted for the purpose of reducing GHG emissions. [Threshold GHG-2]**

Support for this environmental impact conclusion is fully discussed in Section 5.6, *Greenhouse Gas Emissions*, starting on page 5.6-29 of the DEIR.

Applicable plans adopted for the purpose of reducing GHG emissions include CARB's Scoping Plan, SCAG's 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and local GHG reduction plans adopted by the City of Duarte and the City of Irwindale. A consistency analysis with these plans is presented below:

CARB Scoping Plan

The CARB Scoping Plan is applicable to state agencies, but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require the City to adopt policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the state agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level.

As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that would affect a local jurisdiction's emissions inventory from the top down. Statewide strategies to reduce GHG

emissions include the low-carbon fuel standard and changes in the corporate average fuel economy standards (e.g., Pavley I and Pavley California Advanced Clean Cars programs).

The proposed project is required to adhere to the programs and regulations identified by the Scoping Plan and implemented by state, regional, and local agencies. The proposed project would comply with these state GHG emissions reduction measures, since they are statewide strategies. For example, the new buildings under the proposed project would meet the applicable CALGreen and Building Energy Efficiency Standards. By 2030, the California Energy Commission (CEC) anticipates that new nonresidential buildings will be required to achieve zero net energy. The proposed project's GHG emissions in Table 5.6-7 in the DEIR include reductions associated with statewide strategies that have been adopted since AB 32. Therefore, the proposed program would not obstruct implementation of the CARB Scoping Plan.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy

SCAG's 2016-2040 RTP/SCS was adopted April 7, 2016. The RTP/SCS identifies multimodal transportation investments, including bus rapid transit, light rail transit, heavy rail transit, commuter rail, high-speed rail, active transportation strategies (e.g., bike ways and sidewalks), transportation demand management strategies, transportation systems management, highway improvements (interchange improvements, high-occupancy vehicle lanes, high-occupancy toll lanes), arterial improvements, goods movement strategies, aviation and airport ground access improvements, and operations and maintenance to the existing multimodal transportation system.

SCAG's RTP/SCS identifies that land use strategies that focus on new housing and job growth in areas served by high quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network. The overarching strategy in the 2016-2040 RTP/SCS is to allow the southern California region to grow in more compact communities in existing urban areas; provide neighborhoods with efficient and plentiful public transit and abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural lands (SCAG 2016). The 2016-2040 RTP/SCS transportation projects help more efficiently distribute population, housing, and employment growth and forecast development that is generally consistent with regional-level general plan data. The projected regional development pattern, when integrated with the proposed regional transportation network identified in the RTP/SCS, would reduce per capita vehicular travel-related GHG emissions and achieve the GHG reduction per capita targets for the SCAG region.

As discussed in Impact 5.9-1 and shown in Table 5.9-2 of Chapter 5.9, *Land Use and Planning*, of the DEIR, the proposed project would be consistent with the RTP/SCS goals. In addition, as discussed in Impact 5.11-1 of the DEIR, the new jobs anticipated to be created from implementation of the proposed Campus Plan would likely be filled by the local labor force. Based on the existing average service population of 6,448 persons and an estimated 170,585 vehicle miles traveled (VMT) per day, the current VMT per capita is approximately 26.5 vehicle miles per person. At full buildout, the City of Hope's average daily service population would be 9,393 persons, who would generate approximately 238,553 VMT. This would equate to a VMT per capita of approximately 25.4 vehicle miles per person, which would be a 1-mile per person decrease over existing conditions. Thus, implementation of the

proposed Campus Plan would be consistent with the overall RTP/SCS goal of reducing VMT. In addition, it is assumed that City of Hope could expect an increase in public transit ridership in the future due to increased connectivity with a larger service area in the future; increased ridership would further decrease VMT. Therefore, overall, implementation of the proposed City of Hope Campus Plan would not interfere with SCAG's ability to implement the regional strategies in the RTP/SCS.

Local GHG Reduction Plans

City of Duarte Energy Action Plan

Portions of the project site within the City of Duarte would be subject to Duarte's Energy Action Plan (EAP) and development standards. Table 5.6-8, *Consistency with the Duarte Energy Action Plan*, in the DEIR evaluates the proposed project's consistency with the goals and policies in the EAP. The EAP goals and policies focus on reducing GHG emissions through reducing citywide and municipal electricity demand (Duarte 2012). As shown in the table, implementation of the City of Hope Campus Plan would replace some of the existing facility buildings with newer, more energy-efficient buildings that would comply with the current and future Building Energy Efficiency Standards. Additionally, the future individual projects under the proposed City of Hope Campus Plan would comply with the City of Duarte's Sustainable Development Practices (Article 3, Chapter 19.52 of the City of Duarte Development Code), which include a variety of requirements in energy efficiency and water conservation. Furthermore, the City of Hope Campus Plan design guidelines include measures that encourage and promote incorporation and inclusion of design features that would contribute to increasing energy efficiency, reducing energy demand, and conserving water. Therefore, overall, the proposed project would be consistent with the City's EAP.

City of Irwindale Energy Action Plan

Portions of the project site within the City of Irwindale would be subject to Irwindale's EAP. Table 5.6-9, *Consistency with the City of Irwindale Energy Action Plan*, in the DEIR evaluates the proposed project's consistency with the goals and policies in the City's EAP. Implementation of the City of Hope Campus Plan would replace some of the existing facility buildings with newer, more energy-efficient buildings that would comply with the current and future Building Energy Efficiency Standards. Additionally, the Specific Plan design guidelines include measures that encourage and promote incorporation and inclusion of design features that would contribute to increasing energy efficiency, reducing energy demand, and conserving water. Therefore, overall, the proposed project would be consistent with the City or Irwindale's EAP.

Finding:

Implementation of the proposed City of Hope Campus Plan would not conflict with plans adopted for the purpose of reducing GHG emissions. Impacts would be less than significant.

7. Hazards and Hazardous Materials

Impact 5.7-1:	Project construction and operations would involve the transport, use, and/or disposal of hazardous materials. [Thresholds H-1, H-2, and H-3]

Support for this environmental impact conclusion is fully discussed in Section 5.7, *Hazards and Hazardous Materials*, starting on page 5.7-16 of the DEIR. This discussion covers operational impacts under this environmental impact conclusion. The discussion covering construction impacts under this environmental impact conclusion is set forth in Section II.D, below.

Operation

Project buildout would increase building area of patient care and research land uses combined by approximately a net 870,000 square feet, thus increasing the amounts of hazardous materials that would be used in City of Hope patient care and research functions. The City of Hope uses and has specific protocols (discussed in Section 5.7.1.2 of the DEIR) for the use of chemical hazards, biohazards, and radioactive materials.

Chemical Hazards

Operation of the proposed facilities would involve use of hazardous chemicals such as chemotherapy medicines, sterilants, disinfectants, laboratory chemicals, pesticides, and compressed gases; and would generate wastes containing such chemicals. Hazardous chemicals would be used and disposed of in compliance with existing regulations and guidelines of OSHA, Cal/OSHA, the National Institute of Occupational Safety and Health (NIOSH), the United States Department of Transportation (USDOT), the EPA, California Department of Public Health, and LACFD. City of Hope policies and procedures for the safe use, storage and disposal of hazardous chemicals are set forth in its "Policy and Procedures Manual, Safe Handling of Hazardous Materials and Waste." City of Hope staff are properly trained in these regulations, guidelines, and procedures that govern the safe handling, transport, and disposal of hazardous chemical. When used and disposed of correctly and in compliance with existing laws and regulations, hazardous chemicals would not result in a significant hazard to employees, patients, or visitors.

Biohazards

Operation of the proposed facilities would involve use of biohazardous substances such as biotherapy agents, human tissues or organs, human blood, and microbiological cultures and specimens. Project operation would also generate all six categories of biohazardous wastes listed above (human tissues, organs, or body parts; human blood and other body fluids; microbiological waste; sharps; isolation waste; and animal wastes). Therefore, project operation could pose hazards to City of Hope workers, patients, and visitors. The use of biohazardous substances and the storage and transport of biohazardous wastes would be conducted in compliance with existing regulations and guidelines, including the Medical Waste Management Act, AB 333, SB 225, CCR Title 8 Section 5193, and OSHA and NIOSH guidelines. City of Hope policies and procedures for the safe use, storage, and disposal of biohazards are set forth in its "Policy and Procedures Manual, Safe Handling of Hazardous Materials and Waste." City of Hope staff are properly trained in these regulations, guidelines, and procedures that

govern the safe handling, transport, and disposal of biohazardous substances. When used and disposed of correctly and in compliance with existing laws and regulations, biohazardous substances would not result in a significant hazard to employees, patients, or visitors.

Radioactive Materials

Operation of the proposed facilities would involve increased use of radioactive materials in diagnosis and treatment. Thus, project operation could pose radiologic hazards to City of Hope workers, patients, and visitors. Radioactive materials would be used, stored, transported, and disposed of in compliance with CFR Title 10, Chapter 1; the Radiation Control Law; the Radiologic Technology Act; and regulations implementing the latter two laws. City of Hope policies and procedures for the safe use of radiologic equipment and the safe handling, use, and storage of radiologic materials are set forth in its "Radiation Safety Manual and Policy and Procedure Manual, Receiving and Handling Radioactive Materials." and implemented as part of their Radiation Safety Program. Use of radioactive materials and radiological machines are supervised and conducted by City of Hope staff that have been properly trained in the policies and procedures for the safe use of radiation. These policies and procedures are in place to provide radiation protection to employees, patients, and the public and to ensure that radiation exposure standards are not exceeded. In addition, radioactive material deliveries are only received by qualified staff who are trained in the proper handling and storage of these materials. When handled, used, and disposed of correctly and in compliance with existing laws and regulations, radioactive materials would not result in a significant hazard to employees, patients, or visitors.

Summary

Regarding all three categories of hazardous materials addressed above, if new types of equipment involving use of hazardous materials or use of new categories of hazardous materials were introduced into City of Hope, the policy and procedure manuals would be updated to ensure the safe handling, storage, transport, and disposal of hazardous materials consistent with all applicable laws and regulations to ensure potential impacts would remain less than significant.

Accidental Release of Hazardous Materials

The use, storage, and transport of hazardous materials and hazardous wastes in compliance with the laws and regulations mentioned above would minimize the potential for releases of hazardous materials that could pose substantial hazards to the public or the environment and would entail prompt containment and cleanup of spills, either by City of Hope staff or by emergency response agencies.

City of Hope policies and procedures for containing and cleaning up spills of hazardous materials and for protecting the health and safety of workers, patients, and the public in response to a hazardous materials release are set forth in City of Hope's "Policy and Procedure Manual, Spill Management Assistance Response Team (S.M.A.R.T.)," "Policy and Procedure Manual, Safe Handling of Hazardous Materials and Waste," and in the Emergency Operations Plan. In the event of a spill, City of Hope staff would implement the emergency response procedures outlined in these plans to ensure that the spill is promptly contained, cleaned up, and disposed of by appropriately trained staff in compliance with all applicable laws and regulations. When spills are contained, cleaned up, and disposed of in compliance

with City of Hope policies, procedures, and emergency operations plans, impacts from the accidental release of hazardous materials would be less than significant.

Hazards to Persons at Beardslee Elementary School

Project buildout would result in increased usage and storage of hazardous materials onsite and increased transportation of hazardous materials to and from the site. Thus, project operation could subject people on and near the site, including at Beardslee Elementary School, to increased hazards from hazardous materials. However, as discussed above, City of Hope already has extensive policies, programs, and procedures in place to ensure the safe handling of hazardous materials. Compliance with these regulations and guidelines would reduce hazards from hazardous materials to the public and the environment to less than significant levels.

Finding:

Project operation would not result in a significant impact related to transport, use, and/or disposal of hazardous materials; accidental release of hazardous materials; or hazards to an elementary school. Impacts would be less than significant.

Impact 5.7-3:	**Implementation of the Campus Plan would not interfere with an adopted emergency response plan or emergency evacuation plan. [Threshold H-7]**

Support for this environmental impact conclusion is fully discussed in Section 5.7, *Hazards and Hazardous Materials*, starting on page 5.7-21 of the DEIR.

Future development would not interfere with any evacuation plan or operations of the Los Angeles County Fire Department (LACFD). Immediate access to the project area is provided by the I-210, I-605, Duarte Road, and Huntington Road. Emergency response and evacuation for Duarte and Irwindale are based on numerous access routes and freeways. The Campus Plan would not interfere with an emergency response plans or impede roadway access through removal of any streets. All construction activities would be required to be performed per the cities' and LACFD's standards and regulations. For example, future development would be required to provide the necessary on- and offsite access and circulation for emergency vehicles and services during the construction and operation phases.

Implementation of the Campus Plan would improve circulation and access within the project site. Project development would include an expanded internal loop road and other roadways, pedestrian pathways, and sidewalk improvements. Thus, project buildout would have some favorable impact on emergency access within the City of Hope campus. Additionally, City of Hope has an Emergency Operations Plan designed to facilitate quick decision-making when implementing emergency procedures in response to an internal or external disaster. Compliance with the Emergency Operations Plan on the campus would be consistent with and help facilities the Cities emergency response or evacuation procedures. Impacts on emergency access to surrounding land uses would be less than significant.

Finding:

With compliance with the cities' and LACFD's required standards and regulations, implementation of the Campus Plan would not interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

Impact 5.7-4:	**A designated fire hazard zone in the Santa Fe Flood Control Basin abuts the southeast site boundary. Project buildout would not expose people or structures to substantial wildfire hazards. [Threshold H-8]**

Support for this environmental impact conclusion is fully discussed in Section 5.7, *Hazards and Hazardous Materials*, starting on page 5.7-21 of the DEIR.

The Santa Fe Flood Control Basin, next to the southeast site boundary, is designated a Very High Fire Hazard Severity Zone by the California Department of Forestry and Fire Prevention (CAL FIRE 2012). The project site does not contain wildland vegetation that be fuel for a wildfire. Infill development on the existing developed campus would not result in greater impacts related to wildfire hazard.

The LACFD provides fire protection and emergency medical services to the cities of Duarte and Irwindale, including the City of Hope campus. The City of Hope campus is in the first-in service area of Fire Station 44 at 1105 Highland Avenue in Duarte, about 0.6 mile to the northeast. The next two closest fire stations to the project site are Station 48 at 15546 Arrow Highway in Irwindale, about 4.2 miles by road to the southeast, and Station 169 at 5112 Peck Road in El Monte, approximately four miles by road to the southwest (Johnson 2016). The LACFD anticipates that it can serve the project with existing firefighting stations, apparatus, and staff, and that project development would not require the LACFD to build new or expanded fire stations or obtain additional apparatus and staff (Johnson 2016).

Future development proposed on the project site would be reviewed and plan checked by the LACFD to ensure fire-safe building designs, adequate fire flow and access, consistent with applicable fire and building code requirements. Future development under the proposed project would not pose wildfire-related hazards to people or structures. Project buildout would not exacerbate an existing wildfire hazard, and impacts would be less than significant.

Finding:

Project buildout would not pose wildfire-related hazards to people or structures, or exacerbate an existing wildfire hazard, and future development would conform to applicable fire and building code requirements. Therefore, impacts would be less than significant.

8. Hydrology and Water Quality

Impact 5.8-1: Implementation of the Campus Plan would not violate any water quality standards or waste discharge requirements or otherwise degrade water quality. [Thresholds HYD-1 and HYD-6]

Support for this environmental impact conclusion is fully discussed in Section 5.8, *Hydrology and Water Quality*, starting on page 5.8-22 of the DEIR.

The proposed project would result in an increase in the overall amount of impervious surfaces on the project site, which can result in a greater potential to introduce pollutants to receiving waters. Urban runoff can carry a variety of pollutants, such as oil and grease, metals, sediments, and pesticide residues from roadways, parking lots, rooftops, and landscaped areas, and deposit them into an adjacent waterway via the storm drain system. Construction of the project could also result in the degradation of water quality with clearing and grading activities, potentially releasing sediment, oil and greases, and other chemicals to downstream water bodies.

Short-Term Construction Impacts

Clearing, grading, excavation, and construction activities associated with the proposed Campus Plan have the potential to impact water quality through soil erosion and increasing the amount of silt and debris carried in runoff. Additionally, the use of construction materials such as fuels, solvents, and paints may present a risk to surface water quality. Finally, the refueling and parking of construction vehicles and other equipment onsite during construction may result in oil, grease, or related pollutant leaks and spills that may discharge into the storm drain system.

To minimize these potential impacts, the development consistent with the Campus Plan would be required to comply with the National Pollutant Discharge Elimination System (NPDES) construction general permit (CGP) and prepare a Storm Water Pollution Prevention Plan (SWPPP) that incorporates best management practices (BMPs) to control sedimentation, erosion, and hazardous materials contamination of runoff during construction. The State Water Resources Control Board (SWRCB) mandates that projects that disturb one or more acres of land must obtain coverage under the Statewide CGP. The CGP also requires that prior to the start of construction activities; the project applicant must file permit registration documents with the SWRCB, which includes an NOI, risk assessment, site map, annual fee, signed certification statement, SWPPP, and post-construction water balance calculations. The SWPPP must be implemented at the project site and revised as necessary as administrative or physical conditions change. Prior to the issuance of a grading permit, the project applicant is required to provide proof of filing of the permit registration documents with the SWRCB.

In addition, projects in the portions of the project site in Duarte and Irwindale must comply with the City of Duarte's Municipal Code, Chapter 6.15.070, *Construction Pollutant Reduction,* and the City of Irwindale's Municipal Code, Chapter 8.28, *Storm Water and Urban Runoff Pollution,* respectively. The project site must control runoff from all construction activities by: 1) retaining sediment on site using BMPs; 2) retaining construction-related materials, wastes, spills, and residues on site; 3) containing non-stormwater runoff on site; and 4) implementing BMPs to control erosion, such as limiting grading

during the wet season, inspecting graded areas during rain events, maintaining vegetation on slopes, and covering erosion susceptible slopes. Prior to the issuance of a grading permit, the project would be evaluated for compliance with the State CGP and the cities' erosion and grading requirements to determine the potential for the generation of pollutants into the MS4 and the effectiveness of the SWPPP in complying with the requirements.

Construction BMPs include, but are not limited to, erosion controls, sediment controls, tracking controls, non-stormwater management, materials and waste management, and good housekeeping practices. The BMPs for construction activities are briefly discussed in Table 5.8-3 in the DEIR.

With the implementation of the SWPPP and BMPs during all construction activities and compliance with the cities' erosion and sediment control requirements, the impact to water quality during construction activities would be less than significant.

Long-Term Operational Impacts

Once the project has been constructed, urban runoff could include a variety of contaminants that could impact water quality. Runoff from buildings and parking lots typically contain oils, grease, fuel, antifreeze, byproducts of combustion (such as lead, cadmium, nickel, and other metals), as well as fertilizers, herbicides, pesticides, and other pollutants. Precipitation at the beginning of the rainy season may result in an initial stormwater runoff (first flush) with high pollutant concentrations.

Pollutants of Concern

Since the land use remains the same, the proposed project would not create new pollutant sources. Based on the proposed land uses, the pollutants typically associated with the Campus Plan land use category are summarized in Table 5.8-4 in the DEIR.

The project would be constructed and operated in accordance with the Los Angeles County MS4 Permit requirements and the guidance provided in the Los Angeles County Department of Public Works' Low-Impact Development (LID) Standards Manual. Under the MS4 permit, the project applicant is required to submit a LID Plan for review and approval by the Director of Public Works that provides details on how the project will comply with these requirements of the MS4 Permit and development LID manual.

A LID Plan has been developed for this project and is provided as Appendix H2 to the DEIR. For redevelopment projects, where less than 50 percent of the impervious surface of the developed site is proposed to be altered, only the proposed alterations must meet the requirements of the LID Standards Manual. Current LID standards require the on-site retention of runoff from the 0.75-inch, 24-hour rainfall event or the 85th percentile, 24-hour rainfall event, whichever is greater, through infiltration, biofiltration/bioretention, and/or rainfall harvest and use.

As described in the LID Plan, the stormwater treatment features at the project site have been designed to retain the post-development Stormwater Quality Design volume (SWQDv) for all storms up to and including the 85th percentile, 24-hour rainfall event. The primary treatment system would be the installation of a proprietary subsurface perforated corrugated metal pipe stormwater infiltration system

at the southwest corner of the project site, just east of the Los Angeles County Flood Control District (LACFCD) channel. Stormwater would be collected from drainage areas DA1 and DA2 and treated with a proprietary hydrodynamic separator that screens, separates, and traps trash, debris, sediment, and hydrocarbons prior to entry into the infiltration system. Drainage areas DA3 and DA4 would be treated with modified bioswales, which would serve as pretreatment systems, and smaller individual infiltration systems. The water quality features would target pollutants of concern in stormwater. A summary of the volume, flow rates, and sizing requirements for the stormwater treatment systems is provided in Table 5.8-5 in the DEIR.

LID features are required to be implemented as development occurs over buildout of the Campus Plan. Details regarding the proposed stormwater treatment system are provided in the LID Plan, which is attached as Appendix H2 to the DEIR. The LID Plan also contains the operations and maintenance plan for the treatment measures.

Finding:

With the implementation of the construction and operational BMPs and LID features and compliance with county and city regulatory requirements, the impact of project with respect to water quality would be less than significant.

Impact 5.8-2:	**Implementation of the Campus Plan would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table. [Threshold HYD-2]**

Support for this environmental impact conclusion is fully discussed in Section 5.8, *Hydrology and Water Quality*, starting on page 5.8-26 of the DEIR.

Short-Term Construction Impact

Buildout associated with implementation of the Campus Plan will involve grading and excavation. Groundwater beneath the site is estimated to be between 150 and 200 feet below ground surface; project grading and excavation activities would not approach such depth. Therefore, groundwater would not be encountered during construction activities, and there would be no impact on groundwater recharge from construction activities. Construction activities are temporary in nature and would result in the use of water trucks primarily for dust control activities. This usage would not result in a substantial depletion of groundwater supplies that could result in a lowering of the groundwater table. Therefore, impacts to groundwater supplies or recharge during construction would be less than significant.

Long-Term Operational Impact

Although the project site is in an urbanized, developed area with a high percentage of impervious surfaces, implementation of the project would increase development intensity and the amount of impervious surfaces. The increase in impervious surfaces has the potential to reduce groundwater recharge.

Buildout of the Campus Plan would increase the amount of impervious surface from 80 percent to 85 percent in some areas of the site and from 90 percent to 95 percent in other areas of the site, according to the KPFF Hydrology Report. However, the project is required to implement site design, source design, and stormwater treatment measures that will contribute to groundwater recharge and minimize stormwater runoff from the site. The proposed stormwater treatment measures, as specified in the KPFF LID Report, include modified bioswales and CMP infiltration systems, both of which contribute to groundwater recharge via infiltration. Although buildout of the project site would increase stormwater runoff by 3.9 cubic feet per second (cfs), the proposed infiltration systems would accommodate the 85th percentile runoff rate of 15.0 cfs. Therefore, the project would decrease the total stormwater flow from the site by 11.1 cfs and result in an increase in groundwater recharge compared to existing conditions.

Implementation of the Campus Plan would increase the number of workers, patients, and guests onsite and thus result in an increase in water demand. The City of Hope and City of Duarte are served by California American Water (Cal Am), which obtains 100 percent of its water from groundwater wells in the Main San Gabriel Valley Groundwater Basin.

A Water Supply Assessment (WSA) has been prepared for the project and is provided in Appendix L to the DEIR (WSC 2017). Water supply is also discussed in further detail in Section 5.16, *Utilities and Service Systems*, of the DEIR. Cal Am assesses whether the total projected water supplies available during average, single-dry, and multiple-dry water years during a 20-year projection would meet the projected water demand for the project, in addition to Cal Am's existing and planned future uses. The WSA determined that the project would require an additional 359 acre-feet per year of water at full buildout and that Cal Am's total projected water supplies available during average, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand for the project. However, the additional water demand of the proposed project would increase the existing well capacity deficit; this deficit could be met with one additional groundwater well that could be located on the City of Hope campus or at other locations in the basin to be determined by Cal Am. Additional details are provided in Section 5.16 of the DEIR.

The impact of the project on groundwater recharge and/or groundwater supplies would be less than significant.

Finding:

Upon compliance with proposed stormwater treatment measures, implementation of the proposed project would have a less than significant impact on groundwater supplies and groundwater recharge.

Impact 5.8-3:	**Implementation of the Campus Plan would not substantially alter the existing drainage pattern to result in adverse flooding impacts, create or contribute runoff water that would exceed the capacity of existing or planned stormwater systems, or provide substantial additional sources of polluted runoff. [Thresholds HYD-4 and HYD-5]**

Support for this environmental impact conclusion is fully discussed in Section 5.8, *Hydrology and Water Quality*, starting on page 5.8-27 of the DEIR.

The KPFF Hydrology Report and the KPFF LID Plan, which are provided as Appendices H1 and H2 to the DEIR, show the proposed stormwater drainage facilities with buildout under the Campus Plan. The project site has been divided into four drainage areas based on the way stormwater is conveyed and treated from these areas. Figure 5.8-5, *Proposed Storm Drainage System*, in the DEIR shows the site drainage areas as well as the treatment locations.

The proposed Campus Plan is within the boundaries of a developed site that is currently connected to an existing storm drain system. The proposed buildout does not involve the alteration of any natural drainage channels or any watercourse. The project site is currently 80 to 90 percent impervious, consisting of buildings, plazas, walkways, and parking structures and lots. The amount of impervious surface would increase to 85 to 95 percent impervious with the proposed redevelopment. However, the proposed project would require the implementation of stormwater treatment measures, including infiltration, which would reduce the amount of stormwater runoff leaving the site.

The KPFF Hydrology Report, which is provided in Appendix H1 to the DEIR, calculates the stormwater runoff volumes and rates from the 10-year and 50-year storms under existing and proposed buildout conditions. The Los Angeles County HydroCalc calculator was used to determine the volume and flow rates of stormwater runoff from the site. The results are summarized in Table 5.8-6 in the DEIR.

However, these calculations do not take into account the amount of stormwater that would be temporarily retained onsite. The Los Angeles County MS4 permit requires the capture and temporary detention of a stormwater quality design volume, based on the runoff produced from a 0.75-inch, 24-hour storm event or 85th percentile, 24-hour storm event, whichever is greater. As the 85th percentile storm event is greater in this case, it was used to determine the design volume.

The KPFF LID Study (in Appendix H2 to the DEIR) indicates that the project's proposed stormwater treatment measures would retain a total volume of 4.0 acre-feet onsite and infiltrate a total flow rate of 15 cfs. As shown in Table 5.8-6 in the DEIR, the 50-year storm would result in an increase of about 4 cfs with implementation of the Campus Plan. However, the stormwater treatment measures would infiltrate 15 cfs; therefore, the project would result in an overall decrease in runoff of 11 cfs. The proposed LID features for the project are shown on Figure 5.8-5 in the DEIR. With implementation of the proposed stormwater treatment measures and BMPs in accordance with regulatory requirements, the proposed project would not result in a significant increase in surface runoff flow rates or volumes in a manner that would cause flooding, and the impact would be less than significant.

The proposed project involves redevelopment on a property that is currently connected to an existing storm drain system that ultimately discharges into the county's storm drain system. Although the project will slightly increase the amount of impervious surfaces at the site, the implementation of required stormwater treatment measures will reduce flow rates by 15 cfs, which would result in lower flow rates than under existing conditions. The existing local storm drain system is shown on Figure 5.8-2 and the proposed connections with buildout of the Campus Plan are shown on Figure 5.8-5. Because flow rates would be lower with implementation of the project, there would be no exceedance of the capacity of the existing or planned storm drain system, and the impact would be less than significant.

As discussed previously in Impact 5.8-1, the project would implement site design, source control, and stormwater treatment measures in accordance with the Los Angeles County MS4 permit. Implementation of the modified bioswales, CDS pretreatment system, and stormwater infiltration systems would remove trash, debris, sediment, and hydrocarbons and provide natural filtration of pollutants from the stormwater runoff prior to discharge to the county's storm drain system.

Finding:

With implementation of the proposed stormwater treatment measures and BMPs in accordance with regulatory requirements, implementation of buildout under the Campus Plan should reduce the amount of pollutants in stormwater exiting the site as compared to existing conditions and the impact to water quality would be less than significant.

Impact 5.8-4:	**Implementation of the Campus Plan would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam. [Threshold HYD-9]**

Support for this environmental impact conclusion is fully discussed in Section 5.8, *Hydrology and Water Quality*, starting on page 5.8-28 of the DEIR.

The project is not in an area mapped as protected by levees; therefore, development with buildout of the Campus Plan would not place people or structures at risk of flooding due to levee failure. However, the project site is within the dam inundation zones of the San Gabriel Dam, Morris Dam, and Sawpit Dam. As discussed in Section 5.8.1.2, *Existing Conditions*, of the DEIR, the Sawpit Dam is now used as a debris basin and only a minimal amount of water is impounded behind the dam, typically during years with heavy rainfall. A dam inundation map developed in 1974, based on use of the dam as a debris basin, shows that the dam inundation area of this map does not reach the project site. Therefore, this discussion focuses on the potential failure of the San Gabriel and Morris dams.

Dam inundation zones are based on the highly unlikely scenario of a total catastrophic dam failure occurring in a very short period of time. Also, the dam inundation zones are based on the reservoirs being completely full (i.e., 100 percent storage capacity). As a result of sedimentation, these dams currently operate at 83 percent (San Gabriel) and 71 percent (Morris) capacity. Therefore, in the unlikely event of a dam failure, the dam inundation zones would be smaller than the mapped areas. Also, the dam inundation maps indicate that the first arrival time of the flood waves would be 50 to 55 minutes, which would allow time to implement early warning procedures and plans for evacuation. As stated

previously, evacuation of the hospital and some of the other campus buildings in a short period of time may be difficult, but vertical evacuation to higher floors that are above the flood level is possible. According the City of Duarte's Local Hazard Mitigation Plan, the velocity and height of the water from a failure of Morris or San Gabriel Dams would rapidly diminish at the mouth of the San Gabriel River (Duarte 2004). The dam inundation maps do not provide water depths at various locations, including the project site, but because the site is near the edge of the inundation zones, the water depths would be minimal. Also, the dam inundation map for Morris Dam states that most of the flood waters would be intercepted and stored in the Santa Fe Flood Control Basin, spreading grounds, and gravel pits. There also are several debris basins downgradient from San Gabriel Dam and upgradient from the project site that would tend to attenuate any flood waves that would result with a dam failure.

The probability of dam failure is low, and all dams are continually monitored by the state and the Los Angeles County Department of Public Works (LACDPW). The LACDPW has developed Emergency Action Plans for these dams that include procedures for damage assessment and emergency warnings. The cities of Duarte and Irwindale are coordinating with LACDPW on establishing early flood warning systems and communication methods among all government agencies, as well as establishing city procedures and evacuation plans for addressing early flood warnings.

Finding:

Because the project is not in an area mapped as protected by levees, development with buildout of the Campus Plan would not place people or structures at risk of flooding due to levee failure. With respect to dam failure, due to the length of time required for released water to reach the project site the low probability of dam failure, and intervening topography and elements that would intercept flood waters like the Santa Fe Flood Control Basin, implementation of the Campus Plan would not expose people or structures to a significant risk of loss, injury, or death in the case of dam failure, and impacts are considered less than significant.

9. Land Use and Planning

Impact 5.9-1:	**Campus Plan implementation would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect. [Threshold LU-2]**

Support for this environmental impact conclusion is fully discussed in Section 5.9, *Land Use and Planning*, starting on page 5.9-6 of the DEIR.

The Campus Plan area consists of 116 acres, 89.5 of which are in the City of Duarte and 26.5 are in the City of Irwindale. The entire site currently includes approximately 1,600,850 square feet of development (1,594,832 non-residential) related to City of Hope inpatient (hospital), outpatient (clinic), office, research, hospitality, and industrial/warehousing uses. The proposed Campus Plan would demolish up to about 387,500 square feet of non-residential structures to be replaced with up to approximately 1,038,500 net new non-residential structures. Existing non-residential development plus net new development would result in a total of approximately 2,633,392 non-residential square feet (2,639,350 square feet when including existing housing units).

A general plan amendment and zone change for the 89.5-acre portion in the City of Duarte would be required to implement the Campus Plan. The current Duarte General Plan land use designations (Hospital, Medium-Density Residential, High-Density Residential, Single-Family Residential, Public Facility, and Research and Development) of this portion of the project site would be changed to Specific Plan, which would require a revision to the Duarte General Plan land use map and a narrative amendment to the Duarte General Plan, adding the City of Hope Specific Plan to the list of approved specific plans. The zoning designations (H [Hospital], R-1 [Single-Family Residential], R-2 [Two-Family Residential], and R-4 [Multiple-Family Residential]) of this portion of the project site would also be changed to Specific Plan, which would require a revision to the Duarte zoning map. The zone change includes adoption of the City of Hope Specific Plan as part of the Duarte Municipal Code.

The Duarte Channel is not part of the Campus Plan site; the Duarte Channel is owned, operated, and maintained by the Los Angeles County Flood Control District, and would remain in flood control use upon Campus Plan approval and buildout.

Adoption of the Specific Plan also requires a general plan amendment and zone change for the 26.5-acre portion in the City of Irwindale. The current land use designations (Industrial/Business Park and Open Space/Easements) on the proposed site would be changed to Specific Plan, requiring a revision to the Irwindale General Plan narrative and land use map. The zoning designations (A-1 [Agricultural] and M-1 [Light Manufacturing]) of this area of the Campus Plan site would also be changed to Specific Plan, which would require a revision to the Irwindale zoning map. The zone change also includes adoption of the City of Hope Specific Plan in the Irwindale Municipal Code.

The proposed project is considered a project of regionwide significance pursuant to the criteria outlined in SCAG's *Intergovernmental Review Procedures Handbook* (November 1995) and CEQA Guidelines Section 15206, because it would involve a net increase of over 500,000 square feet of business establishment. Therefore, a consistency analysis with the applicable regional planning guidelines and strategies of SCAG's RTP/SCS is required.

2016–2040 SCAG RTP/SCS

Table 5.9-2 in the DEIR provides an assessment of the proposed Campus Plan's relationship to pertinent 2016–2040 SCAG RTP/SCS goals. The RTP/SCS goals are directed toward transit, transportation and mobility, and protection of the environment and health of residents. Consistency with SCAG population growth projections is addressed separately in Section 5.11, *Population and Housing*, of the DEIR. The consistency analysis below focuses on the broad, policy-oriented goals of the 2016–2040 RTP/SCS to determine consistency between the two plans.

As demonstrated in Table 5.9-2 in the DEIR, the proposed Campus Plan is consistent with the goals identified in SCAG's 2016-2040 RTP/SCS.

City of Duarte General Plan

The relevant long-range planning document for 89.5 acres (77 percent) of the proposed City of Hope Campus Plan is the City of Duarte General Plan. Consistency with the 2007 General Plan is evaluated in Table 5.9-3 in the DEIR. Although the General Plan contains numerous additional goals beyond those

discussed in the table, those goals are not related to the "purpose of avoiding or mitigating an environmental effect" and therefore are not analyzed in the table. Furthermore, consistency with the housing, open space conservation, noise, historic preservation, circulation, and safety elements is evaluated in other sections of the DEIR.

City of Irwindale General Plan

The area of the proposed Campus Plan in the City of Irwindale consists of 26.5 acres, or 23 percent of the total plan area. Consistency with the Irwindale 2020 General Plan is evaluated in Table 5.9-4 in the DEIR. Except for the housing element, the Irwindale General Plan provide policies instead of goals to guide future development and improvements. Irwindale General Plan policies that are not related to the "purpose of avoiding or mitigating an environmental effect" are not analyzed in the table.

Finding:

The proposed Campus Plan embodies the goals and policies in the applicable long-range planning documents. Implementation of the proposed Campus Plan would not conflict with applicable plans adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant.

10. Noise

Impact 5.10-2:	**Campus Plan implementation would result in long-term operation-related noise that would not exceed local standards. [Thresholds N-1 and N-3]**

Support for this environmental impact conclusion is fully discussed in Section 5.10, *Noise*, starting on page 5.10-27 of the DEIR.

A significant impact would occur if the project would result in an increase of traffic noise levels of 5 A-weighted decibels (dBA) if their resultant noise level were to remain within the objectives of the General Plan (e.g., 60 dBA Community Noise Equivalent Level [CNEL] at single-family residential, 65 dBA CNEL at multifamily residential) or with an increase of 3 dBA if the resultant level were to meet or exceed the objectives of the General Plan. A significant stationary-source impact would occur if the activities or equipment at the project site produce noise levels at nearby sensitive receptors in excess of local standards.

Traffic Noise

Future development in accordance with the Campus Plan would cause increases in traffic along local roadways. A substantial increase is defined as a noise increase greater than 3 dBA over existing conditions. Sensitive land uses include residential, schools, churches, nursing homes, hospitals, and open space/recreation areas. Commercial and industrial areas are not considered noise sensitive and generally have higher tolerances for exterior and interior noise levels.

Traffic noise levels were estimated using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model. The FHWA model predicts noise levels through a series of adjustments to a reference sound level. These adjustments account for distances from the roadway, traffic flows, vehicle speeds, car/truck mix, length of exposed roadway, and road width. Appendix I includes tables showing traffic CNEL noise levels and the distances to the 70, 65, and 60 CNEL contours for selected roadway segments in the vicinity of the proposed project for the four scenarios discussed below: Existing, Existing-Plus-Project, Future, and Future-Plus-Project.

Table 5.10-10, *Campus Plan Existing Conditions Traffic Noise Increases*, in the DEIR presents the noise levels at 50 feet from the centerline of each roadway segment for scenarios related to existing conditions. The "Existing Plus Project" scenario represents the noise levels that would be generated by traffic flows resulting from the combination of existing traffic volumes and traffic generated by the project (Fehr and Peers 2017). "Project Contribution" represents the effect the project would have on traffic noise levels by comparing the difference between "Existing Plus Project" noise levels and existing noise levels.

Table 5.10-10 in the DEIR shows that traffic noise increases resulting from the project contribution would range from 0.0 to 0.9 dBA CNEL. No segments would experience substantial noise increases (i.e., greater than 3 dB) over existing conditions.

Table 5.10-11, *Campus Plan Buildout Traffic Noise Increases*, in the DEIR presents the noise level increases on roadways over existing conditions at 50 feet from the centerline of each roadway segment due to the project (relative to the buildout horizon). The "Future Plus Project" traffic noise levels include effects of future regional ambient growth and growth due to the project (Fehr and Peers 2017). "Overall Increase" represents the effect the combination of the project and regional growth would have on noise levels at buildout of the project by comparing the difference between "Future Plus Project" and existing noise levels

Table 5.10-11 in the DEIR shows that overall increases due to both the project and regional growth would range from 0.4 to 2.2 dBA CNEL. Therefore, the project would not contribute substantial noise increases greater than 3 dB over existing conditions (see Table 5.10-10 in the DEIR). Since no segments would experience increases of greater than 3 dB due to the project alone or the project combined with regional growth, impacts would be less than significant and no mitigation measures are necessary.

Stationary-Source Noise

According to Duarte's Municipal Code, stationary sources must not exceed a 55 dBA equivalent continuous noise level (Leq) at residential properties during the daytime or 45 dBA Leq during the nighttime, with higher noise levels allowed for limited amounts of time. For sources exhibiting steady whine, screech, or hum, the standards are lowered by 5 dB. Irwindale's Municipal Code states that stationary noise must not exceed the residential standards (50 dBA Leq during the daytime or 45 dBA Leq during the nighttime) by more than 5 dB.

Onsite ventilation units and associated equipment at the project site would be acoustically engineered with appropriate procurement specifications, sound enclosures, and parapet walls to minimize noise—

all in accordance with City of Duarte and City of Irwindale stationary noise requirements—to ensure that such equipment does not exceed allowable noise limits. Other stationary sources for medical uses include landscaping, maintenance, truck deliveries, trash pickup, and parking lot activity. Ventilation and any other sources of stationary noise at the project site would not have a notably different character or intensity (per source) than the noise produced by existing uses. Furthermore, given that community-wide ambient noise levels at the site are generally dominated by traffic flow noise on the I-605 and I-210 freeways, as well as major, nearby thoroughfares, these traffic-related sources would generally tend to overshadow any item-specific noise produced by ventilation or other stationary sources at the project site. Thus, through compliance with pertinent local noise regulations and with the traffic-dominated ambient noise levels at the project site, noise levels due to stationary sources would be less than significant.

Finding:

As the proposed Campus Plan would not result in significant increases in traffic or stationary noise, and future stationary noise sources would be required to comply with city noise standards, long-term operational noise would not exceed local standards, and the impact would be less than significant.

Impact 5.10-3: Implementation of the Campus Plan would create short-term groundborne vibration and groundborne noise. [Threshold N-2]

Support for this environmental impact conclusion is fully discussed in Section 5.10, *Noise*, starting on page 5.10-33 of the DEIR. This discussion covers operational impacts under this environmental impact conclusion. The discussion covering construction impacts under this environmental impact conclusion is set forth in Section II.D, below.

Potential vibration impacts associated with development projects are usually related to the use of heavy construction equipment during the operation of large trucks over uneven surfaces during project operations.

Long-Term Operational Impact

Typically, the types of projects that could result in vibration concerns are industrial uses that use heavy machinery or rail projects where passing trains could generate perceptible levels of vibration. The proposed project includes medical research, treatment, and office building uses. As such, there would be no significant vibration-generating sources as part of the proposed project. Therefore, the proposed project would not generate substantial levels of operations vibration and no operations impacts would occur. Operations vibration impacts would be less than significant.

Finding:

As the proposed Campus Plan would not result in significant increases in long-term operational vibrations, and the impact would be less than significant.

11. Population and Housing

Impact 5.11-1: Implementation of the Campus Plan could result in population growth in the project area. [Threshold P-1]

Support for this environmental impact conclusion is fully discussed in Section 5.11, *Population and Housing*, starting on page 5.11-8 of the DEIR.

Implementation of the proposed Campus Plan would increase jobs in the Cities of Duarte and Irwindale, which would have the potential to increase demand for housing in the area. The project would result in approximately 1,038,500 gross square feet of net new development on the project site; 964,340 square feet within the City of Duarte and 74,160 square feet within the City of Irwindale.

The construction phase of individual development projects accommodated by the Campus Plan would generate temporary employment opportunities. Implementation of the proposed Campus Plan would generate short-term design, engineering, and construction jobs during project construction. Construction related jobs would not result in a significant population increase because they would be filled by workers in the region. Construction would occur intermittently over a period of 20 years. Construction would not result in a significant increase in population because the construction phase would be temporary and buildings would be developed as the market demands.

The increase in square footages and uses at the project site would increase employment at the project site, which has the potential to induce population growth in the area. The proposed Campus Plan would result in the creation of 1,530 new employees; an increase from 3,633 jobs in 2015 to 5,163 jobs in 2035; the existing contractors are expected to remain the same at approximately 1,311. The proposed number of physicians are expected to increase by 311 from 418 to 729 (see Table 3-3 in the DEIR). Therefore, the Campus Plan would result in the creation of 1,841 new jobs. The proposed Campus Plan includes new open space, hospitality (short-term stays for patients, their families, and City of Hope guests), inpatient (hospital), office, outpatient (clinic), research, and warehousing uses. This estimated 1,841 new jobs would be related to health care, administration, scientific research, academia, facilities maintenance, and hospitality.

According to the San Gabriel Valley 2016 Economic Forecast and Regional Overview by the Kyser Center for Economic Research (Kyser), health care services and professional and business services sectors accounted for 32 percent of all jobs in the San Gabriel Valley (18.3 percent and 13.4 percent, respectively). The proposed Campus Plan would provide health care and other skilled worker employment opportunities to residents in the project area as well as throughout the San Gabriel Valley Council of Governments (SGVCOG) subregion, reducing the existing unemployment rate. The US Census shows the civilian unemployment rate in the City of Duarte was 9.2 percent in 2012 and 11.2 percent in 2015. The same datasets show that the unemployment rate in the City of Irwindale was 14.7 percent in 2012 and 16 percent in 2015.

"The San Gabriel Valley is home to many highly-educated workers…. The overall level of educational attainment in the San Gabriel Valley is slightly higher than that of Los Angeles County. For the valley as a whole, 78.2% of the population (25 years and older) has a high school diploma (or equivalent) and

30.4% has earned a Bachelor's degree or higher" (Kyser 2016). The SGVCOG skilled labor force includes 122,500 health care services workers and 90,000 workers in professional and business services (Kyser 2016). As stated previously, this accounts for 32 percent of employment in the San Gabriel Valley. The increase in jobs on the campus would be drawn from this labor force.

However, even if the project increase in employees added equivalent population to the project site, added growth of 1,841 residents over buildout of the Campus Plan would be commensurate with the growth projections assumed for the cities of Duarte and Irwindale. As shown in the Table 5.11-1 in the DEIR, in 2040 the number of residents in the City of Duarte is forecast to increase by 12,800 beyond 2012, or approximately 13 percent. The population of the City of Irwindale are forecast to increase by 600 by 2040, an increase of approximately 42 percent.

With the number of available employees and skilled workers in the project area, implementation of the Campus Plan is not expected to induce substantial population growth. The proposed project is also consistent with the City of Duarte and City of Irwindale Housing Elements. None of the Campus Plan area parcels are identified in either Housing Element as being needed to meet their respective Regional Housing Needs Allocations. Impacts due to increased population would be less than significant.

Finding:

Implementation of the proposed project would not induce substantial population growth and would be consistent with applicable growth projections for the project area. Impacts would be less than significant.

Impact 5.11-2: Project implementation could result in the replacement of housing for other uses allowed within the Campus Plan. [Threshold P-2 and P-3]

Support for this environmental impact conclusion is fully discussed in Section 5.11, *Population and Housing*, starting on page 5.11-9 of the DEIR.

The existing housing on the campus consists of four rental units on three lots along the east side of Cinco Robles Drive that are primarily rented by graduate students attending City of Hope's Irell & Manella Graduate School of Biological Sciences. Following adoption of the proposed Campus Plan, these four units would be in the Residential Medical Flex District. This RMF District is intended to allow flexibility for the existing residential uses to continue to operate as campus housing or to transition to new uses over time, such as hospitality or open space.

These residential units are not currently planned to be demolished as a part of the project, but are planned to continue to be used for graduate student housing. The Campus Plan would provide flexibility to allow for the demolition of the units if desired in the future. In addition, seven residential units that are not owned by City of Hope but are proposed for inclusion within the Campus Plan area on the east side of Cinco Robles Drive have the potential to change in land use over time as allowed under the RMF and Transition Medical districts. These units also may remain residential long-term if not owned by City of Hope.

Therefore, although the proposed Campus Plan does not commit to removing any of these units in the RMF or TM with R2 Overlay districts, it does maintain the flexibility to potentially establish an alternate use at some point in the future. Therefore, implementation of the proposed Campus Plan could result in the redevelopment of up to 10 households in the City of Duarte. According to the California Department of Finance (DOF), the average persons per household size in Duarte is 3.05. Using this conservative assumption, 10 households would include 31 residents.

The DOF provides housing and population estimates for all cities and counties in California. The following is a list of housing vacancy rates in Duarte, Irwindale, and surrounding cities:

- Arcadia: 4.0 percent
- Azusa: 6.0 percent
- Baldwin Park: 6.4 percent
- Bradbury: 9.5 percent
- Covina: 3.9 percent
- Duarte: 2.7 percent
- Irwindale: 6.7 percent
- Monrovia: 5.3 percent

The 2016 vacancy rates in Duarte and Irwindale were 3 and 7 percent, respectively. Should the residential units eventually be converted to other uses, such as open space or parking, the 10 displaced households would be able to find alternate housing options within the communities of Duarte or Irwindale. There is also a moderate level of housing supply in several adjacent cities. Impacts are considered less than significant.

Finding:

Housing units potentially replaced by implementation of the proposed project would not represent a substantial replacement of housing or people given local housing supply and vacancy rates. Impacts would be less than significant.

12. Public Services

Impact 5.12-1:	**Implementation of the Campus Plan would introduce new structures, workers, patients, and visitors into the LACFD service boundaries. The LACFD estimates that it can serve the Campus Plan buildout with existing firefighting resources in and near the project site. [Threshold FP-1]**

Support for this environmental impact conclusion is fully discussed in Section 5.12, *Public Services*, starting on page 5.12-2 of the DEIR.

Construction

Construction projects under the Campus Plan are not expected to increase demand for fire protection and emergency medical services, however, the construction of projects has the potential re-route access to the site and immediately surrounding area due to street closures, closed access points, etc. Due to the nature of the project as a medical facility, it is critically important that construction activities do not block emergency access to City of Hope or surrounding neighborhoods. To address fire and emergency access needs, the traffic and circulation components of the proposed Campus Plan would be designed and constructed in accordance with all applicable LACFD design standards for emergency access (e.g., minimum lane width and turning radius). The Campus Plan includes a number of standards to ensure adequate emergency access. Gate access standards outlined in the Campus Plan require a minimum gate access width of 15 feet or as required by the LACFD. In addition, there are several campus access points that allow access for fire and emergency vehicles (including three on Duarte Road and one on Buena Vista Street). During the development review process the City of Hope would be required to coordinate with LACFD to ensure adequate emergency vehicle access during all phases of construction. Therefore, construction activities would not interfere with response times or service ratios and impacts would be less than significant.

Operation

Campus Plan buildout would result in a net increase of approximately 1,038,500 gross square feet of development, resulting in an increase of approximately 1,841 employees. This increase in building square footage and employees onsite is expected to generate an increase in demands for fire protection. LACFD anticipates that it can serve the project with existing firefighting stations, apparatus, and staff, and that project development would not require the LACFD to build new or expanded fire stations or obtain additional apparatus and staff (Johnson 2016). Therefore, impacts would be less than significant.

Further, future development in accordance with the Campus Plan would be required to comply with all applicable fire code and ordinances for construction, access, water mains, fire flows, and fire hydrants. Specific fire and life safety requirements for the construction phase would be addressed at the building fire plan check review stage (Johnson 2016). For example, site plans would be submitted to LACFD in order to obtain a fire flow requirement based upon the tenant type, building size, and building type. Compliance with LACFD requirements would also ensure adequate provision of resources. Demolition and replacement of outdated facilities with new facilities equipped with modern fire and life safety systems would also reduce demands for fire protection.

Finding:

With compliance with LACFD standards and applicable building codes and requirements, impacts related to fire protection and emergency services would be less than significant.

Impact 5.12-2:	**Implementation of the Campus Plan would introduce new structures, workers, patients, and visitors into the service area of the LACSD and IPD, thereby increasing the demand on police protection facilities and personnel. [Threshold PP-1]**

Support for this environmental impact conclusion is fully discussed in Section 5.12, *Public Services*, starting on page 5.12-5 of the DEIR.

Implementation of the Campus Plan could increase demands for police protection on the City of Hope campus. Buildout would result in a net increase of approximately 1,038,500 gross square feet of development, resulting in an increase of approximately 1,841 employees. Buildout of the Campus Plan would allow an average daily population of 9,393, which includes patients, employees, physicians, and residents. Since any new housing or residents would be associated with the hospital uses and the Specific Plan would not allow new development of market-rate, for-sale housing or rental housing that is not part of campus operations, the project would have no impact on service ratios (Jacobs 2016). However, City of Hope generates periodic calls for law enforcement services. Calls for service are expected to increase commensurate with the increase in growth on the project site (Jacobs 2016). With the continued support of 24-hour security on the City of Hope campus it is expected that the Los Angeles County Sheriff's Department (LACSD) would continue to provide adequate service ratios and response times to the project site.

The large majority of proposed development under the Campus Plan would be in the City of Duarte. The largest single structure proposed in the Campus Plan in the City of Irwindale would be a parking structure near the northeast corner of the campus (see Figure 3-5, *Illustrative Site Plan*, in the DEIR). The remaining uses proposed within the Infrastructure and Utility District do not generate a significant number of employees or result in a significant increase in demands for police service. Thus, it is not anticipated that Campus Plan buildout would require the Irwindale Police Department to build a new or expanded police facility.

In addition to police services provided by Duarte and Irwindale, City of Hope has a security department that provides safety, security, crime prevention and emergency response services for City of Hope main campus, 24 hours a day, seven days a week. The armed patrol division works closely and cooperatively with local agencies on issues of mutual concern by sharing information as needed. City of Hope patrol division will investigate reports in a timely manner and conduct impartial investigations. Any crimes will be reported to LACSD or Irwindale Police Department (IPD). The department is a hybrid department composed of both in-house staff members and contracted officer from G4S Solutions. City of Hope officers include 31 staff members. They provide a safe and secure campus environment by performing security, parking enforcement, traffic control and responding to calls for service. City of Hope is required to maintain security service levels established at the time of Specific Plan adoption (Section 6.5 of the City of Hope Specific Plan).

Finding:

Buildout of the Campus Plan with the existing security in place would not result in a significant impact to police services. Impacts are less than significant.

Impact 5.12-3: The proposed project would not generate new residents that would impact school or library facilities or services. [Threshold PS-1]

Support for this environmental impact conclusion is fully discussed in Section 5.12, *Public Services*, starting on page 5.12-9 of the DEIR.

School Services

Buildout of the Campus Plan would allow an average daily population of 9,393, which includes patients, employees, physicians, and residents. Any new housing or residents would be associated with the hospital uses and the Specific Plan would not allow new development of market-rate, for-sale housing or rental housing that is not part of campus operations. Project impacts on school, library or other population driven public services could result in an indirect impact if employment generation due to project buildout attracted substantial numbers of new workers into the region, inducing substantial population growth. Implementation of the proposed Campus Plan would result in the creation of approximately 1,841 new long-term jobs (see Table 3-3 in the DEIR). As described in Section 5.11, *Population and Housing*, of the DEIR, the proposed Campus Plan is not expected to induce substantial population growth. As stated, it is expected that the jobs would be filled by workers in the region. Since growth associated with the proposed project would be driven by an increase in employees, no new students would be generated and the project would not place additional demands on school facilities.

Pursuant to AB 2926 and SB 50, Duarte Unified School District may charge City of Hope developer fees for projects developed under the Campus Plan based on student generation rates for commercial and industrial uses even if little or no population increase is assumed, and City of Hope would be required to pay such fees. Developer fees per SB 50 would reduce any indirect impact on school facilities that might be caused by Campus Plan buildout, and impacts would be less than significant.

Library Services

Impacts to library services would be less than significant for the same reasons explained in the analysis of impacts on school facilities above. Many of the jobs generated by the project are expected to be taken by people who live in the region. Furthermore, people who work at City of Hope live throughout the San Gabriel Valley and people generally tend to visit libraries closer to their homes rather than those near their workplace. Thus, no substantial impact to any one library or library service provider would occur. Impacts would be less than significant.

Finding:

Upon payment of school impact fees as required by applicable law, impacts related to school and library facilities and services would be less than significant.

13. Recreation

Impact 5.13-1:	Implementation of Campus Plan would generate additional employees that would increase the use of existing park and recreational facilities. [Threshold R-1]

Support for this environmental impact conclusion is fully discussed in Section 5.13, *Recreation*, starting on page 5.13-7 of the DEIR.

The City of Duarte has a parkland standard of 2.5 acres per 2,500 residents and the City of Irwindale has a parkland standard of 1.0 acres per 2,500 residents. The City of Duarte is mostly built out, hindering its ability to acquire and develop additional parkland. According to the certified General Plan EIR for the 2007 City of Duarte Comprehensive General Plan 2005–2020, there is adequate parkland (55.21 acres) to meet the minimum recommendation.

Implementation of the proposed Campus Plan would result in the creation of approximately 1,841 new long-term jobs (see Table 3-3 in the DEIR). As described in Section 5.11, *Population and Housing*, of the DEIR, the proposed Campus Plan is not expected to induce substantial population growth. Therefore, the cities of Duarte and Irwindale would continue to meet and exceed their parkland standards at Campus Plan buildout.

The City of Hope Campus Plan would not result in damage to existing parks and recreational facilities and would not result in the removal of any parkland from Duarte or Irwindale. The Campus Plan is being designed with a goal to strengthen the relationship between City of Hope and Duarte and Irwindale residents. This includes a vision to create new open spaces throughout the campus in the proposed Cultural Amenity District, creating greater connectivity to and preservation of the existing Rose Garden, Pioneer Park, Cooper Auditorium, Visitor Center, Arthur & Rosalie Kaplan Family Pavilion, and the historic La Kretz House of Hope on campus. The Campus Plan would preserve long-term open space areas and implement extensive landscaping throughout the campus. The proposed open space would be a key feature of the campus, offering employees, visitors, and local residents areas to relax, gather, and exercise. Additionally, the proposed Specific Plan's landscape guidelines would incorporate sustainable site design practices and focus on enhancing and improving landscaping features throughout the City of Hope campus. No impacts would occur.

Finding:

With implementation of the proposed Campus Plan, impacts to park and recreational facilities would be less than significant because both Duarte and Irwindale would continue to meet and exceed their parkland standards, and the Campus Plan would not result in damage to existing parks or removal of existing parks.

14. Transportation and Traffic

Impact 5.14-2:	**Project-related trip generation in combination with existing and proposed cumulative development would not result in designated road and/or highways exceeding county congestion management agency service standards. [Threshold T-2]**

Support for this environmental impact conclusion is fully discussed in Section 5.14, *Transportation and Traffic*, starting on page 5.14-44 of the DEIR.

In accordance with the procedures outlined in Congestion Management Program (CMP) for Los Angeles County (Metro 2010), the DEIR included an analysis of potential impacts on the regional transportation system. The CMP requires that, when an environmental impact report is prepared for a project, traffic and public transit impact analyses be conducted for select regional facilities based on the quantity of project traffic expected to use those facilities.

CMP Regional Traffic Impact Analysis

The CMP guidelines require that the first issue to be addressed is the determination of the geographic scope of the study area. The criteria for determining the study area for CMP arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections where the proposed project will add 50 or more trips during either the AM or PM peak hours of adjacent street traffic.
- All CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips, in either direction, during either the AM or PM peak hours.

Significant Traffic Impact Criteria

The CMP traffic impact analysis guidelines establish that a significant project impact occurs when the following threshold is exceeded:

- The proposed project increases traffic demand on a CMP facility by 2% of capacity (volume/capacity ratio [V/C] $\geq$ 0.02), causing level of service (LOS) F (V/C > 1.00)

If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity (V/C $\geq$ 0.02).

Arterial Monitoring Stations

The closest CMP arterial monitoring station, the intersection of Azusa Avenue & Foothill Boulevard, is approximately 4.3 miles from the project site. The project is not expected to add 50 or more vehicle trips during the AM or PM peak hours in the eastbound and westbound directions at any of the study intersections in the northeastern boundary of the study area, much closer to the project site. Therefore, the project would not add more than 50 trips to the intersection of Azusa Avenue & Foothill Boulevard farther east and no further arterial review using CMP criteriais required.

Freeways

The CMP mainline freeway monitoring stations closest to the project site are I-210 at Highland Avenue and I-605 at Rivergrade Road. According to the trip generation estimates, the project is projected to result in an increase of fewer than 150 trips in each direction for both the AM and PM peak hours at both of these locations. No further analysis of the freeway segments is required for CMP purposes.

Finding:

Vehicle trips generated by the proposed project in combination with those generated by existing and proposed cumulative development would not result in the regional transportation system exceeding CMP service standards. Impacts would be less than significant.

Impact 5.14-3:	**Project circulation improvements would not create hazardous conditions (sharp curves, etc.), potential conflicting uses, and emergency access. [Threshold T-4]**

Support for this environmental impact conclusion is fully discussed in Section 5.14, *Transportation and Traffic*, starting on page 5.14-45 of the DEIR.

The Campus Plan does not anticipate fundamental changes to the campus' internal circulation network from what exists today as shown in Figure 3-6, *Proposed Vehicular Circulation and Access System*, in the DEIR. The Campus Plan includes several project design features to facilitate improved vehicular and pedestrian circulation within the campus and enhance wayfinding for inpatient and outpatient arrivals, drop-offs, and departures. In addition, connectivity throughout and around the campus is improved with the introduction of an internal roadway system which safely accommodates bicycling, as well as improved bike and pedestrian connections to the Duarte/City of Hope Metro Gold. These improvements included in the City of Hope Campus Plan would not introduce incompatible uses to area roadways, nor would it create hazardous conditions. Therefore, impacts are less than significant.

Finding:

Implementation of the proposed project would not substantially increase hazards due to a design feature or incompatible uses. Impacts would be less than significant.

Impact 5.14-4:	**The proposed project would not result in inadequate emergency access. [Threshold T-5]**

Support for this environmental impact conclusion is fully discussed in Section 5.14, *Transportation and Traffic*, starting on page 5.14-45 of the DEIR.

The vehicular circulation and access system defines a proposed roadway network through the Campus Plan area to support a variety of potential development scenarios. This includes a secondary network of service roads, alleys, and multi-modal pathways, which will provide both service and fire access for the entirety of the campus.

To address fire and emergency access needs, the traffic and circulation components of the proposed Campus Plan would be designed and constructed in accordance with all applicable LACFD design standards for emergency access (e.g., minimum lane width and turning radius). For example, new site access driveways and drives aisles would be designed to meet the minimum width requirements of LACFD to allow the passing of emergency vehicles. Future development projects under the proposed Campus Plan would also be required to incorporate all applicable design and safety requirements in the most current adopted fire codes, building codes, and nationally recognized fire and life safety standards of the Cities of Duarte and Irwindale, such as the 2013 California Fire Code. Compliance with these codes and standards is ensured through the Cities' and LACFD's development review and building permit process.

The Campus Plan includes a number of standards to ensure adequate emergency access. Gate access standards outlined in the Campus Plan require a minimum gate access width of 15 feet or as required by the LACFD. In addition to gate access standards, building orientation shall consider site design factors that allow access for fire and emergency vehicles. In addition to the four primary campus access points that are maintained (including three on Duarte Road and one on Buena Vista Street), three additional points of access will be provided for emergency and maintenance vehicle access only–one at the southeastern end of Cinco Robles Drive cul-de-sac and the other two along Buena Vista Street, north and south of the Village Road access.

During the building plan check and development review process, the City of Hope would be required to coordinate with LACFD to ensure that the necessary fire prevention and emergency response features are incorporated into the proposed project and that adequate circulation and access (e.g., adequate turning radii for fire trucks) is provided within the traffic and circulation components of the proposed project. All site and building improvements proposed under the Campus Plan would be subject to review and approval by the applicable City and LACFD prior to building permit and certificate of occupancy issuance. Therefore, impacts on emergency access would be less than significant.

Finding:

Compliance with provisions of the proposed Specific Plan and all applicable code requirements related to the building plan check and development review process would ensure that the proposed project would not result in inadequate emergency access. Impacts would be less than significant.

Impact 5.14-5: The proposed project complies with adopted policies, plans, and programs for alternative transportation. [Threshold T-6]

Support for this environmental impact conclusion is fully discussed in Section 5.14, *Transportation and Traffic*, starting on page 5.14-46 of the DEIR.

The mobility and streetscape plan for the proposed Specific Plan is guided by the Cities of Duarte and Irwindale's mobility elements and incorporates several complete street concepts to promote bicycle and pedestrian travel. The Campus Plan would provide an equitable method of vehicular, public transit, pedestrian, and bicycle access for development of the area. Section 3.5.1, *Description of the Project*, of the DEIR discusses the improvements to the Campus Plan area to accommodate transit, pedestrians,

bicycles, and autos, which would create an efficient, balanced, multimodal mobility network by integrating autos, transit, bicycles, and pedestrians into a complete street.

Transit

The proposed Campus Plan is currently served by the Duarte Transit, Foothill Transit, and Metro Public Transit service. Buildout of the Campus Plan is expected to generate an estimated net external 4,753 daily trips, including 514 trips (448 inbound/66 outbound) during the AM peak hour and 462 trips (74 inbound/388 outbound) during the PM peak hour.

The number of transit trips generated by the Campus Plan buildout was estimated by multiplying the peak hour trip generation (514 AM peak hour trips) by 1.4 to convert auto trips to person trips (720 person trips), and assuming that up to 4 percent of those trips could be transit trips. This results in the potential of 29 AM peak hour transit trips generated by the project. With 10 transit routes serving the study area, this would equate to about 3 riders per route. At an estimated increase of 3 riders per transit vehicle, the performance or safety of transit will not decrease. Impacts to transit are less than significant.

Pedestrian

Buildout of the Campus Plan would enhance pedestrian facilities throughout the Campus Plan area by providing continuations of sidewalks, streetscape improvements, and installation of high visibility crosswalks along Duarte Road, which would also enhance pedestrian safety. Additionally, the Specific Plan provides a combination of landscape design elements, improved signage, lighting, and wayfinding, and the provision of safe, accessible, and well-marked pathways to all building entrances. The circulation design guidelines and standards in the Specific Plan contain regulations that aim to create a welcoming and accessible pedestrian environment throughout campus. This environment is to be achieved through connections between the main campus entrances and public streets, and through internal pathways that provide pedestrian linkages between buildings and uses. Therefore, the project would have a beneficial impact to pedestrian facilities. Impacts are less than significant.

Bicycle

The study area currently has a Class III bike route on Royal Oaks Drive that provides a bike route in the northern part of the study area, and an off-site bike trail also located in the northern section of the study area. In addition to the existing facilities, the City of Duarte is planning on adding other Class I, Class II, and Class III bicycle facilities in the project vicinity. The proposed bicycle facilities will improve overall access to the project site and the Campus Plan would provide greater access to these facilities through internal circulation improvements.

Many hospital employees and visitors currently ride their bikes alongside cars in the roadway or alongside pedestrians on the sidewalk through and around campus. Improving bicycle safety, circulation, and access are important objectives of the City of Hope Specific Plan. Figure 17 of the Specific Plan illustrates proposed bike improvements and the internal roadways which will accommodate those upgrades. These improvements include:

- Shared lane treatments
- Bike parking facilities
- Connections to the Emerald Necklace Recreational Trail System (with an access point immediately east of campus)
- Bike lanes/sharrows along Duarte Road and Buena Vista Street

These improvements would have a beneficial impact to bicycle facilities. Impacts are less than significant.

Conclusion

In summary, the proposed Campus Plan would improve bicycle and pedestrian facilities and infrastructure throughout the project area to promote active and alternative modes of transportation. Additionally, it would not create a substantial increase in transit ridership that could decrease the performance or safety of the system. Therefore, impacts in these areas would be less than significant.

Consistency with the Mobility Element

The City of Hope Campus Plan is guided by the City of Duarte's Circulation Element, and the city of Irwindale's Infrastructure Element. The Campus Plan is consistent with several policies to promote complete streets and alternative transportation modes:

City of Duarte

- **Obj. 1.1:** Maintain the existing transportation infrastructure in Duarte and upgrade the system when appropriate to improve traffic conditions through enhanced traffic control measures, roadway improvements, and effective planning for new development.
- **Obj. 3.1:** Encourage and promote the use of travel modes other than the single occupancy vehicle, such as bus transit, rail transit, carpools, vanpools, bicycling, and walking.

City of Irwindale

- **Policy 3:** The City of Irwindale will continue to develop and enhance the existing streets and intersections in the City.
- **Policy 5:** The City of Irwindale will continue to support the development and expansion of the region's public and mass transit system.

City of Monrovia

- **Goal 1:** Minimize traffic congestion on arterial and collector streets during peak hours in order to ensure a safe and efficient movement of people and goods within the City.
- **Goal 2:** Provide a system of streets and alleys that meets the needs of current and future residents, local and commuter traffic demands and ensures the safe and efficient movement of vehicles, people and goods throughout the City. Improve streets and alleys to their full design standards.

Furthermore, the City of Hope Campus Plan would help the City implement AB 1358, the California Complete Streets Act. AB 1358, described in Section 5.14.1.1, *Regulatory Setting*, of the DEIR requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users. By incorporating multi-modal transportation components into the City of Hope Campus Plan, the City would increase the number of trips made by alternative modes of travel, reducing the number of vehicle trips. An increase in transit trips, bicycling, and walking would thus help the City meet the transportation needs of all residents, workers, and visitors while reducing traffic congestion. Therefore, no impacts to adopted policies, plans, and programs for alternative transportation are anticipated to occur.

Consistency with SB 743

As stated in Section 5.14.1.1, *Regulatory Setting*, of the DEIR, SB 743 started a process that could fundamentally change transportation impact analysis as part of CEQA compliance. These changes in many parts of California (if not statewide) will include the elimination of auto delay, LOS, and similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts. As part of the new CEQA Guidelines, the new criteria "shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses" (Public Resources Code Section 21099(b)(1)). Certification of the new guidelines are expected in late 2017. However, since OPR has not yet amended the CEQA Guidelines to implement this change, automobile delay is still considered a significant impact, and the Cities of Duarte and Irwindale will continue to use the established LOS criteria.

For informational purposes, Fehr & Peers prepared a technical memorandum (included in Appendix J1) to quantify the VMT for the project under existing and proposed conditions. To evaluate total VMT for the project, the analysis considered two methods for determining trip distance. The first method utilized trip distances as determined by the Southern California Association of Government's (SCAG) travel demand model, and the second method utilized the anonymous cell phone data from the existing City of Hope campus on weekdays for one year from July 2014 to June 2015. Detailed methodology used to calculate VMT and VMT reductions are provided in the Appendix J1 of the DEIR.

Vehicle Miles Traveled (VMT) Analysis

SCAG Travel Demand Model Trip Distances

The vehicle trip length for the Duarte transportation analysis zone (TAZ) was obtained from the SCAG 2012 Regional Transportation Plan (RTP) Travel Demand Model The SCAG travel demand model identifies trip distances as either Home-Based Work (HBW), Home-Based Other (HBO), or Non Home-Based (NHB). The HBW and HBO trip distances were selected as the HBW trip distance represents the average distance traveled by people who work at the City of Hope while the HBO trip distance represents the average distance traveled by people who visit the City of Hope. The Duarte TAZ in the 2008 SCAG travel demand model identifies the HBW distance as 16.1 miles and the HBO distance as 8.6 miles.

Cell Phone Data Distances

Although the anonymous cell phone data included cell phone records for trip origins and destinations on weekdays throughout southern California (and beyond), this effort focused specifically on trip origins and destinations in the counties of Kern County, Ventura County, Los Angeles County, Orange County, San Bernardino County, Riverside County, and San Diego County. The cell phone data captures the trip distances of a sample of anyone who was working or visiting the City of Hope from July 2014 to June 2015. The anonymous cell phone data estimates and aggregates the home zip code data into probability distributions. These distributions are used to develop the distribution of project traffic to the City of Hope campus. The weighted average trip distance was determined to be 14.3 miles.

VMT Estimate

SCAG Travel Demand Model VMT

To calculate the daily VMT, the total daily trips were multiplied by the associated SCAG travel demand model trip distances. Based on the City of Hope future estimated trip generation of 12,793 daily worker trips and 3,890 daily visitor trips, the future VMT is estimated to be approximately 239,421 daily VMT. Based on the City of Hope existing trip generation of 9,920 daily worker trips and 2,009 daily visitor trips, existing VMT is estimated to be approximately 176,989 daily VMT. The net new VMT for buildout of the Campus Plan is estimated to be approximately 62,432 daily VMT.

Cell Phone Data VMT

To calculate the daily VMT, the total daily trips were multiplied weighted average trip distance. Based on the City of Hope future estimated trip generation of 16,682 daily trips, the future VMT is estimated to be approximately 238,553 daily VMT. Based on the City of Hope existing trip generation of 11,929 daily trips, existing VMT is estimated to be approximately 170,585 daily VMT.

The net new VMT for buildout of the Campus Plan is estimated to be approximately 67,968 daily VMT.

VMT Per Capita Estimate

SCAG Travel Demand Model VMT Per Capita

To calculate the VMT per capita, the daily VMT was divided by the service population. In the context of SB 743, service population is referring to a per capita calculation which includes employees only. The service population includes full-time employees, part-time employees, contractors, and physicians. For the existing City of Hope campus, the 176,989 daily VMT was divided by the service population of 5,362 persons to result in an estimated 33.0 VMT per capita. For the future City of Hope campus, the 239,421 daily VMT was divided by the service population of 7,203 persons to result in an estimated 33.2 VMT per capita. The net new VMT per capita for buildout of the Campus Plan is an estimated 33.9 VMT per capita.

Cell Phone Data VMT Per Capita

To calculate the VMT per capita, the daily VMT was divided by the service population. For the existing City of Hope campus, the 170,585 daily VMT was divided by the service population of 5,362 persons to result in an estimated 31.8 VMT per capita. For the future City of Hope campus, the 238,553 daily VMT was divided by the service population of 7,203 persons to result in an estimated 33.1 VMT per capita. The net new VMT per capita for buildout of the Campus Plan is an estimated 36.9 VMT per capita.

Finding:

For the reasons set forth above, the proposed project complies with adopted policies, plans, and programs for alternative transportation. Impacts would be less than significant.

15. Utilities and Service Systems

Impact 5.16-1:	**Wastewater generated by buildout of the proposed Campus Plan would be adequately conveyed by existing infrastructure and adequately treated by the wastewater service provider for the project site. [Thresholds U-1, U-2 (part related to wastewater facilities), and U-5]**

Support for this environmental impact conclusion is fully discussed in Section 5.16, *Utilities and Service Systems*, starting on page 5.16-4 of the DEIR.

As described in Chapter 3, *Project Description*, of the DEIR, buildout of the proposed Campus Plan would involve construction of new facilities (including medical buildings and parking structures) and replacement of existing outdated and obsolete buildings with modern facilities. At buildout, the project site would contain approximately 2.64 million gross square feet of building space, which represents an overall increase of 1.04 million square feet as compared to existing conditions.

Wastewater Conveyance

As shown in Table 5.16-2 of the DEIR, buildout of the proposed Campus Plan is estimated to generate a total wastewater flow of 701,277 gpd, resulting in a net increase of 289,125 gpd (KPFF 2016).

Figure 5.16-2, *Proposed Sanitary Sewer System*, in the DEIR shows the proposed phasing and installation of wastewater pipes on the project site. The majority of the wastewater generated from the project site would continue to be conveyed to a 15-inch vitrified clay pipe (VCP) at 0.56 percent slope at the end of the campus's sewer conveyance system. The flow capacity of this pipe is estimated to be approximately 4.83 cubic feet per second (cfs), which is greater than the anticipated wastewater flow at buildout of 701,277 gpd, equivalent to 1.09 cfs (KPFF 2016). Therefore, the existing 15-inch pipe is adequate to accommodate the proposed development and impacts are less than significant.

Additionally, LACSD's Joint Outfall B Unit 8G Trunk Sewer located in Galen Street at Buena Vista Street has a design capacity of 3.5 million gallons per day (mgd) and "conveyed a peak flow of 0.9 mgd when last measured in 2014" (KPFF 2016). The average daily increase in wastewater flow estimated for

the proposed Campus Plan—289,125 gpd—is 8.3 percent of the design capacity of the 15-inch trunk sewer and 11.1 percent of its remaining flow capacity. Therefore, project flows are well within the design capacity of the existing sewer system. Additionally, LACSD has a system in place to effectively monitor and account for proposed sewer demand changes related to general plans, specific plans, and individual projects. Potential impacts to LACSD facilities are less than significant.

Buildout of the Campus Plan would require upgrades and extensions of on-site pipes and fixtures to tie into off-site connections. In particular, the existing onsite sewer system does not extend to portions of the southwest corner of the project site where City of Hope may construct new buildings. If new buildings or structures requiring sewer lines are constructed at this location, a new sewer main will be required to run along the future fire access/roadway adjacent to the buildings and connect to an existing 15-inch sewer to the north. Furthermore, new buildings and other improvements on the project site may require relocation of wastewater pipelines. For example, a major utilities corridor exists under a proposed new 280,000 square foot outpatient building, which is planned for phase 1 of the project on the eastern peroration of the campus. These existing utilities may need to rerouted around the proposed building footprint or a bridge many need to be constructed or existing utilities so that they may remain in place. The exact locations of proposed buildings are unknown at this time. The cities of Duarte and Irwindale and LACSD, during the engineering/plan check process for each project, would assess the infrastructure needs of such improvements to ensure that adequate wastewater infrastructure is available to serve new land uses. Impacts related to wastewater conveyance would be less than significant. No additional impacts would occur beyond the impacts identified throughout Chapter 5 of the DEIR

Wastewater Treatment

As discussed under Subsection 5.16.1.1, above, the wastewater generated by the project site is treated at the San Jose Creek Water Reclamation Plant (SJCWRP), which has a design capacity of 100 mgd and currently processes an average flow of 69.4 mgd. Approximately 42 million gallons per day of reclaimed water (tertiary treatment) is reused for groundwater recharge, irrigation of parks, schools, and greenbelts with the remainder discharged to the San Gabriel River. SJCWRP has a remaining capacity of about 30.6 mgd. The projected average peak daily wastewater flow generated by full buildout of the proposed Campus Plan—823,908 gpd—would only represent 0.8 percent of the facility's design capacity and 2.7 percent of its remaining capacity. When compared to the SJCWRP's overall treatment capacity, buildout of the proposed Campus Plan would not have a significant impact on the SJCWRP's ability to treat wastewater in the area. Impacts related to wastewater treatment would be less than significant.

Wastewater Treatment Requirements

Wastewater treatment requirements for discharges to municipal storm drainage systems (MS4s) are contained in the General Construction Permit, Order No. 2012-0006-DWQ, issued by the State Water Resources Control Board in 2012, National Pollutant Discharge Elimination System Permit No. CAS004001, and the Los Angeles County MS4 Permit (Order No. R4-2012-0175), as amended by Order WQ 2015-0075. Wastewater flows from the project site would not interfere with the ability of the wastewater treatment plant to continue to meet the discharge limitations for the NPDES permit, because the chemical composition of wastewater flows would not change and the provided wastewater flows is well within the design capacity of SJCWRP's treatment plant. Additionally, plans for water

quality protection that would be required for projects developed pursuant to the proposed Campus Plan—Stormwater Pollution Prevention Plans for construction projects and Water Quality Management Plans for design and operation of projects—are discussed in Section 5.8, *Hydrology and Water Quality*, of the DEIR as are Best Management Practices that would be specified in such plans for implementation in those projects. Impacts would be less than significant.

Finding:

Wastewater generated by buildout of the proposed Campus Plan would be adequately conveyed by existing infrastructure and adequately treated by the wastewater service provider for the project site. Impacts would be less than significant.

Impact 5.16-2:	**Adequate water supply is available to meet water demands of the proposed project; however additional water infrastructure is required to increase groundwater production capacity. [Thresholds U-2 (part relating to water facilities) and U-4]**

Support for this environmental impact conclusion is fully discussed in Section 5.16, *Utilities and Service Systems*, starting on page 5.16-21 of the DEIR. This discussion covers water demand impacts under this environmental impact conclusion. The discussion covering water conveyance impacts under this environmental impact conclusion is set forth in Section II.D, below.

Water Demand

As shown in Table 5.16-5 in the DEIR, buildout of the proposed Campus Plan is estimated to consume a total water flow of 778,484 gpd, resulting in a net increase of 320,933 gpd (KPFF 2016). The water infrastructure study (Appendix K2) calculates water demand by using the LACSD No. 22 wastewater loading factors divided by 0.9, which assumes that wastewater generation is 90 percent of water demand. This includes water use based on building square footage only and does not account for landscaping, irrigation, and fire service demand.

The California American Water Company (CAW) bases its future water demand and supply needs on SCAG growth projections, which includes buildout of the City of Hope campus. CAW forecasts that it will have sufficient water supplies to meet estimated water demands from buildout of the Campus Plan. This finding is based on CAW's rights to a reliable supply of groundwater and ability to purchase water to replace water pumped in excess of CAW's Main San Gabriel Basin (MSGB) allocation (see Appendix L to the DEIR). Impacts related to water supply are less than significant.

Additionally, Section 5.4 of the Specific Plan requires landscape plans to include sustainable design practices–the use of native and drought-tolerant plants, preservation of the natural ecosystem, replenishment of groundwater, and reduction of water. Additionally, all new landscape planting within the entire Campus Plan area shall be designed to meet City of Duarte landscaping ordinance requirements. Measures include the following:

- Irrigation systems should use water-conserving methods and water-efficient technologies such as drip emitters, evapotranspiration controllers, and moisture sensors.

- Irrigation systems shall be operated automatically using an electric controller and low-voltage remote control valves and rain sensors.
- Drainage should be directed to subterranean retention systems, permeable areas, or small bioswales to minimize discharge to the storm drain system.
- Vegetation and other improvements capable of carrying, retaining, infiltrating, and treating runoff should be used in a safe manner to the extent feasible

Future development that would be accommodated by the proposed Campus Plan would also be required to comply with the provisions of the most current (2013) California Green Building Standards Code (CALGreen; adopted by reference in Chapter 18.47 [Green Building Standards Code] of the City's Municipal Code), which contains requirements for indoor water use reduction and site irrigation conservation.

Finding:

There would be adequate water supply to meet the demands of Campus Plan buildout, and compliance with applicable code requirements will reduce water consumption on the site. Impacts would be less than significant.

Impact 5.16-3: Existing and proposed facilities would accommodate project-generated solid waste and comply with related solid waste regulations. [Thresholds U-6 and U-7]

Support for this environmental impact conclusion is fully discussed in Section 5.16, *Utilities and Service Systems*, starting on page 5.16-31 of the DEIR.

Landfill Capacity

Campus Plan buildout is estimated to generate a net increase of about 39,006 pounds (19.5 tons) of solid waste per day, as shown in Table 5.16-7 in the DEIR.

The proposed net new development of 1,038,050 gross square feet includes up to 409,000 square feet of demolition required prior to construction of the proposed buildings. The demolition debris would contribute towards the proposed project's overall solid waste generation.

As shown on Table 5.16-6 in the DEIR, there is 22,933 tons per day of residual capacity for the landfills serving the project site. There is sufficient landfill capacity in the region for project-generated solid waste, and impacts would be less than significant.

Regulatory Compliance

Compliance with regulations governing medical waste is addressed in Section 5.7, *Hazards and Hazardous Materials*, of the DEIR.

Development projects under the Campus Plan would include storage areas for recyclable materials per AB 341, including areas for storing organic matter per AB 1826. At least 50 percent of construction and

demolition debris from such projects would be recycled and/or salvaged for reuse per CALGreen Section 5.408. Campus Plan implementation would comply with regulations governing solid waste disposal and diversion, and impacts would be less than significant.

Finding:

Existing and proposed facilities would accommodate project-generated solid waste, and future development on the campus would comply with applicable solid waste regulations. Impacts would be less than significant.

16. Energy

Impact 5.17-1:	**Existing and planned electricity and natural gas facilities would be able to accommodate utility demands generated by buildout of the proposed project. [Threshold ENG-1]**

Support for this environmental impact conclusion is fully discussed in Section 5.17, *Energy*, starting on page 5.17-9 of the DEIR.

Short-Term Construction Impacts

Construction of the project would create temporary increased demands for electricity and vehicle fuels compared to existing conditions and would result in short-term transportation energy use.

Electrical Energy

The project site is already developed and consumes an average annual electricity demand of 30,359,150 kilowatt hour (kWh) (California Emissions Estimator Model Version 2016.3.1 by California Air Pollution Control Officer's Association [CAPCOA] 2016). Construction of the proposed project would require electricity use to power the construction-related equipment. The electricity use during construction would vary during different phases of construction, where the majority of construction equipment during demolition and grading would be gas-powered or diesel-powered, and the later construction phases would require electricity-powered, such as interior construction and architectural coatings. Since the project site is already served by onsite electrical infrastructure, adequate infrastructure capacity is available to accommodate the electricity demand during construction would not require additional or expanded electrical infrastructure.

The construction contractors would be required to comply with regulations and standards that obligate them to minimize idling of construction equipment during construction and reduce construction and demolition waste by recycling, such as the City of Duarte's Sustainable Development Practices. Such required practices would limit wasteful and unnecessary electrical energy consumption. Thus, impacts from energy use during short-term construction activities would be less than significant.

Gas Energy

The project site already being served by Southern California Gas Company (SCG). The construction-related equipment would not be powered by natural gas and no natural gas demand is anticipated during construction. No new or expanded natural gas facilities or supply are anticipated. Impacts related to gas energy use during short-term construction activities would be less than significant.

Transportation Energy

Transportation energy use depends on the type and number of trips, vehicle miles traveled, fuel efficiency of vehicles, and travel mode. Transportation energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel and/or gasoline. The use of energy resources by these vehicles would fluctuate according to the phase of construction and would be temporary. The majority of construction equipment during demolition and grading would be gas-powered or diesel-powered, and the later construction phases would require electricity-powered. Impacts related to transportation energy use during construction would be temporary and would not require expanded energy supplies or the construction of new infrastructure. Additionally, although not required to mitigate any potentially significant impacts resulting from transportation energy use, implementation of Mitigation Measure AQ-2 would require the construction contractor to utilize Level 3 Diesel Particulate Filters for all construction equipment of 50 horsepower or more and ensure that all non-essential idling of construction equipment is restricted to five minutes or less in compliance with California Air Resources Board Rule 2449, thus reducing transportation energy consumption. Impacts would not be significant.

Long-Term Operational Impacts

Operation of the project would create additional demands for electricity and natural gas compared to existing conditions, and would result in increased transportation energy use. Operational use of energy would include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems, security and control center functions, use of on-site equipment and appliances; and indoor, outdoor, perimeter, and parking lot lighting.

Electrical Energy

Buildout under the proposed Campus Plan would create a net increase in electricity demand of approximately 48.1 million kilowatt hour annually compared to existing conditions, as shown in Table 5.17-3 in the DEIR. This net increase is well within Southern California Edison's (SCE) systemwide net increase in electricity supplies of approximately 13,400 GWh annually over the 2012-2024 period. Therefore, there are sufficient planned electricity supplies in the region for the estimated net increase in electricity demands, and buildout under the Campus Plan would not require expanded electricity supplies. Installation of one new 28 Mega Volt Ampere (MVA) transformer at the Hopeful Substation would be required to meet estimated electricity demands from Campus Plan buildout. Two 28 MVA transformers could be installed, if desired, to provide redundancy; both transformers could be installed within the existing substation fence (Reyes 2016).

Additionally, plans submitted for building permits of development projects in the Campus Plan area would be required to include verification demonstrating compliance with the 2016 Building and Energy Efficiency Standards and are also required to be reviewed. Future projects would also be required adhere to the provisions of CALGreen, which established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.

Furthermore, the Specific Plan outlines a number of provisions that would ensure that individual development projects in within the project site are designed with energy conservation in mind, including;

- **Goal 4. Sustainable Development and Design:** Sustainable practices in building design, construction, and maintenance help to minimize the campus's impact on surrounding infrastructure and facilities.
    - **Green Building Standards.** Maximize energy efficiency, indoor air quality, energy-efficient lighting, building orientation, and shading through local and state standards and/or through implementation of LEED principles.
    - **Water Efficiency.** Incorporate water-efficient design features and practices such as xeriscaping, permeable surfaces, collection devices, biofiltration devices, green rooftops, cisterns, berms and swales, and green roofs.
    - **Building Systems.** Replace older buildings and infrastructure that require high maintenance with more efficient, lower-maintenance, and environmentally sensitive systems.
    - **Adaptive Reuse of Buildings.** Reuse or continue to use structurally compliant and technologically up-to-date facilities.
    - **Energy Generation.** Consider building layout, siting, and design so as not to preclude on- site alternative energy production.
    - **Sustainable Infrastructure.** Incorporate sustainable infrastructure practices in an efficient and cost-effective manner.

Impacts would be less than significant after compliance with applicable code requirements and implementation of the foregoing Specific Plan provisions.

The proposed project would be required to comply with the current Building Energy Efficiency Standards and to implement Countywide energy and environmental policy to achieve silver rating or better Leadership in Energy and Environmental Design (LEED) certification. The proposed project would be consistent with the requirements of these energy-related regulations, and would not result in wasteful or unnecessary electricity demands. Therefore, the proposed project would not result in a significant impact related to electricity.

Gas Energy

Buildout of the Campus Plan would generate a net increase in natural gas demands of approximately 42.5 million thousand British thermal units (kBTU) annually – or about 113,000 cubic feet per day – as shown in Table 5.17-4 in the DEIR. New developments under the Campus Plan would use less natural gas per square foot as would existing land uses; note the lower natural gas demands per square foot for new development in Table 5.17-4 in the DEIR. Total natural gas demands onsite at Campus Plan buildout would be about 109 million kBTU annually, or about 289,860 cubic feet per day. Total natural gas supplies available to SCG are forecast to remain constant at 3.875 billion cubic feet per day (bcfd) from 2015 through 2035 (CGEU 2016). Total natural gas demands in SoCalGas's service area are forecast to decrease by 0.299 bcfd by 2035 to 2.382 bcfd due to intense energy efficiency efforts. The forecast net increase in natural gas demands due to buildout under the Campus Plan are will within SoCalGas's forecasts of natural gas supplies, and therefore, would not require new or expanded natural gas supplies.

Development pursuant to the proposed project would result in a net increase in the natural gas demands. The project site is already served by SCG, and the increased development intensities in the area may require upgrades to the existing system. Gas service would be added to the existing system by SCG as necessary to meet the requirements. There is extensive and reliable gas services in the area, and the improvements would occur in accordance with the SCG's policies and extension rules on file with the Public Utilities Commission (PUC) when the contractual agreements are made. The availability of natural gas service is based on present gas supply and regulatory policies. As a public utility, SCG is under the auspices of the PUC and federal regulatory agencies. Should these agencies take any action that affects gas supply or the conditions under which service is available, gas service would be provided in accordance with revised conditions. Although the project implementation would create additional demands on natural gas supplies and distribution infrastructure, the increased demands are projected to be within the service capabilities of SCG.

Further, the proposed project will demolish older buildings that employ less-efficient natural gas systems, and newly constructed buildings will employ lower-maintenance and high-efficiency gas systems. Several project design features would also reduce overall natural gas consumption by implementing energy-efficient design (e.g., building orientation); enhancing natural lighting and ventilation; utilizing building materials that reduce heat transfer in and out of buildings (e.g., light-colored roofing and green roofs); installing photovoltaic panels; planting trees along building perimeters to reduce urban heating effect and providing additional shading; and exceeding local and state energy-efficiency building requirements. No significant impacts are anticipated.

Transportation Energy

The proposed project would consume transportation energy during operations from the use of motor vehicles. Transportation energy is based on vehicle miles traveled (VMT) data provided by Fehr and Peers for the proposed project in addition to VMT and fuel consumption data for the County of Los Angeles as obtained using EMFAC2014, Version 1.0.7., and vehicle fleet mix based on CalEEMod, Version 2016.3.2.1, and Caltrans data.

The vehicle trip length analysis focused specifically on trip origins and destinations in the counties of Kern County, Ventura County, Los Angeles County, Orange County, San Bernardino County, Riverside County, and San Diego County. The cell phone data is used to estimate VMT by capturing a sample of trip distances of anyone who was working or visiting the City of Hope from July 2014 to June 2015.

The total daily VMT for the existing City of Hope facility is 170,585, which is based on the existing trip generation of 11,929 daily trips (Fehr & Peers 2017). Under the current condition, the transportation energy demand is estimated at 8,973 gallons per day, and 3,113,725 gallons per year of gasoline and diesel fuel.

The proposed project would increase total daily VMT by 67,968 to 238,553, a 39.8 percent increase from existing conditions. At buildout, the proposed project would consume an estimated 7,852 gallons per day, and 2,724,522 gallons per year of gasoline and diesel fuel. Compared to existing conditions, this results in a net decrease in fuel consumption of 1,121 gallons per day, and 389,203 gallons per year of gasoline and diesel fuel. The primary reason for this decrease is an increase in the average corporate fuel economy of vehicles as a result of state and federal laws, as well as vehicle turn over, that improves the overall fuel economy of California's vehicle fleets.

The City of Duarte and its surrounding area are highly urbanized with numerous gasoline fuel facilities and infrastructure. Consequently, the proposed project would not result in a substantial demand for energy that would require expanded supplies or the construction of other infrastructure or expansion of existing facilities. Impacts would be less than significant.

Other Considerations

In addition to the evaluation above, recent case law suggests that other considerations related to energy be evaluated including whether a building should be constructed at all, how large it should be, where it should be located, whether it should incorporate renewable energy resources. These considerations are discussed below:

Project Need: The project site is developed with 1,600,850 gross square feet of total development (including the following land uses: Core Medical, Transition Medical, and Infrastructure and Utility). The Statement of Objectives included in the Project Description (Section 3.2) projects an increase in regional demand for outpatient services through 2035. The existing facility will not fulfill the minimum future requirements of future outpatient services, and therefore, enhancement and development of the existing City of Hope campus facility is necessary.

Building Size: The City proposes to increase development on the existing City of Hope campus. The proposed net new development (proposed new – proposed demolition) is 1,038,500 gross square feet, resulting in a total buildout development (existing + net new) of 2,639,350 gross square feet. As noted above, increasing the area of development for the City of Hope campus is necessary to the project's core objectives. In addition, the proposed project will demolish up to 387,500 gross square feet of building area, which includes buildings that require high maintenance and do not incorporate sustainable design elements. The proposed project includes up to 1,426,000 gross square feet of new development, which would incorporate lower-maintenance and environmentally sensitive systems, as

well as sustainable design elements. The proposed size of the project is based on the required demand of services, and will therefore increase the size of the total development. However, the proposed project's sustainable design elements will increase energy efficiency to the extent possible.

Project Location: The proposed project includes development and enhancement of an existing facility in the City of Duarte and Irwindale. All project developments will be located on the existing City of Hope Campus, and therefore, the location of the proposed project will not affect the existing vehicle miles travelled (VMT) and associated gasoline consumption (project-related VMT and associated gasoline consumption is discussed in detail above, in Transportation Energy). The location of the proposed project will not affect potential energy consumption.

Incorporation of Renewable Energy: One of the goals of the City of Hope Campus Plan would enforce sustainable practices in site development, building design, construction practices, and maintenance help to minimize the Campus's impact on surrounding infrastructure, facilities, and the natural environment. Sustainable design elements include compliance with Green Building Standards, Water Efficiency Practices, Low-Maintenance and Environmentally Sensitive Building Systems, Adaptive Reuse of Buildings, Consideration of Energy Generation and Construction Waste, Off-Site Impacts, and Sustainable Infrastructure. Furthermore, as required by Mitigation Measure GHG-1, City of Hope would be required to implement sustainable development features, such as future alternative energy production (photovoltaic systems), energy efficient appliances, and LEED certification, which will further encourage renewable energy. In addition, it should be noted that SCE, which provides electricity to the project site, recently developed the Tehachapi Renewable Transmission Project that will increase the amount of energy that the project site and surrounding area generates from renewable power. The Tehachapi Renewable Transmission Project will enhance electric service reliability in the region, and will help meet California's renewable energy goals.

Based on the analysis above, Impact 5.17-1 would be less than significant.

Finding:

Existing and planned electricity and natural gas facilities would be able to accommodate utility demands generated by buildout of the proposed project, and transportation energy use resulting from the implementation of the project would not result in a substantial demand for energy that would require expanded supplies or the construction of other infrastructure or expansion of existing facilities. Impacts would be less than significant.

Impact 5.17-2: The proposed project would not result in inefficient, wasteful and unnecessary consumption of energy. [Threshold ENG-2]

Support for this environmental impact conclusion is fully discussed in Section 5.17, *Energy*, starting on page 5.17-16 of the DEIR.

Short-Term Construction Impacts

The proposed project would not result wasteful, inefficient, or unnecessary use of energy during construction. It is anticipated that the construction equipment would be well maintained and meet the

appropriate Tier ratings per CALGreen or EPA emissions standards, such that adequate energy efficiency levels are achieved. Construction trip would not result in unnecessary use of energy since the project site is centrally located and is served by numerous regional freeway system (e.g., I-605, I-210) that provides most direct and shortest routes from various areas of the region. Electrical energy would be available on the already developed campus for use during construction from existing power lines and connection, avoiding the use of generators that are less efficient than tying into existing SCE infrastructure. Thus, energy use during construction of the project would not be considered inefficient, wasteful, or unnecessary. Impacts would be less than significant and no mitigation is required.

Long-Term Operational Impacts

The proposed project would not result in inefficient, wasteful and unnecessary consumption of energy. The proposed project would reduce wasteful energy consumption at the existing City of Hope Campus by ensuring that new buildings implement improved electrical, natural gas, water, and wastewater systems that comply with the current California Building Energy and Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11). The 2016 Building and Energy Efficiency Standards are effective starting on January 1, 2017. The Building Energy and Efficiency Standards and CALGreen are updated tri-annually with a goal to achieve net zero energy for residential buildings by 2020 and non-residential buildings by 2030. The proposed project would be developed consistent with those regulations and would not result in a significant inefficient, wasteful and unnecessary consumption of energy. Based on the analysis above, Impact 5.17-2 would be less than significant.

Finding:

Compliance with state energy and efficiency standards would ensure that implementation of the proposed project would not result in inefficient, wasteful and unnecessary consumption of energy. Impacts would be less than significant.

D. FINDINGS ON IMPACTS MITIGATED TO LESS THAN SIGNIFICANT

The following summary describes impacts of the proposed project that, without mitigation, would result in significant adverse impacts. Upon implementation of the mitigation measures provided in the DEIR, these impacts would be considered less than significant. Note that Impacts 5.1-1, 5.3-1, 5.4-1, 5.7-1, 5.10-3, and 5.16-2 are addressed in both Sections II C (above) and II.D.

1. Aesthetics

Impact 5.1-1:	**Implementation of the Campus Plan would alter the visual appearance and character of the project site. [Threshold AE-3]**

Support for this environmental impact conclusion is fully discussed in Section 5.1, *Aesthetics*, starting on page 5.1-11 of the DEIR. This discussion covers construction impacts under this environmental impact conclusion. The discussion covering operational impacts under this environmental impact conclusion is set forth in Section II.C, above.

As described in Chapter 3, *Project Description*, of the DEIR, the Campus Plan would provide direction for the enhancement and development of the 116-acre City of Hope campus over a period of approximately 20 years. The proposed Specific Plan provides the vision, guidance, and implementation tools to govern the future of the campus.

Construction Impacts

Implementation of the Campus Plan would involve construction activities to develop approximately 1.4 million square feet of building area, including approximately 387,500 square feet of demolition over a 20 year horizon. Construction activities have the potential to temporarily alter the visual character of the development sites. Visual impacts associated with construction include grading, open trenching, construction equipment and materials, truck traffic, and soil stockpiling. Temporary structures may also be provided during the construction phase, such as portable buildings, material storage, and fencing.

The vast majority of redevelopment would occur internal to the project site and not from public vantage points. However, demolition and construction are planned to occur along Duarte Road adjacent to the project entrance and at the northeast corner of the site. Additional new surface parking would be developed at the northeast corner of Buena Vista Street and Village Road and a parking structure would be constructed at the southern terminus of Cinco Robles Drive. These perimeter activities would be visible to drivers along Duarte Road and residences to the west. The length of time that construction activities would be at any one location would vary depending on the scale and nature of the proposed development.

Construction-related activities would be short-term and temporary in nature; therefore potential aesthetic impacts would be temporary. However, these temporary construction activities would result in potentially significant impacts to the visual appearance of the project site. Screening would be required between construction zones and residential receptors and soil hauling would not occur through residential areas (see Mitigation Measure N-1). Vehicles are required to be free of mud and dust before leaving the development site and street sweeping is required (see Mitigation Measure AQ-1 and SCAQMD Rules 403 and 1186).

Mitigation Measures:

The following mitigation measures were included in the DEIR and the FEIR and are applicable to the proposed project. The measures as provided include any revisions incorporated in the FEIR.

AQ-1 During construction, the construction contractor shall water open exposed surfaces a minimum of three times per day or apply other soil stabilizers on inactive construction areas consistent with the Best Available Control Measures identified in South Coast Air Quality Management District (SCAQMD) Rule 403 to minimize fugitive dust emissions generated from ground disturbing activities. Prior to issuance of any permit allowing physical construction activities in the specific plan area to commence, the construction contractor shall note the watering and/or soil stabilization requirement on all construction plans submitted to the entity with jurisdiction over the project, i.e., either the City of Duarte, City of Irwindale, and/or Office of Statewide Health Planning and Development.

N-1 Prior to issuance of any permit allowing physical construction activities in the specific plan area to commence, a construction noise mitigation plan shall be prepared, reviewed, and approved by the City of Duarte Community Development Director or the Irwindale Community Development Director, as applicable. The plan shall be implemented during project construction per the following methods:

1. At least 90 days prior to the start of construction activities, residents within 250 feet of the project site shall be notified of the planned construction activities. The notification shall include a brief description of the project, the activities that would occur, the duration and hours when construction would occur. The notification should include the telephone number of the City's authorized representative to respond in the event of a vibration or noise complaint.

2. At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance to the job site, clearly visible to the public, which contains a contact name and telephone number of the City's authorized representative to respond in the event of a vibration or noise complaint. If the authorized representative receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City.

3. During the entire active construction period and to the extent feasible, limit construction-related trips (including worker commuting, material deliveries, and debris/soil hauling) from residential areas around the project site. For example, such construction-related trips should maximize site access along Village Road (from either Duarte Road from the north or from Buena Vista Street from the south), while minimizing trips along either Cinco Robles Road (south of Duarte Road) or Buena Vista Street (north of Village Road) since both these segments are adjacent to residential/ school receptors).

4. During the entire active construction period, all heavy construction equipment used on the proposed project shall be maintained in good operating condition, with all internal combustion, engine-driven equipment fitted with intake and exhaust mufflers, air intake silencers, and engine shrouds no less effective than as originally equipped by the manufacturer.

5. During the entire active construction period and to the extent feasible, use electrically powered equipment instead of pneumatic or internal combustion powered equipment, since the former are generally quieter than the latter. For example, operating temporary lighting masts using construction-dedicated power blocks/outlets would be preferable to lighting masts that were powered by an on-board, gasoline-fueled generator. Likewise electric drills (either battery- or outlet- powered) are generally quieter than air-driven drills.

6. During the entire active construction period and to the extent feasible, all stationary noise-generating equipment shall be located as far away as possible from neighboring

property lines, onsite sensitive receptors (i.e. hospital and hospitality uses), and the Santa Fe Flood Control Basin (which generally delineates the noise-sensitive biological resources to the southeast of the Specific Plan Area)

7. During the entire active construction period and to the extent feasible, limit all internal combustion engine idling both on the site and at nearby queuing areas to no more than five minutes for any given vehicle or machine (as is consistent with state air quality requirements per In-Use Off-Road Diesel Idling Restriction [Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449] and as required by Mitigation Measure AQ-2). Signs shall be posted at the job site and along queueing lanes to reinforce the prohibition of unnecessary engine idling.

8. During the entire active construction period and to the extent feasible, the use of noise producing signals, including horns, whistles, alarms, and bells will be for safety warning purposes only. Use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with human spotters.

9. Erect a temporary noise barrier/curtain between residential receptors that (a) share a boundary with the project site and any project construction zones within 100 feet of the shared boundary and (b) when such a nearby construction zone will use any equipment items rated at 80 dBA or above per FTA Manual Table 12-1. A temporary noise barrier/curtain shall also be placed between a construction zone within 100 feet (or a distance recommended by a qualified biologist) of the southeast boundary and the Santa Fe Flood Control Basin to minimize construction noise impacts to sensitive biological resources in the basin. The temporary sound barrier would block line of sight noise levels to adjacent properties and substantially reduce noise levels at the Santa Fe Flood Control Basin due to its elevation which is lower than the project site. The sound barrier shall have a minimum height of 12 feet and be free of gaps and holes and must achieve a Sound Transmission Class (STC) of 35 or greater. The barrier can be (a) a ¾-inch-thick plywood wall or (b) a hanging blanket/curtain with a surface density or at least 2 pounds per square foot. For either configuration, the construction side of the barrier shall have an exterior lining of sound absorption material with a Noise Reduction Coefficient (NRC) rating of at least 0.7.

10. During the entire active construction period and to the extent feasible, high noise-producing activities shall be scheduled so as to minimize disruption at both onsite and offsite sensitive land uses.

The above conditions shall be implemented by the construction contractor(s) via a designated health, safety and environmental coordinator or a similar person. The details of the construction noise mitigation plan, including those listed above, shall be included as part of the permit application drawing set and as part of the construction drawing set. Verification shall be performed by the City building inspection staff.

Finding:

Mitigation Measure AQ-1 would reduce temporary aesthetic impacts related to construction by requiring the vehicles are free of mud and dust before leaving the project site. Additionally, Mitigation Measure N-1 requires screening between construction zones and residential receptors and would prevent soil hauling through residential areas. Accordingly, with the incorporation of the adopted measures, impacts would be less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

2. Air Quality

Impact 5.2-4:	**Construction of the proposed project during Phase 1 would exceed the SCAQMD screening-level LST for PM2.5 and potentially expose sensitive receptors to substantial pollutant concentrations. [Threshold AQ-4]**

Support for this environmental impact conclusion is fully discussed in Section 5.2, *Air Quality*, starting on page 5.2-32 of the DEIR.

The proposed project could expose sensitive receptors to elevated pollutant concentrations during construction activities if it would cause or contribute significantly to elevated levels. Unlike the mass of construction and operations emissions shown in the regional emissions analysis in Tables 5.2-13 and 5.2-14 in the DEIR, which are described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu g/m^3$) and can be correlated to potential health effects.

LSTs

The screening-level LSTs are the amount of project-related emissions at which localized concentrations could exceed the ambient air quality standards for criteria air pollutants for which the SoCAB is designated nonattainment. Screening-level LSTs are based on the proposed project site size and distance to the nearest sensitive receptor. Thresholds are based on the California AAQS, which are the most stringent AAQS, established to provide a margin of safety in the protection of the public health and welfare. They are designed to protect sensitive receptors most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise.

Table 5.2-18, *Maximum Daily Onsite Localized Construction Emissions*, in the DEIR shows the maximum daily construction emissions (pounds per day) generated during onsite construction activities. As shown in the table, maximum daily construction emissions would not exceed the SCAQMD screening-level LSTs for nitrogen oxides (NOX), CO, or PM10. However, site preparation activities during Phase 1 would result in an exceedance of the LST for PM2.5. Therefore, without mitigation, development of the

proposed project would result in a potentially significant localized air quality impact and cause an exceedance of the California AAQS.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

AQ-1 During construction, the construction contractor shall water open exposed surfaces a minimum of three times per day or apply other soil stabilizers on inactive construction areas consistent with the Best Available Control Measures identified in South Coast Air Quality Management District (SCAQMD) Rule 403 to minimize fugitive dust emissions generated from ground disturbing activities. Prior to issuance of any permit allowing physical construction activities in the specific plan area to commence, the construction contractor shall note the watering and/or soil stabilization requirement on all construction plans submitted to the entity with jurisdiction over the project, i.e., either the City of Duarte, City of Irwindale, and/or Office of Statewide Health Planning and Development.

Finding:

Incorporation of Mitigation Measure AQ-1 would reduce the maximum daily onsite PM2.5 emissions generated during Phase 1 site preparation activities to below the SCAQMD screening-level LST. Accordingly, with the incorporation of the adopted measures, impacts would be less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

Impact 5.2-5:	**Project-related construction activities could result in potentially significant cancer risk impacts to nearby off-site residences. [Threshold AQ-4]**

Support for this environmental impact conclusion is fully discussed in Section 5.2, *Air Quality*, starting on page 5.2-35 of the DEIR.

The proposed project would temporarily elevate concentrations of TACs and diesel particulate matter (DPM) in the vicinity of sensitive land uses during construction activities. As stated, SCAQMD currently does not require health risk assessments for short-term emissions from construction equipment, which primarily consist of DPM. However, this analysis has been included to conservatively gauge the potential health risk-related impacts of short-term construction activities on off-site sensitive receptors.

The Office of Environmental Health Hazard Assessment (OEHHA) recently adopted new guidance for the preparation of health risk assessments issued in March 2015 (OEHHA 2015). It developed a cancer risk factor and noncancer chronic reference exposure level for DPM based on continuous exposure

over a 30-year time frame. No short-term acute exposure levels that correlate with typical construction activity time frames have been developed for DPM.

The proposed project would be developed over four phases. It is anticipated that the construction duration of each phase would last an average of 48 to 52 months. In addition, construction would not be continuous, but spread out incrementally over a 18-year period, which would limit the exposure to on- and offsite receptors. The United States Environmental Protection Agency (US EPA) AERMOD, Version 9.3, dispersion modeling program was used to estimate excess lifetime cancer risk and chronic non-cancer hazard index for non-carcinogenic risk at the nearest sensitive receptors. Results of the analysis are shown in Table 5.2-19, *Construction Risk Summary*, of the DEIR.

The results of the health risk assessment (HRA) are based on the maximum modeled receptor concentration over the construction exposure period, conservatively assuming a 24-hour per day outdoor exposure and averaged over a 70-year lifetime. According to the modeling results, the residential maximum exposed receptor (MER) is the single-family residence at 1342 Galen Street along the western boundary of the planning area near Galen Street and the Duarte Flood Control Channel. The school MER location lies within the southeast portion of the Beardslee Elementary School campus near the intersection of Galen Street and Buena Vista Street.

Results of the health risk assessment shown in Table 5.2-9 in the DEIR indicate that the maximum incremental cancer risk during the construction phase of the project at the residential MER is 26.0 per million, which exceeds the significance threshold of 10 per million prior to mitigation. Cancer risk for students at Beardslee Elementary School is 1.4 per million and would not exceed 10 per million. For non-carcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one for both the residential and school MER. Therefore, chronic non-carcinogenic hazards are within acceptable limits. As the cancer risk for the residential MER would exceed the 10 per million threshold, project-related construction activities could result in potentially significant health risk impacts to off-site residences.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

AQ-2 The project construction contractor(s) shall use construction equipment fitted with Level 3 Diesel Particulate Filters (DPF) for all construction equipment of 50 horsepower or more. Prior to any construction, the construction contractor(s) shall ensure that all construction plans submitted to the entity with jurisdiction over the project, i.e., either the City of Duarte, City of Irwindale, and/or Office of Statewide Health Planning and Development, clearly show the requirement for Level 3 DPF for construction equipment over 50 horsepower. During construction, the construction contractor(s) shall maintain a list of all operating equipment in use on the project site for verification by the entity with jurisdiction over the project, i.e., either the City of Duarte, City of Irwindale, and/or Office of Statewide Health Planning and Development. The construction equipment list shall state the makes, models, and number of construction equipment on site. Equipment shall be properly serviced and maintained in

accordance with manufacturer recommendations. The construction contractor(s) shall ensure that all non-essential idling of construction equipment is restricted to five minutes or less in compliance with California Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449.

Finding:

Incorporation of Mitigation Measure AQ-2 would require use of Level 3 diesel particulate filters (DPF), which would reduce cancer risk to 5.1 per million for off-site residential receptors. With implementation of Mitigation Measure AQ-2, potential construction-related health risk would be reduced to below the 10 per million significance threshold. Accordingly, with the incorporation of the adopted measures, impacts would be less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

3. Biological Resources

Impact 5.3-1:	**Implementation of the Campus Plan would not impact habitat for sensitive wildlife or plant species; however, construction noise could impact adjacent sensitive wildlife. [Threshold B-1]**

Support for this environmental impact conclusion is fully discussed in Section 5.3, *Biological Resources*, starting on page 5.3-10 of the DEIR. This discussion covers noise-related impacts under this environmental impact conclusion. The discussion covering hydrology, water quality, and lighting-related impacts under this environmental impact conclusion is set forth in Section II.C above.

Off-Site

The Santa Fe Flood Control Basin (immediately southeast of project site) and Santa Fe Dam Recreational Area (approximately 3,000 feet southeast of project site and I-605) are both potential and occupied habitat for species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. Specifically, the federal/state endangered least Bell's vireo and federal threatened coastal California gnatcatcher have been documented within the Santa Fe Dam Recreational Area, as illustrated in Figure 6 in the DEIR, USFWS Sensitive Species Occurrences of Appendix D to the DEIR.

Development in accordance with the Campus Plan would not result in any direct impact to these areas, because it consists of infill development that would be confined to the project site and surrounding roadways.

Potential indirect impacts to habitat areas adjacent to the project site could occur if development resulted in hydrological modification, increased stormwater discharge, increased lighting, or construction noise.

Noise

Indirect temporal noise impacts may occur to nesting bird species located adjacent to the project site (Santa Fe Flood Control Basin) during project construction. Noise and vibration associated with the use of heavy equipment during project construction has the potential to disrupt bird nesting, foraging and breeding behavior within the adjacent sensitive receptor site. Significant construction noise impacts were identified in Section 5.10, *Noise*, of the DEIR.

Construction activities would increase noise levels on and near the project site above existing levels. In general, the site preparation and grading portions of construction would typically be the noisiest periods of activity, since the largest and most powerful equipment is typically used during these phases of construction. Thereafter, building construction, paving, and application of architectural coatings typically generate markedly less noise than do demolition and grading activities. Noise produced from construction equipment items is commonly held to decrease at a rate of at least 6 decibels (dB) per doubling of distance; conservatively ignoring other attenuation effects from air absorption, ground effects, and/or shielding/scattering effects. For example, a dozer that generates 85 dBA at 50 feet would measure 79 dBA at 100 feet, 73 dBA at 200 feet, 67 dBA at 400 feet, and 61 dBA at 800 feet (at minus 6 dB per distance-doubling).

In order to aggregate individual equipment items into sets of common processes/activities, composite construction noise by phase has been characterized by Bolt, Beranek & Newman (1987). In their study, construction noise for ground clearing, excavation, foundations, erection, and finishing are aggregated by class of activity. For the majority of residential, commercial, industrial, and public works projects, the loudest phases are typically the site preparation and grading phases; each of which as an aggregate of 88 – 89 dBA L_{eq} when measured at a distance of 50 feet from the summed construction effort (see Impact 5.10-1). This summed value takes into account both the number of pieces and the spacing of the heavy equipment used in the construction effort. Further, noise levels are typically reduced from this value due to usage factors, as well as the barrier effects provided by the physical structures themselves (once erected). Therefore, the 88 dBA L_{eq} value is a reasonable and prudent value for representing most construction activities. This is a potentially significant impact.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

N-1 Prior to issuance of any permit allowing physical construction activities in the specific plan area to commence, a construction noise mitigation plan shall be prepared, reviewed, and approved by the City of Duarte Community Development Director or the Irwindale Community Development Director, as applicable. The plan shall be implemented during project construction per the following methods:

1. At least 90 days prior to the start of construction activities, residents within 250 feet of the project site shall be notified of the planned construction activities. The notification shall include a brief description of the project, the activities that would occur, the

duration and hours when construction would occur. The notification should include the telephone number of the City's authorized representative to respond in the event of a vibration or noise complaint.

2. At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance to the job site, clearly visible to the public, which contains a contact name and telephone number of the City's authorized representative to respond in the event of a vibration or noise complaint. If the authorized representative receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City.

3. During the entire active construction period and to the extent feasible, limit construction-related trips (including worker commuting, material deliveries, and debris/soil hauling) from residential areas around the project site. For example, such construction-related trips should maximize site access along Village Road (from either Duarte Road from the north or from Buena Vista Street from the south), while minimizing trips along either Cinco Robles Road (south of Duarte Road) or Buena Vista Street (north of Village Road) since both these segments are adjacent to residential/ school receptors).

4. During the entire active construction period, all heavy construction equipment used on the proposed project shall be maintained in good operating condition, with all internal combustion, engine-driven equipment fitted with intake and exhaust mufflers, air intake silencers, and engine shrouds no less effective than as originally equipped by the manufacturer.

5. During the entire active construction period and to the extent feasible, use electrically powered equipment instead of pneumatic or internal combustion powered equipment, since the former are generally quieter than the latter. For example, operating temporary lighting masts using construction-dedicated power blocks/outlets would be preferable to lighting masts that were powered by an on-board, gasoline-fueled generator. Likewise electric drills (either battery- or outlet- powered) are generally quieter than air-driven drills.

6. During the entire active construction period and to the extent feasible, all stationary noise-generating equipment shall be located as far away as possible from neighboring property lines, onsite sensitive receptors (i.e. hospital and hospitality uses), and the Santa Fe Flood Control Basin (which generally delineates the noise-sensitive biological resources to the southeast of the Specific Plan Area)

7. During the entire active construction period and to the extent feasible, limit all internal combustion engine idling both on the site and at nearby queuing areas to no more than five minutes for any given vehicle or machine (as is consistent with state air quality requirements per In-Use Off-Road Diesel Idling Restriction [Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449] and as required by Mitigation Measure AQ-2).

Signs shall be posted at the job site and along queueing lanes to reinforce the prohibition of unnecessary engine idling.

8. During the entire active construction period and to the extent feasible, the use of noise producing signals, including horns, whistles, alarms, and bells will be for safety warning purposes only. Use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with human spotters.

9. Erect a temporary noise barrier/curtain between residential receptors that (a) share a boundary with the project site and any project construction zones within 100 feet of the shared boundary and (b) when such a nearby construction zone will use any equipment items rated at 80 dBA or above per FTA Manual Table 12-1. A temporary noise barrier/curtain shall also be placed between a construction zone within 100 feet (or a distance recommended by a qualified biologist) of the southeast boundary and the Santa Fe Flood Control Basin to minimize construction noise impacts to sensitive biological resources in the basin. The temporary sound barrier would block line of sight noise levels to adjacent properties and substantially reduce noise levels at the Santa Fe Flood Control Basin due to its elevation which is lower than the project site. The sound barrier shall have a minimum height of 12 feet and be free of gaps and holes and must achieve a Sound Transmission Class (STC) of 35 or greater. The barrier can be (a) a ¾-inch-thick plywood wall or (b) a hanging blanket/curtain with a surface density or at least 2 pounds per square foot. For either configuration, the construction side of the barrier shall have an exterior lining of sound absorption material with a Noise Reduction Coefficient (NRC) rating of at least 0.7.

10. During the entire active construction period and to the extent feasible, high noise-producing activities shall be scheduled so as to minimize disruption at both onsite and offsite sensitive land uses.

The above conditions shall be implemented by the construction contractor(s) via a designated health, safety and environmental coordinator or a similar person. The details of the construction noise mitigation plan, including those listed above, shall be included as part of the permit application drawing set and as part of the construction drawing set. Verification shall be performed by the City building inspection staff.

Finding:

Mitigation Measure N-1 would reduce potential construction noise impacts to sensitive biological resources in the Sana Fe Flood Control Basin by requiring stationary noise-generating construction equipment to be placed away from the Basin and to require a temporary noise barrier with a Sound Transmission Class rating of 35 or greater between construction zones and the Basin. The noise barrier would block line of sight noise levels to adjacent properties and substantially reduce noise levels at the Santa Fe Flood Control Basin due to its elevation which is lower than the project site. Accordingly, with the incorporation of the adopted measures, impacts would be less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

Impact 5.3-4: Tree removal during the course of Campus Plan buildout could cause loss of active bird nests. [Threshold B-4].

Support for this environmental impact conclusion is fully discussed in Section 5.3, *Biological Resources*, starting on page 5.3-14 of the DEIR.

The project site is largely developed, surrounded by urbanized uses, and isolated from areas supporting suitable habitat for wildlife species. Therefore, the project site is not available for overland wildlife movement or migration. However, the project site contains numerous mature trees that could be used for nesting by migratory birds. Construction activities of future development, revitalization, and/or redevelopment activities that would be accommodated by the Campus Plan could result in the removal and/or replacement of trees onsite. However, the Campus Plan intends to preserve and enhance the existing trees in its parks and open space areas. Furthermore, future development would also be required to comply with the Migratory Bird Treaty Act (MBTA) (US Code, Title 16, §§ 703–712) and state law (California Fish and Game Code, §§ 3503 et seq.). The MBTA implements the United States' commitment to four treaties with Canada, Japan, Mexico, and Russia for the protection of shared migratory bird resources. It governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. The USFWS administers permits to take migratory birds in accordance with the MBTA. Loss of an active nest would be considered a potentially significant impact.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

BIO-1 Prior to issuance of permits for any construction activity, the project applicant shall demonstrate compliance with the federal MBTA and submit required nesting bird surveys to the City of Duarte. Construction outside the nesting season (between September 1st and February 15th) does not require pre-removal nesting bird surveys. If construction is proposed between February 16th and August 31st, a qualified biologist must conduct a nesting bird survey(s) no more than three (3) days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the project site.

The preconstruction survey(s) shall focus on identifying any raptors and/or passerines nests that may be directly or indirectly affected by construction activities. If active nests are documented, species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of a nest shall be postponed until the young birds have fledged. A minimum exclusion buffer shall be maintained during construction, depending on the species and location per the discretion of the qualified biologist. The perimeter of the nest setback zone shall be fenced or

adequately demarcated with stakes and flagging at 20-foot intervals, and construction personnel and activities restricted from the area. A survey report by a qualified biologist verifying that no active nests are present or that the young have fledged, shall be submitted to the City of Duarte prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a biological monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur. A final report of the findings, prepared by a qualified biologist, shall be submitted to the City of Duarte prior to construction-related activities that have the potential to disturb any active nests during the nesting season. Any nest permanently vacated for the season would not warrant protection pursuant to the MBTA.

Finding:

Implementation of Mitigation Measure BIO-1 would ensure compliance with the MBTA and reduce potential impacts to nesting birds to less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

4. Cultural Resources

Impact 5.4-1:	**Buildout of the Campus Plan could impact an identified historic resource. [Threshold C-1]**

Support for this environmental impact conclusion is fully discussed in Section 5.4, *Cultural Resources*, starting on page 5.4-15 of the DEIR. This discussion covers direct impacts under this environmental impact conclusion. The discussion covering indirect impacts under this environmental impact conclusion is set forth in Section II.D, above.

There are two historical resources that have been identified in the study area, the House of Hope and Visitors Center buildings. These resources are eligible for listing under both the National Register of Historic Places and California Register of Historic Resources.

Under CEQA, a project has a significant impact on a historical resource if it "would result in the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resources would be materially impaired" (CEQA Guidelines Section 15064.5(b)(1)). Material impairment would occur if the project would result in demolition or material alteration of those physical characteristics that convey the resource's historical significance (CEQA Guidelines Section 15064.5(b)(2)).

Direct Impacts

The proposed Campus Plan would have no direct impact on a known historical resource. The two known historical resources, the House of Hope and Visitors Center buildings, and their immediate

surroundings are located in the Cultural Amenity District. No new construction is proposed for the Cultural Amenity District; therefore the historical building would not be physically altered in any way. Furthermore, the intent of the Campus Plan is to preserve these historical resources. No known historical resources would be demolished, altered, or relocated as a result of the project. Impacts to known historical resources are considered less than significant.

The historical report included in the DEIR evaluated buildings on site that were 45 years or older. However, the project site also includes a number of properties that have not been evaluated for historical significance and that will pass the age criteria threshold during the lifetime of the project. Generally, properties must be at least 50 years old to be eligible for listing in the National Register of Historic Places. Because the California Register and local register are modeled after the National Register, the industry standard is 50 years as the minimum age requirement for eligibility. However, to capture properties that might turn 50 years old during the development of a project or survey, 45 years old is the minimum age requirement for evaluation. Since buildout would occur over a minimum 20-year period, future development has the potential to impact buildings that become 45 years or older and that could become historical resources at that age. Future development or improvements within the project site could potentially impact currently unknown historical resources and result in a significant impact.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

CUL-1 Prior to the issuance of any permits allowing development within the Specific Plan area that involves demolition or alteration to properties (buildings, structures, and landscape areas) that are at least 45 years of age at the time of such activity, and that were not previously identified for evaluation in the 2016 historical resources survey (GPA 2016), the City of Duarte or City of Irwindale, as applicable, shall require the applicant to prepare a Historical Resources Evaluation Report (HRER) to evaluate such properties. The HRER shall be prepared by a qualified architectural historian or historian who meets the Secretary of the Interior's Professional Qualifications Standards in architectural history or history. The qualified architectural historian or historian shall conduct an intensive-level evaluation in accordance with the guidelines and best practices promulgated by the State Office of Historic Preservation to identify any potential historical resources within the proposed development area. All evaluated properties shall be documented on Department of Parks and Recreation Series 523 Forms. For all properties determined to qualify as potential historical resources, the HRER shall include a discussion of those properties' character defining features. The character-defining features documented will include site plan features, overall massing, scale, and spatial relationships between buildings and landscaping/circulation corridors, architectural details and design composition, and all contributing materials, features, and finishes. Properties with interiors that were historically accessible to the public will also be evaluated for potential historic significance. The HRER shall be submitted to the City of Duarte or City of Irwindale, as applicable, for review and concurrence.

- **Secretary's Standards Project Review Memorandum:** For all properties identified as potential historical resources in the HRER, during the planning phase for the development in the Campus Plan area that may impact such properties (prior to any construction activities), input shall be sought from a California architectural historian or historic architect meeting the Secretary of the Interior's Professional Qualifications Standards to ensure that the development complies with the Secretary's Standards for the Treatment of Historic Properties (Standards). The findings and recommendations of the architectural historian or historic architect shall be documented in a Secretary's Standards Project Review Memorandum (Memorandum), at the schematic design phase. This Memorandum shall analyze all components of the development for compliance with the Standards. Components to be analyzed shall include direct and indirect changes to historical resources and their setting. Should design modifications be necessary to bring the development into compliance with the Standards, the Memorandum will document those recommendations. The intent of the Memorandum is to ensure that the development complies with the Standards in order to avoid significant adverse direct or indirect impacts to historic resources, such that no further environmental review is required. The Memorandum shall be submitted to the City of Duarte or City of Irwindale, as applicable, for review.

- To avoid impacts to the two historical resources identified in the 2016 historical resources survey (the City of Hope Visitor's Center and the House of Hope/Temple Beth Hatikvah), any alterations to either property shall comply with the Standards and be carried forward for analysis and documentation through a Secretary's Standards Project Review Memorandum, as discussed above. No new additions shall be added to these buildings except for any potential changes for complying with applicable accessibility requirements. A minimum 20-foot buffer shall be maintained around the two historical resources. This will preserve the immediate setting and spatial relationships between the properties. No new construction shall be completed between the buildings and open space shall be maintained to preserve their immediate setting.

Finding:

Implementation of Mitigation Measure CUL-1 would ensure that buildings and structures that become 45 years of age or older and would be affected by a site specific development would be analyzed to determine its significance as a historical resource and to ensure that the development complies with the Secretary's Standards for the Treatment of Historic Properties (Standards). No demolition of a historical resource would be allowed. Further Mitigation Measure CUL-1, also ensure that no indirect impacts the existing historical resources– the City of Hope Visitor's Center and the House of Hope/Temple Beth Hatikvah–would occur. Accordingly, with the incorporation of the adopted measures, impacts would be less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

Impact 5.4-2:	Buildout of the Campus Plan could impact archaeological resources. [Threshold C-2]

Support for this environmental impact conclusion is fully discussed in Section 5.4, *Cultural Resources*, starting on page 5.4-16 of the DEIR.

Only one isolated historic artifact was identified within the project site as a result of SWCA's study. Isolated artifacts are not considered cultural resources under CEQA, but are used in determining sensitivity for archaeological resources. However, it is possible that buried deposits could be present within the project area. If identified, these may contain data that would change the significance recommendation of the site and thus would require evaluation. In addition, coordination with Native American groups indicates that there is a potential to encounter buried prehistoric deposits in the project area. Buried or obscured archaeological resources may be encountered during construction. Impacts to archaeological resources are considered potentially significant.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

CUL-2 Prior to issuance of any permits allowing ground-disturbing activities within the Campus Plan area, the City of Duarte and/or City of Irwindale, as appropriate, shall ensure that an archeologist who meets the Secretary of the Interior's Standards for professional archaeology has been retained for the project and will be on call during all grading and other significant ground-disturbing activities. The Qualified Archaeologist shall ensure that the following measures are followed for the project:

- Prior to any ground disturbance, the Qualified Archaeologist, or their designee, shall provide Worker Environmental Awareness Protection (WEAP) training to construction personnel regarding regulatory requirements for the protection of cultural (prehistoric and historic) resources. As part of this training, construction personnel shall be briefed on proper procedures to follow should unanticipated cultural resources be made during construction. Workers will be provided contact information and protocols to follow in the event that inadvertent discoveries are made. The WEAP training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the project.

- In the event that unanticipated cultural material is encountered during any phase of project construction, all construction work within 50 feet (15 meters) of the find shall cease and the Qualified Archaeologist shall assess the find for importance. Construction activities may continue in other areas. If, in consultation with the appropriate City, the discovery is determined to not be important, work will be permitted to continue in the area.

- If a find is determined to be important, additional work may be warranted, or the find can be preserved in place and construction allowed to proceed.
- Additional work can include scientific recording and excavation of that portion of the find making the find important.
- If excavation of a find occurs, the Qualified Archaeologist shall draft a report within 60 days of conclusion of excavation that identifies the find and summarizes the analysis conducted. The completed report shall be approved by the City and filed with the County and with the South Central Coastal Information Center at California State University, Fullerton.
- Excavated finds shall be curated at a repository determined by the Qualified Archaeologist and approved by the City.

Finding:

Implementation of Mitigation Measure CUL-2 would ensure that an archaeologist remain on call for all ground disturbing activities to provide Worker Environmental Awareness Protection (WEAP) training and conduct a proper assessment in the event that unanticipated cultural material is encountered during grading activities. Accordingly, with the incorporation of the adopted measures, impacts would be less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

Impact 5.4-3: Buildout of the Campus Plan could impact paleontological resources or a unique geologic feature. [Threshold C-3]

Support for this environmental impact conclusion is fully discussed in Section 5.4, *Cultural Resources*, starting on page 5.4-17 of the DEIR.

Construction activities—including surficial and/or shallow excavations within the surficial young alluvial fan deposits or in areas of previous disturbance—are unlikely to result in adverse impacts to significant paleontological resources. The surficial sediments are too young to preserve paleontological resources and therefore have low paleontological sensitivity. However, the older Quaternary sediments that are likely present in the subsurface (and which are therefore not visible on the surficial geologic map) are of an age to preserve fossils. As indicated by the records search of the LACM, these sediments have preserved significant vertebrate fossils elsewhere in the region (SWCA 2016) and have high paleontological sensitivity. Therefore, construction activities requiring excavations to a depth below the thickness of the younger alluvial sediments may have an adverse impact to paleontological resources unless proper mitigation measures are implemented. Impacts to paleontological resources are considered potentially significant.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

CUL-3 Prior to the issuance of any permits allowing ground-disturbing activities within the Campus Plan area, the City of Duarte and/or City of Irwindale, as appropriate, shall ensure that a paleontological monitor has been retained for the project. If ground-disturbing activities will exceed a depth of 6 feet below the ground surface, prior to the issuance of grading permits, the City of Duarte and/or City of Irwindale, as appropriate, shall ensure that a qualified paleontologist has been retained for the project. The paleontologist shall prepare a paleontological monitoring program. All grading and other significant ground-disturbing activities more than 6 feet below the ground surface will be monitored by a paleontological monitor. If any evidence of paleontological resources is discovered, the following measures shall be taken:

- All below-grade work shall stop within a 50-foot radius of the discovery. Work shall not continue until the discovery has been evaluated by a qualified paleontologist.

- A qualified paleontologist in coordination with the City shall assess the find(s) and determine if they are scientifically important. If the find(s) are of value then:

    - Scientifically important fossils shall be prepared by the paleontologist and/or his/her designee(s) to the point of identification, identified to the lowest taxonomic level possible, and curated in a museum repository with permanent, retrievable storage.

    - Significant paleontological resources found shall be preserved as determined necessary by the paleontological monitor.

    - Excavated finds shall be offered to the Los Angeles County Museum of Natural History or its designee for curation on a first-refusal basis. After which, finds shall be offered to an accredited and permanent scientific institution for the benefit of current and future generations.

    - Within 60 days of completion of the end of earth-moving activities, the paleontologist shall draft a report summarizing the finds and shall include the inspection period, an analysis of any resources found, and the present repository of the items.

    - The paleontologist's report shall be approved by the City. Any resulting reports shall also be filed with the permanent scientific institution where the resources are curated.

Finding:

Implementation of Mitigation Measure CUL-3 would ensure that an paleontological monitor will be present for ground disturbing activities more than six feet below ground surface. The monitor will

prepare a monitoring program and conduct a proper assessment in the event that unanticipated paleontological resources are encountered during grading activities. Accordingly, with the incorporation of the adopted measures, impacts would be less than significant

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

5. Hazards and Hazardous Materials

Impact 5.7-1: Project construction and operations would involve the transport, use, and/or disposal of hazardous materials. [Thresholds H-1, H-2, and H-3]

Support for this environmental impact conclusion is fully discussed in Section 5.7, *Hazards and Hazardous Materials*, starting on page 5.7-16 of the DEIR. This discussion covers construction impacts under this environmental impact conclusion. The discussion covering operational impacts under this environmental impact conclusion is set forth in Section II.C, above.

Construction

Construction in accordance with the Campus Plan would involve demolition, grading, and construction of new buildings. Potentially hazardous materials used during construction include substances such as paints, sealants, solvents, adhesives, cleaners, and diesel fuel. There is potential for these materials to spill or to create hazardous conditions. However, the materials used would not be in such quantities or stored in such a manner as to pose a significant safety hazard. These activities would also be short term or one time in nature. Project construction workers would be trained in safe handling and hazardous materials use.

To prevent hazardous conditions, existing local, state, and federal laws—such as those listed under Section 5.7.1.1, *Regulatory Framework*, in the DEIR—are to be enforced at the construction sites. For example, compliance with existing regulations would ensure that construction workers and the general public are not exposed to any risks related to hazardous materials during demolition and construction activities. California Division of Occupational Safety and Health (Cal/OSHA) has regulations concerning the use of hazardous materials, including requirements for safety training, exposure warnings, availability of safety equipment, and preparation of emergency action/prevention plans. For example, all spills or leakage of petroleum products during construction activities are required to be immediately contained, the hazardous material identified, and the material remediated in compliance with applicable state and local regulations for the cleanup and disposal of that contaminant. All contaminated waste encountered would be required to be collected and disposed of at an appropriately licensed disposal or treatment facility.

Furthermore, strict adherence to all emergency response plan requirements set forth by the cities of Duarte and Irwindale and LACFD would be required throughout the duration of project construction. While construction activities would be near and in the vicinity of existing sensitive uses, including

existing City of Hope buildings and Beardslee Elementary School, upon compliance with federal, state, and city regulations, construction activities in accordance with the proposed project would result in a less than significant impact on the public or environment through the use, transport, or disposal of hazardous materials. Therefore, hazards to the public or the environment arising from the routine use of hazardous materials during project construction would be less than significant.

Grading Activities

Grading activities of the development that would be allowed by the Campus Plan would involve the disturbance of onsite soils. Soils on certain parcels of the project area could be contaminated with hazardous materials due to current and historical operations. The transport of these materials and exposure to contaminated soils of workers and the surrounding environment could result in a significant impact. Any contaminated soils encountered on development sites in the Campus Plan area would be required to be removed prior to grading activities and disposed of offsite in accordance with all applicable regulatory guidelines. This is a potentially significant impact.

Demolition

Demolition of buildings has the potential to expose and disturb lead-based paint (LBP), asbestos-containing materials (ACMs), polychlorinated biphenyls (PCBs), and mercury. Demolition can cause encapsulated ACMs (if present) to become friable and, once airborne, they are considered a carcinogen. Demolition of the existing buildings and structures can also release of lead into the air if LPB is not properly removed and handled. The EPA has classified lead and inorganic lead compounds as "probable human carcinogens" (USEPA 2015). Such releases could pose significant risks to persons living and working in and around project site, as well as to project construction workers.

Abatement of all hazardous materials encountered during any future building demolition would be required to be conducted in accordance with all applicable laws and regulations, including those of the EPA (which regulates disposal), OSHA, US Department of Housing and Urban Development, Cal/OSHA (which regulates employee exposure), and SCAQMD. Lead hazards in Duarte and Irwindale are assessed and abated as necessary in accordance with several state laws and regulations. Asbestos hazards are assessed and abated as necessary in accordance with CCR Title 8, Section 1529. Mercury-containing equipment and PCBs would be disposed of as universal waste in accordance with CCR Title 22, Section 66261.9. Future projects would be required to abate and dispose of PCBs in accordance with Code of Federal Regulations, Title 40, Sections 761.61 et seq.

The EPA requires that all asbestos work performed within regulated areas be supervised by a competent person who is trained as an asbestos supervisor (EPA Asbestos Hazard Emergency Response Act, 40 CFR 763). SCAQMD's Rule 1403 requires that buildings undergoing demolition or renovation be surveyed for ACMs prior to any demolition or renovation activities. Should ACMs be identified, Rule 1403 requires that ACMs be safely removed and disposed of at a regulated site, if possible. If it is not possible to safely remove ACMs, Rule 1403 requires that safe procedures be used to demolish the building with asbestos in place without resulting in a significant release of asbestos. Additionally, during demolition, grading, and excavation, all construction workers would be required to comply with the requirements of CCR Title 8, Section 1529 (Asbestos), which provides for exposure

limits, exposure monitoring, respiratory protection, and good working practices by workers exposed to asbestos.

Cal/OSHA regulates the demolition, renovation, or construction of buildings involving lead-based materials. It includes requirements for the safe removal and disposal of lead, and the safe demolition of buildings containing LBP or other lead materials. Additionally, during demolition, grading, and excavation, all construction workers would be required to comply with the requirements of CCR Title 8, Section 1532.1 (Lead), which provides for exposure limits, exposure monitoring, respiratory protection, and good working practice by workers exposed to lead.

The potential exposure of construction workers to ACMs, LBP, PCBs, or mercury is a potentially significant impact. Survey of existing structures prior to demolition would be required to characterize the potential exposure and further prevent impacts from the potential release of these materials.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

HAZ-1 Prior to the initiating any ground-disturbing activities pursuant to the Campus Plan, the project applicant shall prepare and submit a Phase I Environmental Site Assessment (ESA) for the entire Campus Plan area to the City of Duarte and City of Irwindale, to assess the existing environmental conditions of the Campus Plan area and evaluate the potential for contamination to be present. The Phase I ESA shall be prepared by an Environmental Professional in accordance with the American Society for Testing and Materials (ASTM) Standard E 1527.13, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process." Prior to issuance of a grading permit or building permit for new construction in the Campus Plan area, an Environmental Professional shall review the relevant portions of the site-wide Phase I ESA and may visit the individual development site to evaluate whether any recognized environmental conditions (RECs) related to soils or groundwater identified in the Phase I ESA are present at the site. If no RECs are identified for that individual development site, no further assessment or remediation shall be required. If RECs are identified for that individual development site, the project applicant shall take additional action, which shall include either (i) a Phase II subsurface investigation for that site, or (ii) localized soil removal/remediation activities in accordance with all applicable regulatory requirements. If a Phase II subsurface investigation is conducted, soil, soil gas, and/or groundwater sampling shall be performed. If contamination is confirmed at concentrations exceeding applicable regulatory thresholds, the project applicant shall perform a screening level risk assessment to evaluate if remedial actions are necessary.

The project applicant will also consider the need to consult with the appropriate regulatory agency (e.g., California Department of Toxic Substances Control, Regional Water Quality Control Board, Los Angeles County Fire Department, etc.). All contaminated soils and/or material encountered that is confirmed by sampling to be hazardous under California or federal law shall be disposed of appropriately at a regulated site and in accordance with applicable laws

and regulations prior to the completion of grading. The Phase I ESA conducted pursuant to this Mitigation Measure also shall include an assessment of the possible existence of lead-based paint and asbestos-containing materials in the Campus Plan area. Each individual development site that involves demolition activities shall include an inspection for lead-based paint conducted by a licensed or certified lead inspector/assessor and a survey for asbestos-containing materials conducted by a California Certified Asbestos Consultant. Prior to the issuance of a grading permit or a building permits, a report documenting the completion, results, and follow-up remediation on the recommendations, if any, shall be provided to the City of Duarte Community Development Director and/or City of Irwindale Community Development Director, as appropriate, evidencing that all site remediation activities have been completed.

Finding:

Implementation of Mitigation Measure HAZ-1 would ensure the completion of Phase I Environmental Site Assessment and that any recognized environmental conditions identified in such site assessments were assessed and remedied as needed in accordance with regulations. Accordingly, with the incorporation of the adopted measures and compliance with applicable regulatory requirements, impacts would be less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

Impact 5.7-2: The project site is on a list of hazardous materials sites. [Threshold H-4]

Support for this environmental impact conclusion is fully discussed in Section 5.7, *Hazards and Hazardous Materials*, starting on page 5.7-20 of the DEIR.

The Environmental Data Resources (EDR) report searched the following databases to identify whether the project area was listed in any hazardous materials sites databases: NPL, CERCLIS, CERCLIS-NFRAP, Federal ERNS, RCRA Non-CORRACTS TSD Facilities, RCRA CORRACTS, TSD Facilities, RCRA Generators, State Sites and State Spill Sites, Cortese List, Registered USTs, or SWF/LF. A listing of the facilities identified by state regulatory agencies within the project site and surrounding area is presented in Table 5.7-1 in the DEIR. A complete listing of all the facilities identified is included in the EDR report in Appendix G to the DEIR.

City of Hope is listed on several environmental databases, as shown in Table 5.7-1 in the DEIR. There are two listings of documented hazardous materials releases onsite—California Hazardous Materials Incident Reporting System (CHMIRS) records for two incidents, one incident in 1990 and a second in 1991. All corrective action was taken in response to both of these incidents. Other types of hazardous material site listings onsite include a stormwater permit, large quantity generator, existing and historical underground storage tanks, and several hazardous waste shipment manifests (644). RCRA Large

Quantify Generators store and generate hazardous materials. New development could expose workers or other users to hazardous materials.

Due to the fact that there are a number of listings in hazardous materials databases for the project site, there is the potential that future development activities could expose persons and the environment to hazardous substance contamination. Development projects that would be allowed under the Campus Plan could impact areas of hazardous substance contamination existing or remaining from historical operations. Impacting these areas may also pose a significant health risk to existing and future residents and/or workers. This is considered a potentially significant impact.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

HAZ-1 Prior to the initiating any ground-disturbing activities pursuant to the Campus Plan, the project applicant shall prepare and submit a Phase I Environmental Site Assessment (ESA) for the entire Campus Plan area to the City of Duarte and City of Irwindale, to assess the existing environmental conditions of the Campus Plan area and evaluate the potential for contamination to be present. The Phase I ESA shall be prepared by an Environmental Professional in accordance with the American Society for Testing and Materials (ASTM) Standard E 1527.13, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process." Prior to issuance of a grading permit or building permit for new construction in the Campus Plan area, an Environmental Professional shall review the relevant portions of the site-wide Phase I ESA and may visit the individual development site to evaluate whether any recognized environmental conditions (RECs) related to soils or groundwater identified in the Phase I ESA are present at the site. If no RECs are identified for that individual development site, no further assessment or remediation shall be required. If RECs are identified for that individual development site, the project applicant shall take additional action, which shall include either (i) a Phase II subsurface investigation for that site, or (ii) localized soil removal/remediation activities in accordance with all applicable regulatory requirements. If a Phase II subsurface investigation is conducted, soil, soil gas, and/or groundwater sampling shall be performed. If contamination is confirmed at concentrations exceeding applicable regulatory thresholds, the project applicant shall perform a screening level risk assessment to evaluate if remedial actions are necessary. The project applicant will also consider the need to consult with the appropriate regulatory agency (e.g., California Department of Toxic Substances Control, Regional Water Quality Control Board, Los Angeles County Fire Department, etc.). All contaminated soils and/or material encountered that is confirmed by sampling to be hazardous under California or federal law shall be disposed of appropriately at a regulated site and in accordance with applicable laws and regulations prior to the completion of grading. The Phase I ESA conducted pursuant to this Mitigation Measure also shall include an assessment of the possible existence of lead-based paint and asbestos-containing materials in the Campus Plan area. Each individual development site that involves demolition activities shall include an inspection for lead-based paint conducted by a licensed or certified lead inspector/assessor and a survey for

asbestos-containing materials conducted by a California Certified Asbestos Consultant. Prior to the issuance of a grading permit or a building permits, a report documenting the completion, results, and follow-up remediation on the recommendations, if any, shall be provided to the City of Duarte Community Development Director and/or City of Irwindale Community Development Director, as appropriate, evidencing that all site remediation activities have been completed.

Finding:

Implementation of Mitigation Measure HAZ-1 would ensure the completion of Phase I Environmental Site Assessment and that any recognized environmental conditions identified in such site assessments were assessed and remedied as needed in accordance with regulations. Accordingly, with the incorporation of the adopted measures, impacts would be less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

6. Noise

Impact 5.10-3: Implementation of the Campus Plan would create short-term groundborne vibration and groundborne noise. [Threshold N-2]

Support for this environmental impact conclusion is fully discussed in Section 5.10, *Noise*, starting on page 5.10-33 of the DEIR. This discussion covers construction impacts under this environmental impact conclusion. The discussion covering operational impacts under this environmental impact conclusion is set forth in Section II.C, above.

Potential vibration impacts associated with development projects are usually related to the use of heavy construction equipment during demolition and grading phases of construction.

Short-Term Construction Impact

Construction operations can generate varying degrees of ground vibration, depending on the construction procedures and equipment. Operation of construction equipment generates vibrations that spread through the ground and diminish with distance from the source. The effect on buildings in the vicinity of the construction site varies depending on soil type, ground strata, and receptor-building construction. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Vibration from construction activities rarely reaches the levels that can damage structures, but can achieve the audible and perceptible ranges in buildings close to the construction site. Table 5.10-12 in the DEIR lists vibration levels for typical construction equipment.

As shown in Table 5.10-12 in the DEIR, vibration generated by certain, vibration-intensive construction equipment has the potential to be substantial, since these items have the potential to exceed the FTA

criteria for structural damage of 0.200 in/sec. However, groundborne vibration is almost never annoying to people who are outdoors, so it is usually evaluated in terms of indoor receivers (FTA 2006).

Construction equipment at the proposed project would include concrete saws, dozers, backhoes, graders, forklifts, cranes, excavators, rollers, pavers, and welders. The use of high-vibration equipment, such as pile drivers, is not anticipated.

Construction at the project site would start as early as late 2017 and would occur in four phases over a cumulative period of approximately 17 years.

Vibration-Induced Architectural Damage

The threshold at which there is a risk of architectural damage to typical wood-framed buildings is 0.2 in/sec (FTA 2006). Building damage is not normally a factor unless a project requires blasting and/or pile driving (FTA 2006). No blasting, pile driving, or hard rock ripping/crushing activities are anticipated for the project. Small construction equipment generates vibration levels less than 0.1 peak particle velocity (PPV) in/sec at 25 feet away. Since single-event exceedance of the 0.200 in/sec threshold could potentially result in architectural damage, impacts are evaluated in terms of the maximum vibration levels that are expected to be experienced throughout the course of construction activities. Therefore, vibration level calculations represent a worst-case scenario of the levels that would be experienced if the given construction equipment were operating on the project boundary at the point nearest to the receptor.

Phase 1

During Phase 1 construction, the nearest offsite structures to construction activities would be single-family residences along Galen Street, adjacent to the site for the south parking lot. These homes are as near as 25 feet from the construction boundary, and some pools are as close as 10 feet away. Table 5.10-13 in the DEIR summarizes the predicted construction vibration levels at these nearest receptors. More-distant receptors would experience lower levels than those shown below due to attenuation from increased distances.

As shown in Table 5.10-13 in the DEIR, the maximum construction-related vibration level would have potential to exceed the threshold for architectural damage at the homes along Galen Street and the pools in the backyards. The threshold would be exceeded if a vibratory roller is operated within approximately 30 feet of an offsite residential structure. Also, the operation of large bulldozers or loaded trucks may potentially approach or exceed the damage criterion at hardscape features (such as swimming pools or sheds) if that equipment is operated within 15 feet of the receiving structure/feature.

Remaining Phases

During Phase 2, the nearest offsite structures are residences 75 feet from the boundary of construction activities at the west parking structure. During Phase 3, residences along 3 Ranch Road are the nearest offsite structures to the boundary of construction at the hospitality building, at a distance of 160 feet. The nearest offsite structures to Phase 4 activities are residences 430 feet from the boundary of

construction at the research building. At a distance of 75 feet, vibration levels produced by a vibratory roller would be 0.040 PPV in/sec, and would be lower at farther distances. Therefore, for these receptors, vibration produced by any standard construction equipment would not exceed the threshold for architectural damage. Impacts are less than significant.

Onsite Historical Buildings

The Visitor Center and House of Hope buildings on the project site are classified as historic buildings and may be more sensitive to architectural damage than typical wood-framed buildings. Construction areas for each of the four phases would be over 300 feet from these historic buildings. Even when using the highly conservative threshold of 0.120 PPV in/sec for "buildings extremely susceptible to vibration damage," construction-generated vibration levels would be well below the threshold for architectural damage.

Other Onsite Buildings

Any onsite buildings adjacent to construction activities would be potentially susceptible to vibration-induced architectural damage. Use of vibratory rollers within 30 feet, or use of large bulldozers within 15 feet of onsite buildings would exceed the 0.200 in/sec PPV limit for architectural damage. Throughout the four phases of construction, construction-related vibration could potentially exceed the threshold at various buildings near construction activities on the project site.

Vibration Damage Summary

For onsite historical buildings, vibration levels would not have the potential to cause architectural damage. Vibration levels at other onsite buildings could exceed the threshold, resulting in a potentially significant impact. For offsite buildings, while the threshold would not be exceeded during Phases 2, 3, or 4, architectural-damage vibration impacts during Phase 1 would be potentially significant.

Vibration Annoyance

Vibration is typically noticed nearby when objects in a building generate noise from rattling windows or picture frames. It is typically not perceptible outdoors, and therefore impacts are based on the distance to the nearest building. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. As such, vibration annoyance is typically assessed via a spatial-averaging methodology (i.e., as heavy construction equipment moves around the project site, average vibration levels at the nearest structures would diminish with increasing distance between structures and the equipment). This methodology is implemented by using the distance from the center of the construction zone to the nearest sensitive receptors. The threshold for vibration annoyance at vibration-sensitive (residential) uses during daytime construction hours is 78 VdB (FTA 2006). Annoyance vibration levels for these residences are summarized in the discussion below.

Phase 1

The nearest sensitive receptors to construction activities for Phase 1 are residences along Galen Street and across Buena Vista Street, near the construction site of the south parking lot. These residences are 350 feet from the center of construction activities in that vicinity. At these receptors, average vibration levels due to operation of a vibratory roller would be 71 VdB. Other standard equipment would result in lower vibration levels, and construction activities would not result in levels that would exceed the U.S. Federal Transit Administration (FTA) threshold for vibration-induced annoyance.

Phase 2

The nearest sensitive receptors to construction activities for Phase 2 are the residences on the east of Buena Vista Street, and the residences along Cinco Robles Drive, near the construction site of the west parking structure. These residences are 300 feet from the center of construction activities in that vicinity. At these receptors, average vibration levels due to operation of a vibratory roller would be 72 VdB. Other standard equipment would result in lower vibration levels, and construction activities would not result in levels that would exceed the FTA threshold for vibration-induced annoyance.

Phase 3

The nearest sensitive receptors to construction activities for Phase 3 are the residences along 3 Ranch Road, near the construction site of the hospitality building on the north side of the project site. These residences are 400 feet from the center of construction activities in that vicinity. At these receptors, average vibration levels due to operation of a vibratory roller would be 70 VdB. Other standard equipment would result in lower vibration levels, and construction activities would not result in levels that would exceed the FTA threshold for vibration-induced annoyance.

Phase 4

The nearest sensitive receptors to construction activities for Phase 4 are the residences along Cinco Robles Drive, near the construction site of the research building on the west side of the project site. These residences are 550 feet from the center of construction activities in that vicinity. At these receptors, average vibration levels due to operation of a vibratory roller would be 67 VdB. Other standard equipment would result in lower vibration levels, and construction activities would not result in levels that would exceed the FTA threshold for vibration-induced annoyance.

Onsite

Any onsite buildings within 100 feet from the center of construction zones would likely experience average vibration levels that would exceed the 78 VdB limit for annoyance due to the operation of a vibratory roller. However, throughout the four phases of construction, there are no onsite buildings within 100 feet of the center of any construction areas for individual buildings or parking structures in accordance with the project. Therefore, construction activities would not result in levels that would exceed the FTA threshold for vibration-induced annoyance at onsite buildings.

Vibration Annoyance Summary

Vibration levels at nearby sensitive receptors—both offsite and onsite—would generally be well below the FTA's annoyance threshold of 78 VdB during all phases of construction. Additionally, construction would take place during the portions of the day when the majority of residents would be expected to be away from their homes. There may be, however, brief periods when heavy equipment would operate at or near the project boundary or near existing City of Hope campus buildings. During these brief periods, annoyance-connected groundborne vibration levels may be higher than the results shown in the above table and, thus, may be perceptible at the nearest receptor locations. However, as heavy construction equipment moves around the project site, average vibration levels at the nearest structures would diminish with increasing distance between structures. Therefore, such limited periods of perceptibility would be temporary, intermittent, and relatively brief such that impacts related to general construction vibration annoyance would not be significant and mitigation is not necessary.

Mitigation Measures:

The following mitigation measures were included in the DEIR and the FEIR and are applicable to the proposed project. The measures as provided include any revisions incorporated in the FEIR.

N-2 Prior to issuance of permits to perform demolition, construction, grading, foundation, and erection activities that would use vibration-producing equipment, a construction vibration mitigation plan shall be prepared, reviewed, and approved by the City of Duarte Community Development Director or the Irwindale Community Development Director, as applicable. The plan shall be implemented during project construction per the following methods:

1. Prior to the start of construction activities, the construction contractor shall document, the pre-construction baseline conditions by inspecting and reporting on the then-current foundation and structural condition of the buildings and/or structures with ground-based foundations (including pools, hot-tubs, and spas) within 50 feet of any construction site boundaries. Such inspections and documentation may be needed at offsite, private properties. In such cases, the Contractor shall make a good-faith, reasonable effort to contact the owners of these private properties and request their permission to conduct such inspection/documentation efforts (to establish the pre-construction baseline). If such good-faith, reasonable efforts be rejected by any given property owner (or if such contact attempts are met with no cooperation or silence from the property owner), the implementation at such a property shall be considered as not feasible at that given property.

2. During the entire active construction period and to the extent feasible, vibratory rollers shall not be operated within 30 feet of buildings or other structures, and large bulldozers and loaded trucks shall not be operated within 15 feet of buildings or other structures. This measure ensures that vibratory rollers or large bulldozers do not exceed the potential damage threshold and eliminates the source of any potentially significant vibration impact.

3. During the entire active construction period, if any vibration levels cause cosmetic or structural damage to the offsite buildings within 50 feet of the project site and that were previously inspected and documented [per point 1 above], City staff shall immediately issue "stop-work" orders to the construction contractor to prevent further damage. Such cosmetic or structural damage shall include, but not limited to, cracks in walls or ceilings [particularly around doors and windows], sticking/rubbing doors or openable windows, fallen or displaced ceiling tiles, and/or items displaced from shelving. Work shall not restart until the buildings are stabilized and/or preventive measures are implemented to relieve further damage to the building(s).

The above conditions shall be implemented by the construction contractor(s) via a designated health, safety and environmental coordinator or a similar person. The details of the construction vibration mitigation plan, including those listed above, shall be included as part of the permit application drawing set and as part of the construction drawing set. Verification shall be performed by the City building inspection staff.

Finding:

With the implementation of Mitigation Measure N-2, which would place limitations on certain equipment and/or their use at certain distances, impacts would be reduced to less than FTA criteria. Accordingly, with the incorporation of the adopted measures, impacts would be less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

7. Tribal Cultural Resources

Impact 5.15-1:	**Grading activities associated with implementation of the Campus Plan have the potential to encounter tribal cultural resources. [Threshold TCR-1]**

Support for this environmental impact conclusion is fully discussed in Section 5.15, *Tribal Cultural Resources*, starting on page 5.15-5 of the DEIR.

Conducting consultation early in the CEQA process allows tribal governments, public lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. The intent of the consultations is to provide an opportunity for interested Native American contacts to work together with the City during the project planning process to identify and protect tribal cultural resources.

Sacred Lands File Search and Consultation

As stated in Section 5.4, *Cultural Resources*, of the DEIR and Appendix E1 of the DEIR, no prehistoric sites have been recorded on the project site or within a quarter-mile radius of the site (SWCA 2017). On February 17, 2016, a Sacred Lands File search was conducted by the Native American Heritage Commission (NAHC) to determine if any sacred lands or traditional cultural properties had been identified near the project site (SWCA 2017). The NAHC response did not identify any properties deemed significant by local Native American groups in the vicinity of the project. The NAHC also provided a list of five Native American groups and individuals who may have knowledge of cultural resources in the project area. SWCA sent letters to each of the contacts, identifying the project location and requesting input, via U.S. mail on February 26, 2016. SWCA conducted one follow-up telephone call with each contact on March 5, 2016. Four tribes responded to SWCA:

- ***Gabrielino/Tongva San Gabriel Band of Mission Indians.*** Chairperson Anthony Morales stated via telephone on February 26, 2016, that he considered the area to be sensitive for prehistoric and historic archaeological resources and recommended Gabrieleño/Tongva San Gabriel Band of Mission Indians tribal monitors be present during ground-disturbing activities. No follow-up communication has been received from the tribe as of the date of the DEIR.
- ***Gabrielino Tongva Indians of California Tribal Council*:** Tribal Chair Robert Dorame stated via telephone on February 26, 2016, that he was not aware of any cultural resources within the project area, but planned on speaking with local residents with direct knowledge of the area and would call SWCA should he have any additional concerns
- ***Gabrieleño Band of Mission Indians - Kizh Nation*:** Chairperson Salas responded via email that the project is located within the ancestral and traditional territories of the Kizh (Kitc) Gabrieleño villages and that their tribal monitors should be on-site during any ground-disturbing activities.
- ***Soboba Band of Mission Indians*:** Cultural Resources Program Director Joseph Ontiveros sent SWCA a letter via U.S. mail indicating no specific concerns regarding known cultural resources in the specified project area.

Representatives from the Gabrielino/Tongva San Gabriel Band of Mission Indians and Gabrieleño Band of Mission Indians – Kizh Nation identified that there are tribal cultural resources in the vicinity of the project site, and that there is a potential to encounter buried prehistoric deposits on the project site. Buried or obscured archaeological resources may be encountered during construction. Therefore, there remains a possibility that the development of the project site through grading and excavation activities could impact previously undisturbed prehistoric archaeological resources. Thus, impacts to tribal cultural resources are potentially significant.

AB 52 and SB 18 Consultation

In accordance with AB 52 and SB 18 requirements, NAHC provided a list of tribal representatives who may have knowledge of tribal cultural resources in the project area. The City sent invitation letters to representatives of the Native American contacts provided by the NAHC on January 4, 2016, formally inviting tribes to consult with the City on the City of Hope Campus Plan. The intent of the

consultations was to provide an opportunity for interested Native American contacts to work together with the City during the project planning process to identify and protect tribal cultural resources. Letters were sent to the following Tribes:

AB 52

- Andrew Salas, Chairman, Gabrieleño Band of Mission Indians – Kizh Nation
- Joseph Ontiveros, Cultural Resource Director, Soboba Band of Luiseño Indians

SB 18

- John Tommy Rosas, Tribal Admin, Tongva Ancestral Territorial Tribal Nation
- Ron Andrade, Director, LA City/County Native American Indian Community
- Anthony Morales, Chairperson, Gabrieleno/Tongva San Gabriel Band of Mission Indians
- Sandonne Goad, Chairperson, Gabrielino/Tonga Nation
- Robert F. Dorame, Tribal Chair/Cultural Resources, Gabrielino Tongva Indians of California Tribal Council
- Bernie Acuna, Co-Chairperson, Gabrielino-Tongva Tribe
- Linda Candelaria, Co-Chairperson, Gabrielino-Tongva Tribe
- Andrew Salas, Chairman, Gabrieleño Band of Mission Indians – Kizh Nation
- Conrad Acuna, Gabrielino-Tongva Tribe
- Sam Dunlap, Cultural Resources Director, Gabrielino/Tongva Nation

Response letters were received from two tribal representatives Andrew Salas of Gabrieleño Band of Mission Indians - Kizh Nation and John Tommy Roasas, Tongva Ancestral Territorial Tribal Nation.

- ***Gabrieleño Band of Mission Indians - Kizh Nation*:** Chairman Andrew Salas notes that the entire City of Duarte lies on top of a Gabrieleño Prehistoric Village, which later became known as Rancho De Duarte. States that due to concerns related to potential impacts to cultural resources, that they would like to request one of their tribal monitors to be onsite at the project site during all ground disturbance.
- ***Tongva Ancestral Territorial Tribal Nation:*** Confirmed receipt of the City's consultation letter and provided a list of billing rates.

In response to the letter received from the Gabrieleño Band of Mission Indians - Kizh Nation, the City of Duarte sent a follow up letter on September 22, 2016, providing the tribe with cultural resources results and requesting additional documentation related to the cultural significance attributed to the project site and surrounding area (see Appendix E1 to the DEIR). The letter requested an in-person or telephone consultation to go over this additional data to confirm the need for a Native American monitor to be present during all ground disturbances. As of the date of the DEIR, no response has been received from the tribe. Nevertheless, tribal cultural resources could be present in soils under the Campus Plan site, and project ground-disturbing activities could damage such resources. This impact

would be potentially significant. Implementation of Mitigation Measure CUL-2 set forth in Section 5.4, *Cultural Resources*, of the DEIR and reproduced below has been incorporated into the project.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

CUL-2 Prior to issuance of any permits allowing ground-disturbing activities within the Campus Plan area, the City of Duarte and/or City of Irwindale, as appropriate, shall ensure that an archeologist who meets the Secretary of the Interior's Standards for professional archaeology has been retained for the project and will be on call during all grading and other significant ground-disturbing activities. The Qualified Archaeologist shall ensure that the following measures are followed for the project:

- Prior to any ground disturbance, the Qualified Archaeologist, or their designee, shall provide Worker Environmental Awareness Protection (WEAP) training to construction personnel regarding regulatory requirements for the protection of cultural (prehistoric and historic) resources. As part of this training, construction personnel shall be briefed on proper procedures to follow should unanticipated cultural resources be made during construction. Workers will be provided contact information and protocols to follow in the event that inadvertent discoveries are made. The WEAP training can be in the form of a video or PowerPoint presentation. Printed literature (handouts) can accompany the training and can also be given to new workers and contractors to avoid the necessity of continuous training over the course of the project.

- In the event that unanticipated cultural material is encountered during any phase of project construction, all construction work within 50 feet (15 meters) of the find shall cease and the Qualified Archaeologist shall assess the find for importance. Construction activities may continue in other areas. If, in consultation with the appropriate City, the discovery is determined to not be important, work will be permitted to continue in the area.

- If a find is determined to be important, additional work may be warranted, or the find can be preserved in place and construction allowed to proceed.

- Additional work can include scientific recording and excavation of that portion of the find making the find important.

- If excavation of a find occurs, the Qualified Archaeologist shall draft a report within 60 days of conclusion of excavation that identifies the find and summarizes the analysis conducted. The completed report shall be approved by the City and filed with the County and with the South Central Coastal Information Center at California State University, Fullerton.

- Excavated finds shall be curated at a repository determined by the Qualified Archaeologist and approved by the City.

Finding:

Implementation of Mitigation Measure CUL-2 would ensure that an archaeologist remain on call for all ground disturbing activities to provide Worker Environmental Awareness Protection (WEAP) training and conduct a proper assessment in the event that unanticipated cultural material is encountered during grading activities. Accordingly, with the incorporation of the adopted measures, impacts would be less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

8. Utilities and Service Systems

Impact 5.16-2:	**Adequate water supply is available to meet water demands of the proposed project; however additional water infrastructure is required to increase groundwater production capacity. [Thresholds U-2 (part relating to water facilities) and U-4]**

Support for this environmental impact conclusion is fully discussed in Section 5.16, *Utilities and Service Systems*, starting on page 5.16-21 of the DEIR. This discussion covers water conveyance impacts under this environmental impact conclusion. The discussion covering water demand impacts under this environmental impact conclusion is set forth in Section II.D, above

Water Conveyance

Figure 5.16-4, *Proposed Water System*, in the DEIR shows the proposed water system by phase. The proposed water system would require new lines to connect to the existing infrastructure and re-routing of existing lines to accommodate proposed buildings. For example, a major utilities corridor, including water lines existing under a proposed new 280,000 square foot outpatient (clinic) building in the eastern part of the campus planned for phase 1. These utilities would require re-routing around the proposed building footprint or a buildings design that incorporates a bridge so that the existing utilities could remain in place. Additionally, the existing on-site water system does not extend to portions of the southwest corner of the campus. If new buildings or structures requiring water lines are constructed in this location, a new water main pipe will be required to run along the future fire access roadway adjacent to the buildings and connect to an existing 12-inch water line to the north. Proposed infrastructure would be designed and analyzed on as buildings are proposed during the preparation of engineering plans prior to construction. The impacts of construction and re-routing of water mains and laterals would be part of the impacts of construction of the affected projects. No additional impacts would occur beyond the impacts identified throughout Chapter 5 of the DEIR.

Well Infrastructure

Based on the WSA prepared for the project site (Appendix L to the DEIR), CAW has indicated that it has available water supply but would need additional infrastructure to increase production capacity in the MSGB, due to an existing well capacity deficit. The following facility improvements are anticipated:

- Drilling and equipping of one (1) new well to produce additional water supply from the MSGB. The size is anticipated to be at least 430 gpm to meet the projected buildout maximum day demand of the project.
- Property for the new well. This could be located on the COH campus or at another location for which property would need to be acquired.
- Water main extension. Depending on the location of the new well, a water main extension from the new well to existing CAW distribution system may be needed.

In accordance with CAW's Rule No. 15, which describes CAW's effective rules regarding services as approved by the California Public Utilities Commission, the applicant would be required to enter into a main extension agreement with CAW, identifying water system improvements required to serve the proposed customers and the estimated construction costs. As detailed in Section 9.1.3, *Phased Implementation*, of the WSA, the project applicant may implement water reductions measures on the campus to offset water demand caused by new development so that the campus would remain at least "net water neutral" until a new well location is identified and a well is developed and operating.

Because Campus Plan buildout would exceed the current well capacity, impacts to water supply infrastructure are potentially significant. Construction of a new well would require separate environmental review and would be subject to the requirements of the Upper District's Indirect Reuse Replenishment Project (IRRP) "Zone of Control" (see Figure 9-1 of the WSA, Appendix L of the DEIR). Environmental review of a new well is not included in this EIR because the location and size of such a well are presently unknown, making any such analysis speculative. It could not be located in the Zone of Control but may be located in the Secondary Boundary, subject to restrictions. Portions of the southwest corner of the project site lie outside of the IRRP Zone of Control and some areas are outside of the Secondary boundary (meaning there would be no restrictions). However, all well sites are subject to review and approval by the MSGB Watermaster and State Water Resources Control Board – Division of Drinking Water. Water supply infrastructure impacts would be significant due to the existing well capacity deficit.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

USS-1 Prior to issuance of building permits for a new building that increases water demand in the project area, the project applicant shall provide a conditional "will serve" letter from the water provider to the City of Duarte and City of Irwindale, as applicable, evidencing that upon compliance with all rules and regulations of the California Public Utilities Commission (CPUC), and all applicable water provider tariffs on file with the CPUC there will be adequate water

supply and/or well capacity to serve the demands of that building. Prior to the issuance of a certificate of occupancy for such a new building, the project applicant shall provide a final "will serve" letter from the water provider to the City of Duarte and/or City of Irwindale, as applicable, confirming that all conditions set forth in the conditional "will serve" letter have been satisfied.

Finding:

Implementation of Mitigation Measure USS-1 requires the project applicant to obtain a will serve letter from the water provider and would ensure that there is adequate infrastructure to provide water services to new development. Accordingly, with the incorporation of the adopted, measures, impacts would be less than significant.

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

E. FINDINGS ON SIGNIFICANT AND UNAVOIDABLE IMPACTS

The following summary describes the unavoidable adverse impact of the proposed project where either mitigation measures were found to be infeasible, or mitigation would lessen impacts to less than significant. The following impact would remain significant and unavoidable:

1. Greenhouse Gas Emissions

Impact 5.6-1:	**Buildout of the City of Hope Campus Plan would generate a substantial increase in GHG emissions compared to existing conditions and would have a significant impact on the environment. [GHG-1]**

Support for this environmental impact conclusion is fully discussed in Section 5.6, *Greenhouse Gas Emissions*, starting on page 5.6-26 of the DEIR.

Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough greenhouse gas emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact.

Implementation of the proposed project would contribute to global climate change through direct emissions of GHG from on-site area sources and vehicle trips generated by the proposed project, and indirectly through off-site energy production required for on-site activities, water use, and waste disposal. Annual GHG emissions were calculated for construction and operation of the proposed project. The emissions associated with the proposed project include emissions associated with the new facilities, the overall growth in the service population (e.g., mobile-source emissions), and the existing remaining facilities. Total construction emissions were amortized over 30 years and included in the

emissions inventory to account for the short-term, one-time GHG emissions from the construction phase of the proposed project. The total and net annual GHG emissions associated with full buildout of the proposed project are shown in Table 5.6-7, *Annual Operational Phase GHG Emissions*, in the DEIR.

As shown in the table, implementation of the proposed project would result in a net increase of 18,998 metric tons of carbo dioxide-equivalent (MTCO2e) per year compared to the existing campus and would exceed SCAQMD's bright-line threshold of 3,000 MTCO2e per year. Consequently, the proposed project's emissions are compared to the SCAQMD's efficiency threshold. Implementation of the proposed project would generate approximately 7.1 MTCO2e per service population per year. Implementation of the proposed project under full buildout conditions would result in slightly lower GHG emissions on a per service population basis compared to the existing City of Hope land uses (7.1 MTCO2/SP compared to 7.5 MTCO2e/SP), but the proposed project would exceed the forecast year 2035 efficiency metric threshold of 2.3 MTCO2e per service population per year. The increase in overall emissions would be attributable to the additional buildings and facilities as well as the increases in the numbers of new employees and people served. Although the newer buildings would be more energy efficient, the proposed project would result in an increase in overall building space onsite, resulting in an overall increase in energy usage. Overall, the proposed project's cumulative contribution to the long-term GHG emissions impacts in the state would be considered potentially significant.

Mitigation Measures:

The following mitigation measures were included in the DEIR and the FEIR and are applicable to the proposed project. The measures as provided include any revisions incorporated in the FEIR.

GHG-1 Prior to the issuance of building permits for new development projects under the City of Hope Specific Plan, the City of Hope shall adhere to and comply with the following sustainable development features for all components of the project that are not subject to the jurisdiction of the Office of Statewide Health Planning and Development (OSHPD):

- Future Alternative Energy Production, Roof Layout Plan. Building orientation and layout shall be designed to facilitate future alternative energy production on-site. The City of Hope shall provide a roof layout plan that illustrates how future installation of a photovoltaic system could be accommodated, including plans that identify installation of conduit from the roof to the electrical room—or to electrical panels if no electrical room is provided—to accommodate future photovoltaic system or other collector/power generation installation.

- Energy Efficient Appliances. Projects shall incorporate energy-efficient appliances, such as tankless or solar water heaters and energy-efficient heating and cooling systems.

- Transit Stop Improvements. Building entrances and pedestrian walkways shall be designed to provide safe and efficient access to nearby public transit stops. Buildings that abut a transit stop shall install a bus pad, turnouts, benches, trash receptacles (and service), shade/shelter, security lighting, bike racks, water features, and/or landscaping. When

practical, the bus stop shall be built into the project and be compatible with the development.

- Alternative Fuel Vehicles. The City of Hope shall provide preferential parking for alternative-fuel vehicles in the parking structures. The alternative-fuel vehicle parking space shall be provided with a sign that identifies the parking space as designated for use by alternative fuel vehicles. Preferential parking spaces shall be as close as possible to the primary entrance without conflicting with parking provided to meet the Americans with Disability Act requirements or preferential parking provided for carpool/vanpools.

- Energy Efficiency, Medium Sized Projects (i.e., nonresidential new construction or modifications of 25,000 to 49,999 square feet of gross floor area). At minimum, the City of Hope shall design medium-sized projects to meet the Tier 1 energy performance standard (Section A5.203.1.2.1) of the 2016 California Green Building Standards Code. If there are applicable local or state standards in effect at the time of project development that would provide higher building energy efficiency than the aforementioned CALGreen Tier 1 performance standard, development projects shall meet those local or state standards.

- Energy Efficiency, Large Sized Projects (i.e., nonresidential new construction or modifications of 50,000 or more square feet of gross floor area). At minimum, the City of Hope shall design large-sized projects to meet the Tier 2 energy performance standard (Section A5.203.1.2.2) of the 2016 California Green Building Standards Code. If there are applicable local or state standards in effect at the time of project development that would provide higher building energy efficiency than the aforementioned CALGreen Tier 2 performance standard, development projects shall meet those local or state standards.

- Energy Efficient Outdoor Lighting. The City of Hope shall provide overnight security and safety lighting or outdoor lighting on timers or motion detection sensors, or otherwise have the capacity to switch to a dimmer, less energy-intensive mode during hours of reduced activity.

- Shading, Medium and Large Size Projects. The City of Hope shall require medium- and large-sized projects to incorporate window shading devices into project design. Window shading devices could include any single or combination of elements, such as extended roof overhangs (i.e., greater than 12 inches), window awnings, decorative sail shades, trellises, or similar elements. Nonglare window tinting may, in appropriate circumstances, function as shading.

- Leadership in Energy and Environmental Design (LEED) Certification. The City of Hope shall design small projects (i.e., nonresidential new construction or modifications of less than 25,000 square feet of gross floor area) and medium projects so that they are built to achieve LEED certification (or its equivalent for design features). The City of Hope shall design large projects so that they are built to achieve LEED Silver compliance (or its equivalent for design features).

- Heat Island Effect. The City of Hope shall use lighter-colored paving or open-grid paving materials for surface parking areas, or break up large expanses of paved area with shade trees or shade structures, or use light colored roofing materials.

  All project design features related to the above listed sustainable development features shall be noted on all building plans of future specific projects submitted to the City of Duarte or City of Irwindale, based on the location of the specific project. Adherence to and implementation of all applicable sustainable development features shall be verified by the City of Duarte or City of Irwindale prior to the issuance of a certificate of occupancy.

GHG-2 Components of future development projects within the City of Hope Specific Plan that are subject to the jurisdiction of the Office of Statewide Health Planning and Development (OSHPD) shall be required to comply with Mitigation Measure GHG-1 unless the requirements in these two mitigation measures are in direct conflict with the applicable regulations and building code requirements specific to components/facilities under OSHPD jurisdiction.

Level of Significance After Mitigation:

Implementation of Mitigation Measures GHG-1 and GHG-2 would ensure that GHG emissions generated from implementation of the City of Hope Specific Plan would be minimized to the extent feasible. However, additional federal and state measures would be necessary to reduce GHG emissions to meet the midterm GHG reduction target of SB 32 and the long-term GHG reduction goal of Executive Order and S-03-05, which are, respectively, 40 percent of 1990 levels by 2030 and 80 percent of 1990 levels by 2050. Although the 2017 Scoping Plan Update is being prepared by CARB with a planned adoption in December of 2017, there is currently no adopted statewide plan past 2020 that achieves the midterm GHG reduction target of SB 32 or the long-term GHG reduction goal of S-03-05. Furthermore, at this time, the state cannot meet the 2050 goal without major advancements in technology (CCST 2012). Since no additional federal or state measures are currently available that would ensure that the project could achieve the post-2020 targets, Impact 5.6-1 would remain significant and unavoidable.

Finding:

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as described above and identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

Nevertheless, the City finds that there are no other mitigation measures that are feasible, taking into consideration specific economic, legal, social, technological or other factors, that would mitigate this impact to a less-than-significant level, and, further, that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the alternatives identified in the EIR, as discussed in Section II.G of

these Findings (Public Resources Code §§ 21081(a)(1), (3); Guidelines §§ 15091(a)(1), (3)). In addition, as described in the Statement of Overriding Considerations set forth in Section III herein, the City has determined that this impact is acceptable because specific overriding economic, legal, social, technological, or other benefits, including regionwide or statewide environmental benefits, of the proposed project outweigh its significant effects on the environment.

2. Noise

Impact 5.10-1:	**Implementation of the Campus Plan would result in temporary noise increases in the vicinity of construction activities. [Thresholds N-1 and N-4]**

Support for this environmental impact conclusion is fully discussed in Section 5.10, *Noise*, starting on page 5.10-25 of the DEIR.

The City of Duarte recognizes that the control of construction noise is difficult and provides an exemption for this type of noise when the work is performed within the hours specified within the Duarte Municipal Code (i.e., 7:00 AM to 10:00 PM). The City of Irwindale Municipal Code states that construction activities that exceed the ambient noise level by 5 dB are not allowed within 500 feet of a residential zone, except with authorization from the building inspector. Compliance with the cities' municipal codes is mandatory.

Construction Vehicles

The transport of workers and equipment to the construction site would incrementally increase noise levels along site access roadways. Consistent with the construction and phasing assumptions used for air quality and greenhouse gas modeling data (see Appendix C1 to the DEIR), the number of construction-related vehicle trips would be up to 1,245 trips per day. Since the majority of these trips would likely use Duarte Road to access the project site, the result would be less than a 25 percent increase in total daily vehicle flows along likely trip routes (including Duarte Road and Village Road). This would result in a noise level increase of approximately 1 dB (in the traffic-focused CNEL noise level metric). This increment of traffic noise would be inaudible, would be below thresholds for a significant change, and would, therefore, have a less than significant impact on noise receptors along the truck routes. While individual construction vehicle pass-bys may create momentary noise levels of up to approximately 85 dBA (Lmax) at 50 feet from the vehicle, these occurrences will be no different than the similar, existing truck pass-bys that currently occur daily along these streets. Given that moment-by-moment sound levels would be comparable to existing conditions and that daily/weekly noise levels would not significantly change due to construction-related vehicle trips, construction vehicle noise will be less than significant.

Construction Equipment

Consistent with the construction and phasing assumptions used for air quality and greenhouse gas modeling data (see Appendix C1 to the DEIR), construction activities at the project site would occur in four phases over a cumulative period of approximately 17 years. Table 3-3 in the DEIR shows the

proposed buildout by phase. Activities would take place in different locations within the site during the different phases, and noise effects at nearby receptors would vary over the course of construction.

Construction activities would increase noise levels on and near the project site above existing levels. In general, the site preparation and grading portions of construction would typically be the noisiest periods of activity, since the largest and most powerful equipment is typically used during these phases of construction. Thereafter, building construction, paving, and application of architectural coatings typically generate markedly less noise than do demolition and grading activities. Noise produced from construction equipment items is commonly held to decrease at a rate of at least 6 decibels (dB) per doubling of distance; conservatively ignoring other attenuation effects from air absorption, ground effects, and/or shielding/scattering effects. For example, a dozer that generates 85 dBA at 50 feet would measure 79 dBA at 100 feet, 73 dBA at 200 feet, 67 dBA at 400 feet, and 61 dBA at 800 feet (at minus 6 dB per distance-doubling).

In order to aggregate individual equipment items into sets of common processes/activities, composite construction noise by phase has been characterized by Bolt, Beranek & Newman (1987). In their study, construction noise for ground clearing, excavation, foundations, erection, and finishing are aggregated by class of activity. For the majority of residential, commercial, industrial, and public works projects, the loudest phases are typically the site preparation and grading phases; each of which as an aggregate of 88 to 89 dBA Leq (when measured at a distance of 50 feet from the summed construction effort)(USEPA/BBN, 1971). This summed value takes into account both the number of pieces and the spacing of the heavy equipment used in the construction effort. Further, noise levels are typically reduced from this value due to usage factors, as well as the barrier effects provided by the physical structures themselves (once erected). Therefore, a value of 89 dBA Leq is a reasonable and prudent value for representing most construction activities, and will be used in this analysis as the average noise level generated by project construction.

Phase 1

The nearest sensitive receptors to construction activities for Phase 1 are residences along Galen Street and across Buena Vista Street, near the construction site of the south parking lot. These residences are 350 feet from the center of the associated construction zone for that portion of the project. At these receptors, composite construction noise would be reduced to conservatively estimated levels of approximately 72 dBA Leq due to distance attenuation alone.

Phase 2

The nearest sensitive receptors to construction activities for Phase 2 are the residences on the east of Buena Vista Street, and the residences along Cinco Robles Drive, near the construction site of the west parking structure. These residences are 300 feet from the center of construction activities in that vicinity. At these receptors, composite construction noise would be reduced to conservatively estimated levels of approximately 73 dBA Leq due to distance attenuation alone.

Phase 3

The nearest sensitive receptors to construction activities for Phase 3 are the residences along 3 Ranch Road, near the construction site of the hospitality building on the north side of the project site. These residences are 400 feet from the center of construction activities in that vicinity. At these receptors, composite construction noise would be reduced to conservatively estimated levels of approximately 71 dBA Leq due to distance attenuation alone.

Phase 4

The nearest sensitive receptors to construction activities for Phase 4 are the residences along Cinco Robles Drive, near the construction site of the research building on the west side of the project site. These residences are 550 feet from the center of construction activities in that vicinity. At these receptors, composite construction noise would be reduced to conservatively estimated levels of approximately 68 dBA Leq due to distance attenuation alone.

Onsite Receptors

Onsite hospital and hospitality uses would be considered sensitive receptors, and would experience varying noise levels depending on the proximity of the nearest construction activities. Throughout the four phases of construction, many buildings would experience noise levels well above the ambient levels. As such, construction noise impacts to onsite receptors would be potentially significant.

Offsite Receptors

Given their proximity to the construction site, the nearest sensitive receptors to construction activities during each of the phases – all within the City of Duarte – would experience noise levels well above ambient noise conditions. Activities would take place during the daytime (when people are least sensitive to construction noise and when many residents would be away from their homes), and timing would conform to the time-of-day restrictions (i.e., 7:00 AM to 10:00 PM) of Duarte's Municipal Code. Note that all sensitive/residential receptors within the City of Irwindale are well outside of the 500 foot threshold for triggering an authorization permit from the Irwindale building department.

Regardless of location (onsite or offsite), due to the duration of construction activities (three to four years for each phase) and the increased noise levels (relative to existing ambient conditions), occupants present during the daytime may be exposed to potentially disruptive interior noise levels. Therefore, construction noise impacts would be potentially significant.

Mitigation Measures:

The following mitigation measure was included in the DEIR and the FEIR and is applicable to the proposed project. The measure as provided includes any revisions incorporated in the FEIR.

N-1 Prior to issuance of any permit allowing physical construction activities in the specific plan area to commence, a construction noise mitigation plan shall be prepared, reviewed, and approved by the City of Duarte Community Development Director or the Irwindale Community

Development Director, as applicable. The plan shall be implemented during project construction per the following methods:

1. At least 90 days prior to the start of construction activities, residents within 250 feet of the project site shall be notified of the planned construction activities. The notification shall include a brief description of the project, the activities that would occur, the duration and hours when construction would occur. The notification should include the telephone number of the City's authorized representative to respond in the event of a vibration or noise complaint.

2. At least 10 days prior to the start of construction activities, a sign shall be posted at the entrance to the job site, clearly visible to the public, which contains a contact name and telephone number of the City's authorized representative to respond in the event of a vibration or noise complaint. If the authorized representative receives a complaint, he/she shall investigate, take appropriate corrective action, and report the action to the City.

3. During the entire active construction period and to the extent feasible, limit construction-related trips (including worker commuting, material deliveries, and debris/soil hauling) from residential areas around the project site. For example, such construction-related trips should maximize site access along Village Road (from either Duarte Road from the north or from Buena Vista Street from the south), while minimizing trips along either Cinco Robles Road (south of Duarte Road) or Buena Vista Street (north of Village Road) since both these segments are adjacent to residential/ school receptors).

4. During the entire active construction period, all heavy construction equipment used on the proposed project shall be maintained in good operating condition, with all internal combustion, engine-driven equipment fitted with intake and exhaust mufflers, air intake silencers, and engine shrouds no less effective than as originally equipped by the manufacturer.

5. During the entire active construction period and to the extent feasible, use electrically powered equipment instead of pneumatic or internal combustion powered equipment, since the former are generally quieter than the latter. For example, operating temporary lighting masts using construction-dedicated power blocks/outlets would be preferable to lighting masts that were powered by an on-board, gasoline-fueled generator. Likewise electric drills (either battery- or outlet- powered) are generally quieter than air-driven drills.

6. During the entire active construction period and to the extent feasible, all stationary noise-generating equipment shall be located as far away as possible from neighboring property lines, onsite sensitive receptors (i.e. hospital and hospitality uses), and the Santa Fe Flood Control Basin (which generally delineates the noise-sensitive biological resources to the southeast of the Specific Plan Area)

7. During the entire active construction period and to the extent feasible, limit all internal combustion engine idling both on the site and at nearby queuing areas to no more than five minutes for any given vehicle or machine (as is consistent with state air quality requirements per In-Use Off-Road Diesel Idling Restriction [Code of Regulations Title 13, Article 4.8, Chapter 9, Section 2449] and as required by Mitigation Measure AQ-2). Signs shall be posted at the job site and along queueing lanes to reinforce the prohibition of unnecessary engine idling.

8. During the entire active construction period and to the extent feasible, the use of noise producing signals, including horns, whistles, alarms, and bells will be for safety warning purposes only. Use smart back-up alarms, which automatically adjust the alarm level based on the background noise level, or switch off back-up alarms and replace with human spotters.

9. Erect a temporary noise barrier/curtain between residential receptors that (a) share a boundary with the project site and any project construction zones within 100 feet of the shared boundary and (b) when such a nearby construction zone will use any equipment items rated at 80 dBA or above per FTA Manual Table 12-1. A temporary noise barrier/curtain shall also be placed between a construction zone within 100 feet (or a distance recommended by a qualified biologist) of the southeast boundary and the Santa Fe Flood Control Basin to minimize construction noise impacts to sensitive biological resources in the basin. The temporary sound barrier would block line of sight noise levels to adjacent properties and substantially reduce noise levels at the Santa Fe Flood Control Basin due to its elevation which is lower than the project site. The sound barrier shall have a minimum height of 12 feet and be free of gaps and holes and must achieve a Sound Transmission Class (STC) of 35 or greater. The barrier can be (a) a ¾-inch-thick plywood wall or (b) a hanging blanket/curtain with a surface density or at least 2 pounds per square foot. For either configuration, the construction side of the barrier shall have an exterior lining of sound absorption material with a Noise Reduction Coefficient (NRC) rating of at least 0.7.

10. During the entire active construction period and to the extent feasible, high noise-producing activities shall be scheduled so as to minimize disruption at both onsite and offsite sensitive land uses.

The above conditions shall be implemented by the construction contractor(s) via a designated health, safety and environmental coordinator or a similar person. The details of the construction noise mitigation plan, including those listed above, shall be included as part of the permit application drawing set and as part of the construction drawing set. Verification shall be performed by the City building inspection staff.

Level of Significance After Mitigation:

With implementation of Mitigation Measure N-1, construction noise impacts due to construction activities would be reduced to the extent feasible. There are no definitive, bright-line sound level

thresholds for construction noise. Given the expected noise levels and, in particular, the extended length of the construction activities (three to four years for each of the four phases), significant construction noise impacts would remain. Impact 5.10-1 would remain significant and unavoidable.

Finding:

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as described above and identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

Nevertheless, the City finds that there are no other mitigation measures that are feasible, taking into consideration specific economic, legal, social, technological or other factors, that would mitigate this impact to a less-than-significant level, and, further, that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the alternatives identified in the EIR, as discussed in Section II.G of these Findings (Public Resources Code §§ 21081(a)(1), (3); Guidelines §§ 15091(a)(1), (3)). In addition, as described in the Statement of Overriding Considerations set forth in Section III herein, the City has determined that this impact is acceptable because specific overriding economic, legal, social, technological, or other benefits, including regionwide or statewide environmental benefits, of the proposed project outweigh its significant effects on the environment.

3. Transportation and Traffic

Impact 5.14-1: Project-related trip generation would impact levels of service for the existing area roadway system. [Threshold T-1]

Support for this environmental impact conclusion is fully discussed in Section 5.14, *Transportation and Traffic*, starting on page 5.14-30 of the DEIR.

The traffic impact analysis compares the projected LOS at each study intersection under the existing plus project conditions and under the future and future plus project conditions to estimate the incremental increase in the V/C ratio or delay caused by the proposed project. This provides the information needed to assess the potential impact of the project using significance criteria established by the City of Duarte and City of Irwindale. Significance criteria for freeway facilities are presented below in the Caltrans Freeway Mainline Analysis.

Existing With Project Conditions

Existing Plus Project Traffic Level of Service

Existing plus project traffic volumes were analyzed to determine the projected V/C ratio or delay, and LOS for each study intersection. Table 5.14-8 summarizes the existing plus project LOS. The following seven study intersections analyzed operate at LOS E or worse during one or both peak hours under existing conditions and existing plus project scenarios:

1. Live Oak Avenue & Arrow Highway (AM peak hour, City of Irwindale)

8. I-605 Northbound Off-Ramp & Live Oak Avenue (both peak hours, City of Irwindale/Caltrans)

14. Buena Vista Street & 3 Ranch Road (PM peak hour, City of Duarte)

17. I-210 Westbound Off-Ramp & Central Avenue (both peak hours, City of Duarte/Caltrans)

19. Village Road & Duarte Road (both peak hours, City of Duarte)

25. Highland Avenue & Evergreen Street (AM peak hour, City of Duarte)

27. Mt. Olive Drive/I-605 Ramps & Huntington Drive (both peak hours, City of Duarte/Caltrans)

Existing Plus Project Intersection Impacts

As shown in Table 5.14-8 in the DEIR, after applying the aforementioned significant impact criteria, it was determined that the proposed project would significantly impact traffic at the following two study intersections under the existing plus project scenario in the absence of mitigation:

8. I-605 Northbound Off-Ramp & Live Oak Avenue (AM peak hour, City of Irwindale/Caltrans)

19. Village Road & Duarte Road (both peak hours, City of Duarte)

Future Year (2035) Conditions

Future Year (2035) Traffic Level of Service

The year 2035 future peak hour traffic volumes were analyzed to determine the projected V/C ratio or delay, and LOS for each study intersection. The following 17 study intersections analyzed operate at LOS E or worse during one or both peak hours under future baseline conditions and future plus project conditions:

1. Live Oak Avenue & Arrow Highway (AM peak hour, City of Irwindale)

3. Mountain Avenue & Evergreen Street (PM peak hour, City of Duarte/Monrovia)

6. Avenida Barbosa & Arrow Highway (AM peak hour, City of Irwindale)

7. I-605 Southbound On-Ramp & Live Oak Avenue (PM peak hour, City of Irwindale/Caltrans)

8. I-605 Northbound Off-Ramp & Live Oak Avenue (both peak hours, City of Irwindale/Caltrans)

9. I-605 Southbound Off-Ramp & Arrow Highway (AM peak hour, City of Irwindale/Caltrans)

10. Buena Vista Street & Huntington Drive (PM peak hour, City of Duarte)

13. Buena Vista Street & Evergreen Street/I-210 Eastbound On-Ramp (PM peak hour, City of Duarte/Caltrans)

14. Buena Vista Street & Three Ranch Road (both peak hours, City of Duarte)

15. Buena Vista Street & Duarte Road (both peak hours, City of Duarte)

16. Buena Vista Street & Village Road (PM peak hour, City of Duarte)

17. I-210 Westbound Off-Ramp & Central Avenue (both peak hours, City of Duarte/Caltrans)

18. Cinco Robles Drive & Duarte Road (both peak hours, City of Duarte)

19. Village Road & Duarte Road (both peak hours, City of Duarte)

22. Circle Road & Duarte Road (both peak hours, City of Duarte)

25. Highland Avenue & Evergreen Street (AM peak hour, City of Duarte)

27. Mt. Olive Drive/I-605 Ramps & Huntington Drive (both peak hours, City of Duarte/Caltrans)

Future Plus Project Intersection Impacts

As presented in Table 5.14-9 in the DEIR, after applying the aforementioned significant impact criteria, it was determined that the proposed project would significantly impact traffic at the following nine study intersections under the future plus project scenario in the absence of mitigation:

1. Live Oak Avenue & Arrow Highway (PM peak hour, City of Irwindale)

6. Avenida Barbosa & Arrow Highway (AM peak hour, City of Irwindale)

8. I-605 Northbound Off-Ramp & Live Oak Avenue (both peak hours, City of Irwindale)

13. Buena Vista Street & Evergreen Street (PM peak hour, City of Duarte)

15. Buena Vista Street & Duarte Road (both peak hours, City of Duarte)

16. Buena Vista Street & Village Road (PM peak hour, City of Duarte)

17. I-210 Westbound Off-Ramp & Central Avenue (both peak hours, City of Duarte)

19. Village Road & Duarte Road (both peak hours, City of Duarte)

22. Circle Road & Duarte Road (both peak hours, City of Duarte)

Freeway Ramp Analysis

A queueing assessment was completed for the freeway ramps in the study area to ensure that traffic does not back up onto mainline freeway lanes. Ramps evaluated as part of the queueing assessment include:

8. I-605 Northbound Off-Ramp & Live Oak Avenue

9. I-605 Southbound Off-Ramp & Arrow Highway

13. Buena Vista Street & Evergreen Street

17. I-210 Westbound Off-Ramp & Central Avenue

27. Mount Olive Drive/I-605 Northbound Off-Ramp & Huntington Drive

As demonstrated in Tables 12 and 13 of the traffic impact analysis (Appendix J1 to the DEIR), one ramp would exceed the 85 percent storage length in the AM peak hour in the future condition, I-210 Westbound Off-Ramp & Central Avenue (#17). The freeway ramp queues would not extend beyond 85 percent of the length of the under for all other ramps under both the existing plus project and future plus project scenario.

Freeway Mainline Analysis

Mainline freeway segment analyses were conducted using the HCM operational analysis methodology as implemented by the Highway Capacity Software (HCS) software package for the following five segments along the I-210, I-605, and I-10 freeways in both directions:

- I-210 east of I-605
- I-210 west of I-605
- I-605 south of I-210
- I-10 east of I-605
- I-10 west of I-605

Existing Plus Project Mainline Level of Service

Freeway mainline volume and speed data was obtained from Caltrans' Performance Measurement System (PeMS) archived traffic data for the AM and PM peak periods for Tuesdays, Wednesdays, and Thursdays in November 2015 for most segments and the data was averaged across the days. Existing and existing plus project conditions on the mainline segments are presented in Table 5.14-10. Detailed LOS calculations are provided in the Traffic Impact Study (Appendix J1 to the DEIR).

For both the existing and existing plus project scenarios, during the AM peak hour, all of the westbound analyzed segments on I-210 and I-10 operate at a congested LOS F. During the PM peak

hour, both the eastbound and westbound segments on I-210, the eastbound segments on I-10, and the northbound segments on I-605 operate at LOS F.

With the project, all of the segments during the AM peak hour would continue to operate at the same LOS as under existing conditions. The project represents between 0.2 and 2.9 percent of the existing plus project traffic volumes on the segments depending on location and direction. Segments where the project accounts for more than 2 percent of the existing plus project traffic volumes would operate at LOS C or better during the AM peak hour. The project is projected to have no change in the MOE during the AM peak hour under the existing plus project scenario.

With the project, one of the segments during the PM peak hour would operate at a worse LOS when compared to the existing condition. The project represents between 0.2 and 2.6 percent of the existing plus project traffic volumes on the segments depending on location and direction. One segment where the project accounts for more than 2 percent of the existing plus project traffic volumes would operate at LOS F during the PM peak hour. The project is projected to have a change in the MOE at two segments during the PM peak hour under the existing plus project scenario: 1) westbound I-210 west of I-605 and 2) southbound I-605 south of I-210, resulting in potentially significant impacts.

Future and Future plus Project Mainline Level of Service

Per the Caltrans TIS Guide, future conditions analyzed in conjunction with a project entitlement process should be evaluated for the future year in which the project is anticipated to complete construction (Caltrans TIS Guide, page 3). As described above under "Methodology," future volumes were thus projected for the future traffic condition (Year 2035) taking into account projected changes in traffic over existing conditions from two primary sources: 1) ambient growth in the existing traffic volumes due to the effects of overall regional growth and development outside the study area, and 2) traffic generated by specific development projects in, or in the vicinity of, the study area.

Table 5.12-11 in the DEIR presents the future freeway mainline segment analysis. For both the future and future plus project scenarios, during the AM peak hour, all of the westbound analyzed segments on I-210 and I-10 operate at a congested LOS F. During the PM peak hour, both the eastbound and westbound segments on I-210, the eastbound segments on I-10, and the northbound segments on I-605 operate at LOS F.

With the project, all of the segments during the PM peak hour would continue to operate at the same LOS as under future conditions. The project represents between 0.2 and 2.1 percent of the future plus project traffic volumes on the segments depending on location and direction. Segments where the project accounts for more than 2 percent of the future plus project traffic volumes would operate at LOS C or better during the AM peak hour. The project is projected to have no change in the MOE during the PM peak hour under the future plus project scenario, resulting in less than significant impacts.

Construction

As stated, a total of up to 1,245 daily passenger car equivalent (PCE) trips are expected to occur on a peak construction activity day, of which 212 PCE trips would occur during the morning peak hour and 150 PCE trips during the evening peak hour.

The peak construction activity would generate fewer daily and peak hour trips than are projected for the full build-out of the proposed project (4,753 daily trips, 514 AM peak hour trips, and 462 PM peak hour trips). The trip generation of the construction would have less of an impact on the traffic operations at the study intersections than the project. Nonetheless, the influx of this material and equipment could create impacts on the adjacent roadway network. For example, there may be intermittent periods when large numbers of material deliveries are required, such as when concrete trucks would be needed for the parking garages and the buildings. Some of the materials and equipment could require the use of large trucks (18-wheelers), which could create additional congestion on the adjacent roadways. Delivery vehicles may need to park temporarily on adjacent roadways such as Duarte Road or Buena Vista Street as they deliver their items. Based on past experience, it is not uncommon for these types of deliveries to result in temporary lane closures. Such delays and potential conflicts would be temporary, but impacts would remain potentially significant and require mitigation.

Mitigation Measures:

The following mitigation measures were included in the DEIR and the FEIR and are applicable to the proposed project. The measures as provided include any revisions incorporated in the FEIR.

TRAF-1 Prior to the issuance of the first certificate of occupancy for a new building constructed pursuant to the City of Hope Campus Plan, the project applicant shall install signals for the intersections listed below or prepare a signal warrant study pursuant to Caltrans' California Manual on Uniform Traffic Control Devices. If a signal warrant study prepared in coordination with the responsible agency, shows that signalization is warranted, the project applicant shall install the required signal(s). If signalization is not warranted, an updated signal warrant study for each of the unsignalized intersections identified below shall be prepared every five years until project buildout. Signal installation and/or signal warrant analyses shall be conducted for the following intersections:

- 8. I-605 Northbound Off-Ramp & Live Oak Avenue
- 16. Buena Vista Street & Village Road
- 17. I-210 Westbound Off-Ramp & Central Avenue
- 19. Village Road & Duarte Road
- 22. Circle Road & Duarte Road

TRAF-2 Prior to the issuance of building permits, the project applicant shall make fair-share payments to the City of Irwindale toward the construction of traffic improvements to Avenida Barbosa at Arrow Highway (#6) as follows:

- Modify the eastbound approach on Arrow Highway to provide a second eastbound left-turn lane within the existing roadway width.

- Restriping the approach to change from one left-turn lane and two through lanes into two left-turn lanes and two through lanes.

TRAF-3 Prior to issuance of any permit allowing physical construction activities in the specific plan area to commence, the project applicant shall prepare a construction management plan. The Construction Management Plan shall be approved by the Cities of Duarte and Irwindale Public Works Department. The construction management plan shall identify construction hours, truck routes, travel patterns for haul routes, staging and parking areas, staggered worker arrival times, and safety procedures for pedestrians and bicyclists. The construction management plan shall prohibit the use of heavy construction vehicles during peak hours; establish requirements for the loading, unloading, and storage of materials on the project site; and establish requirements for the temporary removal of parking spaces, time limits for the reduction of travel lanes, and closing or diversion of pedestrian facilities to ensure the safety of pedestrian and access to local businesses. The plan shall also require the construction contractor to implement the following measures during construction activities, which shall be discussed at the pre-grading conference/meeting:

- A flagman shall be placed at the truck entry and exit from the project site onto Duarte Road and Buena Vista Street to control the flow of exiting trucks.

- The preferred haul route to and from the project site shall be Duarte Road, Buena Vista Street (south of Village Road), Avenida Barbosa, and Arrow Highway for inbound and outbound trucks to north I-605. Trucks shall not be permitted to travel along local residential streets.

- Deliveries and pick-ups of construction materials shall be scheduled during non-peak travel periods and coordinated to reduce the potential of trucks waiting to load or unload for protracted periods of time.

- Access shall remain unobstructed for land uses in proximity to the project site during construction.

- In the event of a lane or sidewalk closure, a worksite traffic control plan, shall be implemented to route traffic or pedestrians around any such lane or sidewalk closures.

- Coordinate with the Cities and emergency service providers to ensure adequate access is maintained to the project site and neighboring businesses.

- Schedule vehicle movements to minimize vehicles waiting off-site and impeding public traffic flow on the surrounding streets.

Mitigation Measures Considered and Rejected

Provided below is a discussion of physical measures that were explored but due to physical constraints, safety concerns, and/or potential secondary impacts, these mitigation measures have been determined to be infeasible.

- **1. Live Oak Avenue & Arrow Highway.** A mitigation measure was analyzed involving a modification to the northbound approach on Live Oak Avenue to change the dedicated free-flow right-turn into a shared left/right-turn. The mitigation would require the removal of the free-flow right-turn and the reduction or removal of the pedestrian refuge island to create the shared left/right-turn lane. The mitigation would reduce the intersection operations to a less than significant level. The mitigation is not recommended due to the reduction or removal of the pedestrian refuge island.
- **13. Buena Vista Street & Evergreen Street.** A mitigation measure was analyzed involving a modification to the northbound approach on Buena Vista to change one northbound through lane into a northbound shared through/right lane. The mitigation would require restriping the approach to change from two through lanes and one right-turn lane into one through lane, one shared through/right-turn lane, and one right-turn lane. The mitigation would reduce the intersection operations to a less than significant level. However, the mitigation is not recommended due to potential limited line of sight and pedestrian conflicts with the northbound multiple right-turn lanes.
- **15. Buena Vista Street & Duarte Road**. A mitigation measure was analyzed involving the installation of a right-turn overlap phase in the westbound direction. The intersection was determined to have an existing de facto operational right turn lane based on the measurements of the westbound shared through/right-turn lane and the operations of the lane during the AM and PM peak hours. The mitigation was determined to be infeasible due to the lack of a dedicated westbound right-turn lane at the intersection.

Level of Significance After Mitigation:

With implementation of Mitigation Measure TRAF-1 and TRAF-2, traffic operations would be improved to acceptable levels of service and impacts would be less than significant, with the exception of three intersections in the future condition (see Tables 10 and 11 in Appendix J1 of the DEIR). For the reasons stated above, improvements to: Live Oak Avenue & Arrow Highway (#1; Irwindale), Buena Vista Street & Evergreen Street (#13; Duarte), and Buena Vista Street & Duarte Road (#15; Duarte) are not recommended for safety reasons. Impacts to these intersections would remain significant and unavoidable.

Two freeway ramp intersections would result in significant impacts–I-605 Northbound Off-Ramp & Live Oak Avenue (#8) and I-210 Westbound Off-Ramp & Central Avenue (#17). As stated above, signalization at these intersection required by TRAF-1 would improve traffic operations to acceptable levels of service. Additionally, one freeway ramp queues would extend beyond the 85 percent length of

the ramp at I-210 Westbound Off-Ramp & Central Avenue (#17). Signalization of this ramp intersection as required under TRAF-1 would reduce the storage length by approximately half during both peak periods, ensuring that the queue would not extent beyond the 85 percent length (see Table 14 of Appendix J1 of this DEIR). This would mitigate the ramps to less than significant. However, the improvement is within the responsibility of Caltrans and not controlled by the Cities. Therefore, the Cities cannot guarantee implementation of the improvement and impacts to freeway ramps would be significant and unavoidable.

The required improvements to Avenida Barbosa & Arrow Highway (#6; Irwindale) are not currently included in any traffic fee program; therefore, project impacts to this intersection would be significant and unavoidable.

Two freeway segments will operate at an unacceptable level, and the project adds traffic to these facilities. Therefore, there are project-level impacts to the freeway system near the project site. To mitigate the impacts at the identified locations, freeway mainline widening would be required. However, this type of infrastructure is extremely costly and is typically infeasible for one development project to undertake. The Cities cannot assure the construction of improvements to freeway facilities that may be needed to improve traffic flow. Furthermore, Caltrans does not have any funding mechanism in place to allow development projects to contribute a fair-share payment to future improvements and off-set traffic impacts caused by regional transportation. The facility is not controlled by the Cities, which could not guarantee implementation of the mitigation measures. Therefore, the identified impacts to the freeway system are considered significant and unavoidable.

Note this project-level impact assumes that buildout of the project would occur at one time without consideration for regional improvements. In the future condition, impacts to the two freeway segments–westbound I-210 west of I-605 and 2) southbound I-605 south of I-210– would not occur.

Improvements to state highway facilities are planned, funded, and constructed by the State of California through a legislative and political process involving the state legislature; the California Transportation Commission (CTC); the California Business, Transportation, and Housing Agency; Caltrans; and the Regional Transportation Planning Agency (RTPA). Although potential impacts to the freeway mainline segments and ramps have been evaluated, implementation of the transportation improvements to Caltrans facilities listed above is the primary responsibility of Caltrans. Caltrans has recognized that private development has a role to play in funding fair share improvements to impacts on these facilities, but neither Caltrans nor the state has adopted a program that can ensure that locally contributed impact fees will be tied to improvements to

freeway mainlines, and only Caltrans has jurisdiction over mainline improvements. Because Caltrans has exclusive control over state highway improvements, ensuring that developer fair share contributions to mainline improvements are actually part of a program tied to implementation of mitigation is within the jurisdiction of Caltrans. However, a number of programs are in place in Los Angeles County to improve and upgrade the regional transportation system. These include the State Transportation Improvement Program (STIP), Regional Transportation Improvement Program (RTIP), Interregional Improvement Program (IIP), and Caltrans Traffic Operations Strategies, State Highway Operation and Protection Program (SHOPP). State and federal fuel taxes generate most of the funds used to pay for these

improvements. Funds expected to be available for transportation improvements are identified through a fund estimate prepared by Caltrans and adopted by the CTC. These funds, along with other fund sources, are deposited in the state highway account to be programmed and allocated to specific project improvements in both the STIP and SHOPP by the CTC. However, if these programs are not implemented by the agencies with the responsibility to do so, the project's freeway mainline impacts would remain significant and unavoidable.

Mitigation Measure TRAF-3 would ensure that a construction management plan is in place to eliminate the potential for conflicts related to construction equipment, haul trips, and worker trips. Temporary construction related traffic impacts would be less than significant.

Finding:

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as described above and identified in the DEIR. These changes are identified in the form of the mitigation measures above. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

Nevertheless, the City finds that there are no other mitigation measures that are feasible, taking into consideration specific economic, legal, social, technological or other factors, that would mitigate this impact to a less-than-significant level, and that such changes or alterations are within the responsibility and jurisdiction of another public agency (i.e., Caltrans) and not the agency making the finding, and further, that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the alternatives identified in the EIR, as discussed in Section II.G of these Findings (Public Resources Code §§ 21081(a)(1), (2), (3); Guidelines §§ 15091(a)(1), (3)). In addition, as described in the Statement of Overriding Considerations set forth in Section III herein, the City has determined that this impact is acceptable because specific overriding economic, legal, social, technological, or other benefits, including regionwide or statewide environmental benefits, of the proposed project outweigh its significant effects on the environment.

F. FINDINGS ON CUMULATIVE IMPACTS

1. Aesthetics

Support for this environmental impact conclusion is fully discussed in Section 5.1.4, Cumulative Impacts of the DEIR.

Aesthetic/Visual Character

Cumulative aesthetic impacts are generally localized to the project site and its immediate surroundings. A cumulative impact would be considered significant if cumulative development would have a substantial adverse effect on a scenic vista or degrade the existing visual character or quality of the area and its surroundings. Related projects adjacent to the project site include the Duarte Station Specific Plan. The project and the related projects would be designed to be compatible with the urban, highly

developed character of the surrounding area. The Campus Plan project would comply with the proposed Specific Plan's development standards and design guidelines, which are aimed at creating a unified and aesthetically appealing visual environment. Similar regulations targeted at creating a cohesive and visually appealing visual environment are imposed on the adjacent Duarte Station Specific Plan area under that planning document. The goals and standards of both of these specific plan documents are intended to enhance the visual environment of their respective plan areas and are not in conflict. Specifically, the proposed Campus Plan was determined not to result in aesthetic impacts and is designed to maximize visual connections between City of Hope and the Gold Line Station. The Duarte Station Specific Plan area, which is on the other side of the Gold Line Station from City of Hope, is similarly designed to embrace the station and promote transit-oriented development. Improvements on either side of the station would visually unify the area as a walkable, connected neighborhood. Therefore, implementation of both specific plans would not degrade or otherwise adversely affect the visual character or quality of the area. Additionally, pursuant to SB 743 (Public Resources Code section 21099(d)(1)), aesthetic impacts of the project, including impacts related to aesthetic/visual character, are not considered significant within one-half mile of the Gold Line Station – which is the area where any potential visual effects of the project could combine with the visual effects of the Duarte Station Specific Plan area. In consideration of these factors, cumulative aesthetic impacts would be less than significant.

Shade and Shadow

The relative effects of shading from structures are site specific. As concluded above, shade/shadow impacts of the proposed Campus Plan would not be significant. There are no planned projects near the project site that would, with the proposed Campus Plan, result in a cumulatively significant impact related to shade and shadow. New buildings in the Duarte Station Specific Plan area could create new sources of shade and shadow, but new buildings on the project site would be sufficiently far away to not exacerbate or contribute to any adverse effects caused by this shade and shadow. Additionally, pursuant to SB 743 (Public Resources Code 21099(d)(1)), aesthetic impacts of the project, including shade and shadow impacts, are not considered significant within one-half mile of the Gold Line Station – which is the area where any potential shadows from the project could combine with shadows from the Duarte Station Specific Plan area. Therefore, cumulative shade and shadow impacts would be less than significant.

Light and Glare

Due to the highly developed nature of the project area and the existence of light and glare from existing onsite land uses and from surrounding properties, the proposed Campus Plan is not anticipated to add significantly to the creation of nighttime light and glare in the project vicinity. Nighttime lighting from new buildings along Duarte Road within the project site could combine with that generated by proposed land uses to the north in the Duarte Station Specific Plan area. However, these combined effects would affect a segment of Duarte Road (between Hope Drive and Highland Avenue) that does not contain single-family homes or other sensitive receptors to light overspill. Furthermore, new land uses in the Duarte Station Specific Plan area, like those in the applicable portion of the project area, would be required to comply with lighting regulations identified in Chapter 19.50 of the Duarte Development Code and Title 24 of the California Code of Regulations. Additionally pursuant to SB 743

(Public Resources Code section 21099(d)(1)), aesthetic impacts of the project, including light and glare impacts, are not considered significant within one-half mile of the Gold Line Station – which is the area where any potential light and glare from the project could combine with light and glare from the Duarte Station Specific Plan area. Therefore, the cumulative light and glare impacts would be less than significant.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative aesthetic impacts would be less than significant.

2. Air Quality

Support for this environmental impact conclusion is fully discussed in Section 5.2.4, Cumulative Impacts of the DEIR.

In accordance with SCAQMD's methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Cumulative projects within the local area include new development and general growth within the SoCAB. The greatest source of emissions within the SoCAB is mobile sources. Due to the extent of the area potentially impacted from cumulative project emissions (i.e., the SoCAB), SCAQMD considers a project cumulatively significant when project-related emissions exceed the SCAQMD regional emissions thresholds.

Construction

The SoCAB is designated nonattainment for O_3 and $PM_{2.5}$ under the California and National AAQS and nonattainment for PM_{10} and lead (Los Angeles County only) under the National AAQS. Construction of cumulative projects will further degrade the regional and local air quality. However, development of the proposed project would not generate construction-related criteria air pollutant emissions that would exceed the SCAQMD regional construction significance threshold. Therefore, the project's contribution to cumulative air quality impacts would be less than significant.

Operation

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values is not considered by SCAQMD to be a substantial source of air pollution and does not add significantly to a cumulative air quality impact. Operation of the project would not result in emissions in excess of the SCAQMD regional emissions thresholds. Furthermore, the proposed project would be consistent with regional plans to reduce air pollution. Therefore, the project's contribution to cumulative air quality impacts during project operation would be less than significant.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative air quality impacts would be less than significant.

3. Biological Resources

Support for this environmental impact conclusion is fully discussed in Section 5.3.4, Cumulative Impacts of the DEIR.

The area considered for cumulative impacts is the San Gabriel Valley, which is largely built out with urban land uses. Most of the streams in the San Gabriel Valley are engineered channels rather than natural streams supporting riparian habitats. The San Gabriel Valley is part of the Los Angeles Plain ecoregion designated by the US Geological Survey. Typical vegetation historically included California sagebrush, California buckwheat, coast live oak, chamise chaparral, and annual grasslands, although most of the region has been converted to urban and residential land cover. Hydrology has been greatly modified and channelized (Griffith 2016).

Substantial habitat areas in the San Gabriel Valley include the Santa Fe Dam Recreation Area, just east of the Campus Plan area; the Frank Bonelli Regional Park (which includes Puddingstone Reservoir) in the City of San Dimas, about nine miles east of the site; portions of the San Jose Hills southwest of Frank Bonelli Regional Park; and the Whittier Narrows Wildlife Sanctuary in the Whittier Narrows Recreation Area, about 7.3 miles southwest of the project site. The Santa Fe Dam Recreation Area contains a 350-acre wildlife management area plus 50 acres of natural open space (Irwindale 2008). Frank Bonelli Regional Park spans 1,800 acres, much of which is habitat. The 400-acre Whittier Narrows Wildlife Sanctuary is in the southeastern part of the Whittier Narrows Recreation Area in unincorporated Los Angeles County and next to the west bank of the San Gabriel River.

The total population of the 31incorporated cities in the San Gabriel Valley is forecast to increase from about 1.51 million in 2013 to 1.71 million in 2035. Total employment in the valley is forecast to increase from about 645,000 in 2013 to 728,700 in 2035 (Kyser 2015; PlaceWorks 2015). Most other projects in the San Gabriel Valley would redevelop existing developed sites. Therefore, it is not anticipated that cumulative projects in the study area would remove substantial areas of native habitat or interfere with wildlife movement on major wildlife corridors. As described above, the project site does not provide potential habitat for sensitive plant or wildlife communities. As a result, development of the Campus Plan would not impact sensitive plant or wildlife species. Additionally, the project would not impact riparian or sensitive natural communities. Therefore, the project would not contribute to the loss of special-status plant and wildlife species, riparian habitat, or sensitive habitats and cumulative impacts would be less than significant.

Construction activities associated with implementation of the Campus Plan could result in the removal and/or replacement of trees onsite. In addition, many other projects would remove or disturb trees that could be used for nesting by migratory birds protected under federal and state laws. However, construction of the Campus Plan and other cumulative projects would adhere to regulations

implementing the federal Migratory Bird Treaty Act, which would mitigate impacts to less than significant.

Finding:

Compliance with the MBTA (see Mitigation Measure BIO-1) would ensure that the project's contribution to disturbance of migratory birds would be less than significant. Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as identified in the DEIR. These changes are identified in the form of the mitigation measures set forth in Section II.D herein. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

4. Cultural Resources

Support for this environmental impact conclusion is fully discussed in Section 5.4.4, Cumulative Impacts of the DEIR.

Cultural resources impacts are site specific and generally do not combine to result in cumulative impacts. In the immediate vicinity of the project site, no significant cultural resources were identified that if altered could combine with the effects of the project to result in a cumulatively significant impact to cultural resources. Additionally, cultural resources investigations would be required for other projects before the cities of Duarte or Irwindale would permit ground disturbances or demolition or substantial alteration of existing structures. Such investigations would identify resources on the affected project sites that are or appear to be eligible for listing on the National or California Registers. Such investigations would also recommend mitigation measures to protect and preserve cultural resources. The proposed project includes mitigation measures to ensure proper identification, treatment, and preservation of cultural resources on the project site. Implementation of these measures would reduce the potential for adverse impacts on cultural resources both individually and cumulatively. Therefore, cumulative impacts to cultural resources would be less than significant.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative cultural resources impacts would be less than significant.

5. Geology and Soils

Support for this environmental impact conclusion is fully discussed in Section 5.5.4, Cumulative Impacts of the DEIR.

Geology and soils impacts are site specific and generally do not combine to result in cumulative impacts. As discussed above, the Campus Plan project would result in less than significant geology and soils impacts. In addition, the project site and none of the immediately surrounding properties are within an area of identified geologic hazards. Future development projects in the vicinity of the project site would be required to have a site-specific geotechnical investigation prepared for the project applicant/developer and to comply with recommendations in the geotechnical investigation report, as

well as comply with the provisions of the CBC. Therefore, no significant cumulative impact would occur.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative geotechnical impacts would be less than significant.

6. Greenhouse Gas Emissions

Support for this environmental impact conclusion is fully discussed in Section 5.6.4, Cumulative Impacts of the DEIR.

Project-related GHG emissions are not confined to a particular air basin, but are dispersed worldwide. Therefore, impacts identified under Impact 5.6-1 in Section II.E. herein are not project-specific impacts to global warming, but the proposed project's contribution to this cumulative impact. The recommended mitigation measures would ensure that GHG emissions from buildout of the proposed project would be minimized to the extent feasible. However, additional federal and state measures would be necessary to reduce GHG emissions to meet the midterm GHG reduction target of SB 32 and the long-term GHG reduction goal of Executive Order and S-03-05, which are, respectively, 40 percent of 1990 levels by 2030 and 80 percent of 1990 levels by 2050. Although the 2030 Target Scoping Plan is being prepared by CARB, there is currently no adopted statewide plan past 2020 that achieves the midterm GHG reduction target of SB 32 or the long-term GHG reduction goal of S-03-05. At this time, the state cannot meet the 2050 goal without major advancements in technology. Since no additional federal or state measures are currently available that would ensure that the City of Hope Specific Plan project could achieve the post-2020 targets, Impact 5.6-1 would remain significant and unavoidable.

Finding:

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as described above and identified in the DEIR. These changes are identified in the form of the mitigation measures set forth in Section II.E herein. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

Nevertheless, the City finds that there are no other mitigation measures that are feasible, taking into consideration specific economic, legal, social, technological or other factors, that would mitigate this impact to a less than significant level, and, further, that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the alternatives identified in the EIR, as discussed in Section II.G of these Findings (Public Resources Code §§ 21081(a)(1), (3); Guidelines §§ 15091(a)(1), (3)). In addition, as described in the Statement of Overriding Considerations set forth in Section III herein, the City has determined that this impact is acceptable because specific overriding economic, legal, social, technological, or other benefits, including regionwide or statewide environmental benefits, of the proposed project outweigh its significant effects on the environment.

7. Hazards and Hazardous Materials

Support for this environmental impact conclusion is fully discussed in Section 5.7.4, Cumulative Impacts of the DEIR.

The area considered for cumulative impacts is the service area of LACFD HHMD's East County office, which spans the San Gabriel Valley, part of the easternmost San Fernando Valley, and part of the San Gabriel Mountains. Hazards and hazardous waste impacts are typically unique to each site and do not usually contribute to cumulative impacts. Cumulative development projects would be required to assess potential hazardous materials impacts on the development site prior to grading. The project and other cumulative projects would be required to comply with laws and regulations governing hazardous materials and hazardous wastes used and generated. Therefore, cumulative impacts related to hazards and hazardous materials would be less than significant after regulatory compliance.

Cumulative projects could propose structures for human occupancy in fire hazard severity zones. However, the design and construction of any structures developed in such zones would be required to comply with California Building Code Chapter 7A, Materials and Construction Methods for Exterior Wildfire Exposure, and CFC Chapter 49, Requirements for Wildland-Urban Interface Fire Areas.[1] Persons responsible for such structures would also be required to remove flammable vegetation surrounding the structures pursuant to California Public Resources Code, Sections 4291 et seq., as well as requirements in CFC Chapter 49. Furthermore, the project is not proximate to a high fire hazard severity zone with significant wildland fuels (e.g. heavy vegetation) and would not contribute to cumulative fire hazard impacts. Therefore, cumulative impacts related to fire hazards would be less than significant.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative hazards and hazardous materials impacts would be less than significant.

8. Hydrology and Water Quality

Support for this environmental impact conclusion is fully discussed in Section 5.8.4, Cumulative Impacts of the DEIR.

The geographic area for addressing cumulative hydrology impacts is the Buena Vista Watershed (see Figure 5.8-1 of the DEIR). Although the area around the project site is almost fully built out, new projects in the area, both individually and cumulatively, could increase the impervious surface areas, increase the volume of stormwater runoff, and contribute to pollutant loading in the storm drain system with eventual discharge to Rio Hondo and the Los Angeles River. However, as with the proposed project, future projects within the cities of Duarte and Irwindale and Los Angeles County would be required to comply with drainage and grading regulations and ordinances that control runoff and

[1] The California Building Code (CBC) is CCR Title 24, Part 2. The CBC and CFC are updated on a three-year cycle; the 2016 codes are scheduled to take effect January 1, 2017.

regulate water quality at each development site. New development and redevelopment projects would be required to demonstrate that stormwater volumes could be managed by onsite and downstream conveyance facilities and would not induce flooding. New projects also would be required to comply with the county's MS4 permit. Each project that disturbs more than one acre of land would be required to develop a SWPPP, and all regulated projects would be required to develop an LID plan. The projects would be subject to review and approval by the appropriate City to ensure that appropriate BMPs and treatment measures are implemented to reduce pollutants in stormwater and avoid adverse impacts to surface water quality. The county's MS4 permit and LID Ordinance also require new development and certain redevelopment projects to retain a specified volume of stormwater runoff onsite through incorporation of LID BMPs so that stormwater volumes are reduced to at or below existing conditions. As described above, the proposed project would result in a net reduction in the amount of stormwater runoff and pollutants currently entering the storm drain system from this project site under existing baseline conditions with the implementation of required LID and stormwater treatment measures. Therefore, cumulative impacts to hydrology and water quality would not be cumulatively considerable and would be less than significant.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative hydrology and water quality impacts would be less than significant.

9. Land Use and Planning

Support for this environmental impact conclusion is fully discussed in Section 5.9.4, Cumulative Impacts of the DEIR.

Implementation of the Campus Plan is consistent with the applicable goals and policies of the SCAG 2016 RTP/SCS, City of Duarte General Plan, as detailed in Tables 5.9-2 and 5.9-3 in the DEIR. The proposed Specific Plan provides detailed development standards, location of permitted uses, design guidelines, sustainability and best management practices, infrastructure and services improvements, and strategies to improve multimodal circulation. Implementation of the proposed project would allow City of Hope to continue creating hospital, research and development, hospitality, and industrial related uses in a more cohesively designed, sustainable, and accessible campus.

As with the proposed Campus Plan, cumulative projects would be subject to compliance with the regional and local plans reviewed in this section. It is reasonable to assume that the cumulative projects would implement and support local and regional planning goals and policies. Cumulative projects would be subject to the applicable permit approval process for either the City of Duarte or the City of Irwindale, and would incorporate any mitigation measures necessary to reduce potential land use impacts. Therefore, with implementation of cumulative development in accordance with the SCAG RTP/SCS, City of Duarte General Plan, and City of Irwindale General Plan, cumulative land use impacts would be less than significant.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative land use and planning impacts would be less than significant.

10. Noise

Support for this environmental impact conclusion is fully discussed in Section 5.10.4, Cumulative Impacts of the DEIR.

Operational Noise

To specifically estimate the proposed project's contribution to traffic noise, existing noise levels were compared to those projected with buildout of the proposed project. As demonstrated above, the proposed project's contribution to increases in ambient noise levels and vibration would be less than significant, even when accounting for traffic increases forecast in the project study area.

As discussed above, potential new stationary sources at the campus would not be expected to contribute any notable, future sound energy to offsite receptors. Additionally, onsite ventilation units and associated equipment at the project site would be acoustically engineered with appropriate procurement specifications, sound enclosures, and parapet walls to minimize noise—all in accordance with City of Duarte and City of Irwindale stationary noise requirements—to ensure that such equipment does not exceed allowable noise limits. Other stationary sources for medical uses include landscaping, maintenance, truck deliveries, trash pickup, parking lot activity, ventilation, and any other sources of stationary noise at the project site would not have a different character or intensity than the noise produced by similar, existing uses. Of particular note with all existing and future stationary sources associated with the project is that they are generally localized in nature (as opposed to more area-wide sources such as roadways and freeways). For example, a single, roof-top ventilation unit or a single lawn-mower will only potentially affect listeners in the immediate vicinity; say within 100 feet (for discussion purposes). Given this relatively limited sphere of influence for any given, single stationary source, coupled with the dispersed placement of such sources across City of Hope campus, the aggregation of noise stationary sources from the project in combination with operational noise from other cumulative projects, would not be anticipated to cause a cumulatively significant noise impact. Therefore, cumulative noise impacts would be less than significant.

Construction Noise

It is theoretically possible that construction activities at the proposed project and at other, future (unrelated) projects may occur simultaneously and in close proximity to noise-sensitive receptors, resulting in significant impacts. Although the specific construction details of potential future development projects in the immediate project area are currently unknown, all cumulative development projects would be required to comply with the applicable noise ordinance in the cities where those projects would be located. Additionally, given the distances from this project site to other, potential construction zones (for future projects), including the Duarte Station Specific Plan area, construction noise from the project, in combination with construction noise from other cumulative projects that may be constructed at the same time would not be anticipated to cause a cumulatively significant

construction noise impact. Therefore, no significant cumulative impacts related to construction noise would occur.

Operational Vibration

As discussed above, development of the proposed project would include medical research, treatment, and office building uses. These uses would not generate substantial levels of operations vibration. Cumulative projects would not involve the use of heavy machinery or include rail projects. As such, operations vibration from the project, in combination with operations vibration from cumulative projects, would not be anticipated to cause a cumulatively significant operations vibration impact. Therefore, no significant cumulative impacts related to operations vibration would occur.

Construction Vibration

It is theoretically possible that construction activities at the proposed project and at other, future (unrelated) projects may occur simultaneously and in close proximity to structures that could be susceptible to vibration-induced architectural damage. The specific construction details of potential future development projects in the immediate project area are currently unknown. However, given the distances from this project site to other, potential construction zones (for future projects), including the Duarte Station Specific Plan area, construction vibration from the project, in combination with construction vibration from other cumulative projects that may be constructed at the same time would not be anticipated to cause a cumulatively significant construction vibration impact. Therefore, no significant cumulative impacts related to construction vibration would occur.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative noise impacts would be less than significant.

11. Population and Housing

Support for this environmental impact conclusion is fully discussed in Section 5.11.4, Cumulative Impacts of the DEIR.

Population, Housing and Employment

Cumulative population and housing impacts are assessed relative to the City of Duarte and Irwindale General Plan buildout assumptions and SCAG's 2016-2040 RTP/SCS population, housing, and employment projections. SCAG provides projections for net increases in population, housing, and employment in the cities of Duarte and Irwindale between 2012 and 2035.

Cumulative buildout of the City of Duarte General Plan would allow up to 25,418 residents, 7,702 dwelling units, and 9,953,071 non-residential square feet (11,945 jobs) (Duarte 2016). Cumulative buildout statistics for the City of Irwindale are based on SCAG growth projections since the Irwindale General Plan does not contain buildout statistics—2,000 residents, 500 dwelling units, and 21,500 employees. Compared to each City's SCAG projections for population, housing and employment in

2035, overall buildout of the two general plans would be within SCAG's projections, with the exception of Duarte's General Plan population and employment buildout which would exceed SCAG's projections (24,300 residents and 11,900 jobs) by 1,118 residents and 45 jobs. This represents a 4.6 and 0.4 percent increase above SCAG's projections for population and employment, respectively, which is a nominal increase above projected growth estimates.

The proposed Campus Plan would not directly result in an increase of population or housing, thus it also would not contribute to the cumulative increase in population or housing growth in Duarte and Irwindale. The proposed Campus Plan would, however, create 1,841 new jobs in the project area, which is 63 percent of the 4,500 additional jobs projected in the cities of Duarte and Irwindale between 2012 and 2040. City of Hope is the largest employer in the immediate area (~19 percent of the combined employment in Duarte and Irwindale) and expansion of City of Hope's facilities is a part of the General Plan growth projections for both cities. The increase in employment resulting from the Campus Plan would not exceed growth projections in either City. Further, and as discussed previously, the employees for these new jobs would be expected to be drawn from the existing employment pool in the region and would not result in associated population growth. Therefore, cumulative impacts related to employment growth would be less than significant.

Jobs/Housing Balance

The additional employment resulting from the project would increase the ratio of jobs to homes in the cities of Duarte and Irwindale. The SCAG RTP/SCS growth forecast projects that the City of Duarte jobs/housing balance will be 1.45 in 2040. With the proposed Campus Plan, the City of Duarte would increase its jobs/housing balance to 1.62. The desirable range provided by the American Planning Association is 1.3 to 1.7. Therefore, the City of Duarte would maintain an ideal jobs/housing balance in the future with the implementation of the proposed Campus Plan. SCAG forecasts indicate that without the proposed Campus Plan the City of Irwindale would have a jobs/housing ratio of 43.00. Implementation of the proposed Campus Plan could slightly increase jobs/housing balance in Irwindale to 43.84. The increases in jobs/housing ratio for both cities based on development of the proposed Campus Plan would be minimal. Further, the increases in the jobs/housing ratio for both cities based on the Campus Plan and cumulative development would not substantially deviate from SCAG forecasts. Therefore, cumulative impacts to the jobs/housing balance would be less than significant.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative population and housing impacts would be less than significant.

12. Public Services

Support for this environmental impact conclusion is fully discussed in Section 5.12, *Public Services*, pages 5.12-3, 5.12-4, 5.12-6, 5.12-7, 5.12-10 of the DEIR.

Fire Protection

The area considered for cumulative impacts is LACFD Battalions 16 and 10, which span much of the north-central and west-central San Gabriel Valley, respectively; Battalion 16 also serves part of the San Gabriel Mountains. Battalion 16 includes the cities of Duarte, Baldwin Park, Irwindale, Azusa, and Covina; while Battalion 10 encompasses the cities of Rosemead, El Monte, South El Monte, and San Gabriel, and some adjoining unincorporated areas. Battalion 16 is housed in eight fire stations, and Battalion 10 in nine stations (LACFD 2012). Over the buildout period of the Campus Plan, other projects in the service areas of Battalions 10 and 16 would develop additional structures housing increased numbers of residents and workers, thus generating increased demands for fire protection and emergency medical services. Cumulative growth anticipated in the region would generate increased tax revenues to cities and Los Angeles County. Some of those revenues would be available to fund construction of new or expanded fire stations; purchase additional apparatus; and/or hire additional staff. Such additional revenue would offset some of the potentially adverse impacts of increased development. In addition, similar to the proposed project, each of the cumulative projects would be subject to Title 24 Building Code regulations and individually subject to Los Angeles Fire Department review and compliance with all applicable construction-related and operational fire safety requirements of the Los Angeles Fire Department and the Building and Fire Codes of the applicable city. In addition, in correspondence included with Appendix M, LACFD has indicated that it will be able to serve cumulative developments in addition to the proposed project. To that end, LACFD has not identified the need for additional facilities as a result of the Campus Plan and identified cumulative development. Therefore, cumulative impacts to fire services would be less than significant.

Police Protection

The area considered for cumulative impacts is the service area of the Irwindale Police Department and LACSD Temple Station, which includes the cities of Duarte, Bradbury, Rosemead, South El Monte, and Temple City; and unincorporated areas of Los Angeles County near those cities. Over the buildout period of the Campus Plan, other projects in the Irwindale Police Department and Temple Station's service areas would develop additional structures housing increased numbers of residents and workers, thus generating increased demands for police services.

School and Library Services

Buildout of the Campus Plan in combination with continued growth and intensification of land uses in the Duarte Satellite Station and Irwindale service areas would contribute to a cumulative impact on their resources and operations. Such increased demands are expected to require additional deputies, civilian personnel, and equipment, including vehicles, weaponry, communications equipment, and office furniture. Additional staff and resources would eventually require expansion of the Duarte Satellite Station (Jacob 2016). Other projects would generate increased tax revenues to cities and Los Angeles County. Some of those revenues would be available to fund construction of new or expanded Sheriff's stations; purchase additional equipment; and/or hire additional staff. Nevertheless, City of Hope has a security department that provides safety, security, crime prevention and emergency response services for the City of Hope campus, 24 hours a day, seven days a week, thus reducing demands on local law enforcement. Under the Campus Plan, City of Hope would, at a minimum, maintain its security

services at current levels throughout the buildout of the project. This would ensure that the increase in development and population at the campus would not itself require expansion of LACSD facilities. Further, similar to the Campus Plan, each of the cumulative projects would be subject to review from the applicable law enforcement agency and would be required to comply with all applicable safety requirements of the law enforcement agency and the applicable city in order to adequately address police protection service demands. As a result, cumulative impacts to law enforcement services would not be cumulatively considerable and would be less than significant.

No project level impacts to school or library services would occur, therefore, the project would not combine with other projected growth in the region to cause significant cumulative impacts. No significant cumulative impacts would occur.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative public services impacts would be less than significant.

13. Recreation

Support for this environmental impact conclusion is fully discussed in Section 5.13.4, Cumulative Impacts of the DEIR.

To determine the cumulative public park and recreational impacts, citywide growth forecasts are considered. Based on the Southern California Association of Governments' 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, the City of Duarte would have approximately 8,200 households in 2040, and the City of Irwindale would have approximately 500 households in 2040 (SCAG 2016). This would be an increase of approximately 863 households over 2016 conditions for the City of Duarte, and an increase of approximately 111 households over 2016 conditions for the City of Irwindale (7,337 Duarte housing units, 389 Irwindale housing units; DOF 2016). During this time, the City of Duarte population is anticipated to increase from the City's estimated 2016 population of 22,177 persons (DOF 2016) to approximately 24,300 persons in 2040 (SCAG 2016). During this same time period, the City of Irwindale population is anticipated to increase from the City's estimated 2016 population of 1,415 persons (DOF 2016) to approximately 2,000 persons in 2040 (SCAG 2016).

Based on the cities' parkland standard and the anticipated population growth through 2040, 5.3 acres of parkland would be needed in Duarte and 0.6 acres would be needed in Irwindale. Both cities currently have enough parkland to meet the need of future development in the cities. Furthermore, implementation of the Campus Plan would not result in a population increase and therefore would not contribute to any cumulative impacts to meeting the parkland standards within the City of Duarte and the City of Irwindale. The parkland already included within the City of Hope project site would not only be important for serving the project site, but also as part of the Cities' overall goal of providing sufficient park space for its residents. Therefore, cumulative impacts related to parks and recreational facilities would be less than significant.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative recreation impacts would be less than significant.

14. Transportation and Traffic

Support for this environmental impact conclusion is fully discussed in Section 5.14.4, Cumulative Impacts of the DEIR.

Cumulative traffic impacts are created when the proposed project—combined with other future development projects accommodated by the Cities' General Plans—contribute to the overall traffic impacts, requiring additional improvements to maintain acceptable level of service operations with or without the proposed project. Cumulative future traffic conditions include annual ambient traffic growth as well as the traffic effects of the 13 related projects expected to be implemented in the vicinity of the project site prior to full buildout of the Campus Plan. A significant cumulative impact is identified when a facility is projected to operate below the level of service standards due to cumulative future traffic in combination with project-related traffic increases. Cumulative traffic impacts were addressed in Impacts 5.14-1, 5.14-2, and 5.14-5 in Section 5.14.3, above. Trip generation estimates for the related projects were calculated using a combination of previous study findings, publicly available environmental documentation, and trip generation rates contained in the Institute of Transportation Engineers' trip generation manual. These projections are conservative in that they do not in every case account for either traffic generated by the existing uses to be removed or the possible use of non-motorized travel modes (transit, walking, etc.). Impacts and mitigation measures are discussed in Sections 5.14.6 and 5.14.7, respectively. As discussed in these sections, the proposed project's incremental effect on congested intersections would be significant at nine study area intersections prior to the implementation of mitigation. As further detailed in this section, while the implementation of mitigation would reduce impacts at six study area intersections below the applicable threshold of significance cumulative traffic impacts at intersections in the Cities of Duarte and Irwindale and impacts at Caltrans intersections and freeway facilities would be significant and unavoidable.

Finding:

Changes or alterations have been required in, or incorporated into, the proposed project that avoid or substantially lessen the significant environmental effect as described above and identified in the DEIR. These changes are identified in the form of the mitigation measures set forth in Section II.E herein. The City of Duarte hereby finds that implementation of the mitigation measures is feasible, and the measures are therefore adopted.

Nevertheless, the City finds that there are no other mitigation measures that are feasible, taking into consideration specific economic, legal, social, technological or other factors, that would mitigate this impact to a less than significant level, and, further, that specific economic, legal, social, technological, or other considerations, including considerations for the provision of employment opportunities for highly trained workers, make infeasible the alternatives identified in the EIR, as discussed in Section II.G of these Findings (Public Resources Code §§ 21081(a)(1), (3); Guidelines §§ 15091(a)(1), (3)). In addition,

as described in the Statement of Overriding Considerations set forth in Section III herein, the City has determined that this impact is acceptable because specific overriding economic, legal, social, technological, or other benefits, including regionwide or statewide environmental benefits, of the proposed project outweigh its significant effects on the environment.

15. Tribal Cultural Resources

Support for this environmental impact conclusion is fully discussed in Section 5.15.4, Cumulative Impacts of the DEIR.

Cumulative impacts to cultural resources would occur when the impacts of the Campus Plan, in conjunction with other projects and development in the region, result in multiple and/or cumulative impacts to tribal cultural resources in the area. No prehistoric sites have been recorded on the project site or within a quarter-mile radius of the site, and no sacred sites are documented within or adjacent to the project area. However, it is possible that buried prehistoric artifacts or tribal cultural resources could be present within the area. Each future project considered for approval by the Cities of Duarte and Irwindale would be required to include mitigation measures to protect these resources if they are uncovered during grading activities. The proposed project also includes mitigation measures to ensure proper identification, treatment, and preservation of cultural resources. Implementation of these measures would reduce the potential for adverse impacts on tribal cultural resources both individually and cumulatively. Therefore, cumulative impacts to cultural resources would be less than significant.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative tribal cultural resources impacts would be less than significant.

16. Utilities and Service Systems

Support for this environmental impact conclusion is fully discussed in Section 5.16, *Utilities and Service Systems*, on pages 5.16-8, 5.16-11, 5.16-24, 5.16-27, 5.16-33 of the DEIR.

Wastewater

The proposed project in combination with cumulative projects would result in an increased demand for wastewater conveyance and treatment. The area considered for cumulative impacts to wastewater collection is the service area of the LACSD District 22, which includes the cities of Arcadia, Azusa, Baldwin Park, Bradbury, Covina, Duarte, Glendora, Irwindale, La Verne, Monrovia, San Dimas, Walnut, and West Covina, as well as Los Angeles County. Growth within these service areas would increase wastewater generation. As stated previously the SJCWRP treatment plan has a residual capacity of about 46 mgd. The population in the San Gabriel Valley is expected to increase by 12.3 percent from 2012 to 2040. A proportional 12.3 percent increase in wastewater discharge would result in a cumulative net increase of approximately 6.5 mgd of wastewater, which is within the remaining residual capacity of SJCWRP—representing 14 percent of the residual capacity. Since there is sufficient residual capacity at the wastewater treatment facility serving District 22, cumulative impacts related to treatment capacity would be less than significant.

Cumulative impacts related to wastewater conveyance depends on the location and size of the project as well as phasing. All future development within the Cities of Duarte and Irwindale and the LACSD service area would be reviewed on a project-by-project basis to verify that existing capacity exists to convey the wastewater generated with the new development. In addition, development projects would be subject to payment of fees prior to connecting to the Cities or LACSD's facilities. The other major cumulative projects identified in the immediate vicinity of the project site would not utilize the same sewer trunk line as the proposed project. Therefore, sewer impacts of the proposed project would not combine with impacts of other cumulative development and cumulative impacts related to wastewater conveyance would be less than significant.

Water

Water Demand and Supply

Water supplies and demands for CAW's service area are addressed above under Existing Conditions. Future water-use projections were developed using the WSA with input from CAW and SCAG growth forecasts; CAW's expectations for additional water conservation; and the 20x2020 Water Conservation Plan urban water use target. The 2015 UWMP found that forecast water supplies would meet demands in normal, single-dry-year, and multiple-dry-year conditions. The WSA concluded that CAW would have sufficient water supplies to meet water demands of the CAW's service area in combination with the proposed project. Therefore, cumulative impacts on water supply would be less than significant.

Water Conveyance

Impacts to water mains due to buildout of the proposed project would be limited to mains in and near the project site. Therefore, project-related impacts would not combine with impacts of other cumulative development projects within the Cities of Duarte and Irwindale to result in significant cumulative impacts. With respect to water infrastructure, however, as discussed above the WSA concluded that Campus Plan buildout would exceed CAW's current well capacity, and so the applicant would be required to enter into a main extension agreement with CAW to implement facility improvements that would ultimately result in a new production well and connection to the existing CAW distribution system. Because the new improvements are specific to the proposed project's water demand, it is not expected that cumulative development would need to contribute to the facility improvements required by CAW. Therefore, cumulative impacts on water conveyance would be less than significant.

Solid Waste

In consideration of population growth through 2040 the estimated net increase in solid waste disposal from the County of Los Angeles is approximately 13.7 million pounds per day, or about 6,857 tons per day. As shown in Table 5.16-6 of the DEIR, the five landfills accepting the vast majority of the solid waste from the cities of Duarte, Irwindale, Azusa, Monrovia, and El Monte have a combined residual capacity of nearly 23,000 tons per day. Solid waste from Los Angeles County is also disposed of at numerous other landfills. Therefore, the estimated net increase in solid waste generation over the buildout period for the Campus Plan would not require the construction of new or expanded landfills. Campus Plan buildout is anticipated to generate 39,006 pounds (19.5 tons) of solid waste per day, which is approximately 0.3 percent of the total projected net increase in solid waste disposal in the County of

Los Angeles. In addition, cumulative development would be required to comply with state laws and local ordinances governing recycling and waste diversion that would reduce the amount of solid waste landfilled. Therefore, cumulative impacts related to solid waste would be less than significant.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative utilities and service systems impacts would be less than significant.

17. Energy

Support for this environmental impact conclusion is fully discussed in Section 5.17.5, Cumulative Impacts of the DEIR.

Electrical Energy

The geographic area for electricity service is SCE boundaries and for natural gas service is SCG boundaries. The proposed project would result in an increased services demand in electricity and natural gas. Although the proposed project would result in a net increase in electricity, this increase would not require SCE to expand or construct infrastructure to that could cause substantial environmental impacts. As discussed previously, the total annual electricity consumption in SCE's service area in gigawatt-hours is forecast to increase by 11,394 million kilowatt hours (11,394 GWh) between 2016 and 2025 for the mid-demand scenario. While this forecast represents a very large increase in electricity consumption, the project's percent of cumulative consumption would be approximately 0.42 percent. The project, in combination with cumulative development, is well within SCE's systemwide net increase in electricity supplies annually over the 2012 to 2024 period, and there are sufficient planned electricity supplies in the region for estimated net increases in energy demands. As such, cumulative impacts would be less than significant.

Gas Energy

Similarly, additional natural gas infrastructure is not anticipated due to cumulative development. Total natural gas consumption in SCG's service area is forecast to decrease by 0.299 bcfd between 2016 and 2035 due to intense energy efficiency efforts, while total natural gas supplies are forecast to remain constant at 3.875 bcfd. Therefore, it is anticipated that SCG would be able to meet the natural gas demand of the cumulative projects without additional facilities. In addition, both SCE and SCG's demand forecasts include the growth contemplated by the project and the other cumulative projects. SCE and SCG plan to continue to provide reliable service to its customers and upgrade their distribution systems as necessary to meet future demand.

Transportation Energy

Transportation energy use would also increase; however, this transportation energy use would not represent a major amount of energy use when compared to the amount of existing development and to total number of vehicle trips and vehicle miles travelled throughout the county and the region. The proposed project and other cumulative projects are required to comply with various federal and state

government legislation to improve energy efficiency in buildings, equipment, and appliances and reduce vehicle miles travelled. Increased energy efficiency to comply with building energy efficiency standards will reduce energy consumption on a per square foot basis. In addition, utility companies are required to increase their renewable energy sources to meet the RPS mandate of 50 percent renewable supplies by 2030. Further, compliance with the existing regulatory requirements and project design features would ensure that proposed project does not result in an inefficient, wasteful and unnecessary consumption of energy. Therefore, cumulative impacts to energy resources would be less than significant.

Finding:

Compliance with existing regulations and provisions of the proposed Specific Plan would ensure that cumulative energy impacts would be less than significant.

G. FINDINGS ON PROJECT ALTERNATIVES

CEQA requires that the discussion of alternatives focus on alternatives to the proposed project or its location that are capable of avoiding or substantially lessening any significant effects of the proposed project. As discussed above, the DEIR identified significant impacts in a number of categories. The following impacts could be mitigated below a level of significance: aesthetics; air quality; biological resources; cultural resources; hazards and hazardous materials; tribal cultural resources; and utilities and service systems. The following impacts cannot be mitigated below a level of significance: greenhouse gas emissions, noise, and transportation and traffic impacts.

The DEIR analyzed three alternatives to the proposed project that could reduce some, if not all, of the significant impacts.

1. No Project/No Development Alternative

This alternative evaluates what would occur if the project is not approved, and is based upon existing conditions and available infrastructure. The project site is developed with 1,600,850 square feet of medical and research facilities, landscaped gardens, open spaces, two-lane roadways, drive aisles, and associated parking. Under this alternative, City of Hope would make minor fixes and modification to its aging buildings and support facilities, including repairing outdated utility and service systems over time. Many of the City of Hope buildings are more than 50 years old and reaching the end of their expected life span for this type of construction and use. The electrical, mechanical, and plumbing systems have surpassed a reasonably expected 30-year life span and are costly and difficult to maintain. Under this alternative, no demolition of existing buildings or construction of new medical and research facilities would occur. Compared to the proposed project, this alternative would result in a reduction of 1,038,500 square feet of medical and research uses and 2,841 employees.

Finding:

As summarized in Table 7-2, *Summary of No Project/No Development Alternative Impacts*, of the DEIR, as compared with the proposed project, the No Project Alternative would lessen environmental impacts in the areas of air quality, biological resources, cultural resources, geology and soils, GHG emissions, hazards, noise, public services, transportation and traffic, tribal cultural resources, and energy; have

greater environmental impacts related to aesthetics, hydrology and water quality; and have similar impact in the area of land use/planning, population and housing, public services, and recreation. Additionally, this alternative would eliminate the proposed project's significant and unavoidable impacts to GHG emissions, construction noise, and traffic. Therefore, overall this alternative is considered environmentally superior when compared to the proposed project.

Implementation of the No Project/No Development Alternative would ultimately stop any new development from occurring within in the project site beyond what is already on the ground. Therefore, none of the project objectives would be achieved under this alternative.

The No Project/No Development Alternative would not provide any of the project benefits that would occur with adoption of the Specific Plan, including enhancement of character and design, improved mobility and connectivity, water quality enhancement, creation of place, sustainable development and design, and economic revitalization. Because no demolition of existing buildings or construction of new buildings could occur, City of Hope would not be allowed to reorganize and reorient the campus to be aesthetically pleasing and physically cohesive. The existing, haphazardly-arranged collection of buildings would be preserved and circulation through the site would remain fragmented to visitors. Accordingly, City of Hope would not be able to use new buildings and urban design to create a "sense of place" as proposed under the proposed project. The project site would be less sustainable due to the continued use of older, energy-inefficient buildings that feature aging and outdated utility and service systems. The preserved site design would also prevent City of Hope from implementing low-impact development, source control, site design, and treatment control best management practices (BMPs) to minimize runoff and water pollution. In general, the campus would be less of an economic engine and catalyst for medical research in the region due to the reduced building space available for serving patients.

The City Council rejects the No Project/No Development Alternative on the basis of policy and economic factors as explained herein, including its failure to meet all of the project objectives. (See Pub. Resources Code, § 21061.1; CEQA Guidelines, § 15364; see also *City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417; *California Native Plant Soc. v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1001; *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715.) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible this project alternative identified in the EIR.

2. No Project/Existing General Plan Alternative

Section 15126.6(e) of the CEQA Guidelines requires that an EIR evaluate and analyze the impacts of the "No-Project" Alternative. When the project is the revision of an existing land use or regulatory plan, policy, or ongoing operation, the no-project alternative is the continuation of the plan, policy, or operation into the future. Therefore, under the No Project/Existing General Plan Alternative, the current general plan land uses and zoning would remain in effect. All proposed changes to land uses and boundaries in the Campus Plan area would not occur. Development in accordance with the existing zoning would continue to occur, allowing for a total of 2,944,670 square feet of hospital uses and 7,223 employees. This represents an increase of 305,320 total nonresidential square feet and 749 employees compared to the proposed project. Buildout of the existing general plan was calculated based on the assumption that: 1) For Duarte: 1.5 floor area ratio (FAR) is allowed with a height limit of 75 feet; 50

percent of the site is developable; and the FAR excludes parking structures (2,874,960 sf); 2) For Irwindale, assumed the existing square footage (69,709 sf); and 3) employees prorated based on square feet (see Table 7-1 footnote in the DEIR).

The area of the project site within Duarte (89.5 acres) is designated as Hospital (encompasses the majority of the project site), Single-Family Residential, Medium-Density Residential, High-Density Residential, Research and Development, and Public Facilities in the general plan and zoned H (Hospital), R-1 (One-Family Residential), R-2 (Two-Family Residential), R-4 (Multiple Family Residential High Density), and O (Open Space). The area of the project site within Irwindale (26.5 acres) is designated as Industrial/Business Park (IBP), Open Space/Easements (OSE), and Commercial in the general plan and zoned A-1 (Agricultural), M-1 (Light Manufacturing), and C-2 (Heavy Commercial).

Finding:

As summarized in Table 7-3, *Summary of No Project/Existing General Plan Alternative Impacts*, of the DEIR, as compared with the proposed project, the No Project/Existing General Plan Alternative would have greater environmental impacts related to aesthetics, air quality, GHG emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, noise, public services, transportation and traffic, utilities and service systems, and energy; and have similar impacts in the areas of biological resources, cultural resources, geology and soils, population and housing, recreation, and tribal cultural resources. Due to the increase in square footage of new development, this alternative would result in a substantial increase in the severity of GHG emissions and would still have significant and unavoidable impacts to construction noise, and traffic. Therefore, overall this alternative is considered environmentally inferior when compared to the proposed project.

Implementation of this alternative would not achieve objectives 5 (a modern, cohesive and contemporary design complemented by landscaping and public art), 11 (proximate parking), and 13 (wayfinding). Due the increase in square footage and associated increases in GHG emissions, this alternative would not achieve objective 9 (maximize density while mitigating GHG emissions) to the same degree as the proposed project. Implementation of the No Project/Existing General Plan Alternative has the ability to achieve project objectives 1 through 3 involving campus development, outpatient health care capacity, employment generation, and city revenues (see Section 7.6 of the DEIR). Implementation of this alternative would partially or wholly achieve objectives 4 (open space), 6 (modernize/replace buildings), 7 and 8 (public transit and active transportation on and off campus), and 10 (sustainability regarding GHG emissions, water- and energy-efficient designs, and minimizing solid waste generation), and 12 (expansion of infrastructure). Objectives 5, 7, 8, 9, 10, and 11 are all consistent with the existing City of Duarte General Plan, as described in Section 5.9, *Land Use*, of the DEIR.

The City Council rejects the No Project/Existing General Plan Alternative on the basis of policy and economic factors as explained herein, increasing environmental impacts for 11 environmental topics, failure to reduce significant impacts, and for failure to meet basic project objectives (including Objective 5, 11, and 13). (See Pub. Resources Code, § 21061.1; CEQA Guidelines, § 15364; see also *City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417; *California Native Plant Soc. v. City of Santa Cruz*

(2009) 177 Cal.App.4th 957, 1001; *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715.) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible this project alternative identified in the EIR

3. Reduced Intensity Alternative

This Reduced Intensity Alternative was selected to avoid or substantially lessen significant unavoidable impacts related to GHG emissions, noise (construction), and traffic. In order to eliminate a significant and unavoidable transportation impact, an approximate 25 percent reduction in the proposed project's daily trips would be required, allowing a net increase over existing of 3,565 trips. In addition, based on the trip generation rates established in the traffic analysis (see Appendix J1 to the DEIR), the campus population generates 1.85 daily trips per person. As such, under this alternative there would be an allowable net increase of 1,926 population over existing (an approximate 35 percent reduction in population compared to the proposed project) (see Table 7-1 in the DEIR). Collectively, this reduction in trips and population would result in a proportional decrease in building square footage of 15 to 25 percent, which would occur proportionally across the campus. This reduction in building square footage and overall intensity would also reduce impacts related to GHG emissions, and noise. Implementation of the Specific Plan provisions would still apply.

Finding:

As summarized in Table 7-4, *Summary of Reduced Intensity Alternative Impacts*, of the DEIR, as compared to the proposed project, the Reduced Intensity Alternative would lessen environmental impacts in the areas of air quality, biological resources, GHG emissions, noise, transportation and traffic, utilities and service systems, and energy; and have similar impacts in the area of aesthetics, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, population and housing, public services, recreation, and tribal cultural resources. One significant and unavoidable traffic impact would be eliminated (at Buena Vista Street and Evergreen Street (#13)). However, significant and unavoidable impacts to GHG emissions, construction noise, and traffic would remain. Overall, this alternative is considered environmentally superior when compared to the proposed project.

Under the Reduced Intensity Alternative, most of the proposed project's objectives would be achieved but to a lesser extent as compared to the proposed project. For example, this alternative would allow for the flexible, long-term development and enhancement of the City of Hope campus; facilitate the replacement/enhancement of existing buildings and support facilities; develop enhanced and expanded open space on the campus; provide a modern, cohesive and contemporary design; modernize/replace outdated buildings; reinforce public investment in and encourage use of public transit; improve and streamline multimodal transportation and access throughout the campus; and incorporate sustainable design elements to the maximum extent possible throughout the campus (objectives 1, 2, 5, 6, 7, 8, 9 and 11). However, these objectives would be achieved to a lesser extent given the 15-25 percent reduction in development intensity and 35 percent reduction in employees and population on site. For example, this alternative would not maximize the creation of construction jobs (objective 3) or replace/enhance as many existing building and facilities that may need renovations due to aging

infrastructure (objective 6). The reduced development potential may also limit the streamlining efforts for multimodal transportation and access to the campus and may not encourage as much public transit use with less development on the campus (objective 8). The reduced development would not incorporate as much sustainable design (objective 10).

Additionally, with the reduction in development intensity, this alternative would not be able to maximize the creation of construction and new permanent jobs; or accommodate the projected increase in regional demand for outpatient services through 2035 (objectives 3, 4 and 10) to the proposed project's extent.

The City Council rejects the Reduced Intensity Alternative on the basis of policy and economic factors as explained herein, and for failure to meet basic project objectives (including objectives 3, 4, 6, 8, and 10). (See Pub. Resources Code, § 21061.1; CEQA Guidelines, § 15364; see also *City of Del Mar v. City of San Diego* (1982) 133 Cal.App.3d 410, 417; *California Native Plant Soc. v. City of Santa Cruz* (2009) 177 Cal.App.4th 957, 1001; *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 715.) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible this project alternative identified in the EIR.

III. STATEMENT OF OVERRIDING CONSIDERATIONS

After balancing the specific economic, legal, social, technological, and other benefits of the proposed Project, the City of Duarte has determined that the unavoidable adverse environmental impacts identified above in Section II.E are "acceptable" due to the following specific considerations, which outweigh the unavoidable adverse environmental impacts of the proposed project.

1. Implements the Vision, Goals, and Objectives Established for the Project

The City of Hope Specific Plan implements a vision shaped by goals and objectives that support citywide efforts to enhance a community resource, sense of place, mobility and connectivity, and sustainable development and design afforded by the project area.

VISION

Under the proposed project, the City of Hope Campus will continue to be a world-class research and treatment center that also meets the health care needs of the community. Through development of the proposed project under the Specific Plan, the user experience for all City of Hope patients, faculty, staff, and nearby community members will be both enhanced and protected. Pursuant to the Specific Plan's development standards and design guidelines, future development on the campus will be cohesively integrated and complement existing campus facilities and infrastructure systems by consolidating core operations toward the center of campus, providing additional privacy for neighbors, and creating a permanent, lush setback from campus uses. A simplified and enhanced circulation and wayfinding system will reinforce a walkable campus core and will consider critical adjacencies, such as the Duarte/City of Hope Metro Station and adjacent residential neighborhoods. Overall, the proposed project will enable City of Hope to extend its renowned leadership and service in care, research and

education for the next generation, including (i) developing a pipeline for tomorrow's health-care leaders through education; (ii) promoting health and wellness in the community; (iii) addressing health disparities and access to care in the community; and (iv) advancing disease prevention and education.

GOALS & OBJECTIVES

GOAL 1. A COMMUNITY RESOURCE

The proposed project would ensure that the City of Hope Campus remains a valuable economic and cultural contributor to the health, economy, and culture of the surrounding community.

- **Health Care Needs.** The proposed project would provide hospital and outpatient service resources that evolve with the health care needs of the surrounding community.
- **Economic Vitality.** The proposed project would provide for additional facilities and supporting uses that will increase local investment, create local jobs in the community in fields such as construction, medicine, technology, and medical research and development, and improve the economic vitality in Duarte and Irwindale.
- **Community Meeting and Gathering Space.** The proposed project would allow open spaces on the City of Hope Campus to serve as community gathering space for meetings and events.
- **Sensitivity to Surrounding Neighborhood.** The proposed project would be planned and constructed, and campus facilities operated in a manner that minimally disrupts the surrounding neighborhood.

GOAL 2. AN ESTABLISHED IDENTITY AND SENSE OF PLACE

The proposed project would include modern facilities and a cohesive design character to maintain the City of Hope Campus' identity and create a welcoming environment for staff, patients, and visitors.

- **Design Character.** The proposed project would establish a cohesive and contemporary design character for the campus that creates a dynamic relationship between existing and new buildings.
- **Modern Facilities.** The proposed project would replace outdated and obsolete buildings with modern facilities that can accommodate innovative therapies for local, national, and international patients.
- **Enhanced Campus Entrance.** The proposed project would create a main entrance to the campus that establishes its identity and provides a connection to the surrounding community.

GOAL 3. IMPROVED MOBILITY AND CONNECTIVITY

The proposed project would include improvements to campus circulation, access, and wayfinding to retain and reinforce connections within the campus network and to surrounding amenities.

- **Duarte Station.** The proposed project would encourage connectivity to and use of the Metro Gold Line and Duarte's public transit system.

- **Accessibility.** The proposed project would ensure that all campus facilities and pathways are accessible to all users.
- **Multimodal Access.** The proposed project would improve connectivity by walkability, bicycle access, and other features to encourage multimodal transportation use.
- **Transportation Facilities.** The proposed project would locate transportation facilities—parking, transit stops, and vehicle and pedestrian amenities—in strategic locations throughout the campus.
- **Facility Integration.** The proposed Project would integrate interrelated facilities in a single site to optimize campus operations.
- **Wayfinding.** The proposed project would improve wayfinding for vehicles and pedestrians at campus entrances and within the campus, fostering a more accessible campus for all populations.
- **Parking Capacity.** The proposed project would expand parking capacity for future demand, including proximate parking for patients, visitors and employees in parking structures and surface lots throughout the campus.
- **Bicycle Infrastructure.** The proposed project would integrate bicycle facilities, such as bike parking and bike lanes, into the campus to promote healthy, active living and provide stronger connections to buildings and transit facilities.
- **Pedestrian Improvements.** The proposed project would prioritize pedestrian and sidewalk improvements throughout the campus.

GOAL 4. SUSTAINABLE DEVELOPMENT AND DESIGN

The proposed project would follow sustainable practices in site development, building design, construction practices, and maintenance help to minimize the Campus' impact on surrounding infrastructure, facilities, and the natural environment.

- **Green Building Standards.** The proposed project would maximize energy efficiency, indoor air quality, energy-efficient lighting, building orientation, and shading through local and state standards and/or through implementation of LEED principles, and ensuring new buildings on campus comply with CalGreen standards.
- **Water Efficiency.** The proposed project would incorporate water-efficient design features and practices such as xeriscaping, permeable surfaces, collection devices, biofiltration devices, green rooftops, cisterns, berms, and swales.
- **Building Systems.** The proposed project would replace older buildings and infrastructure that require high maintenance with more efficient, lower-maintenance, and environmentally sensitive systems.
- **Adaptive Reuse of Buildings.** The proposed project would reuse or continue to use structurally compliant and technologically up-to-date facilities.
- **Energy Generation.** The proposed project would consider building layout, siting, and design so as not to preclude on-site alternative energy production.

- **Construction Waste.** The proposed project would ensure that construction and demolition waste is disposed of in accordance with all City of Duarte or City of Irwindale regulations and standards, as applicable according to the location of the construction and demolition.
- **Off-Site Impacts.** The proposed project would design on-site waste, water, stormwater, and utilities facilities that meet growth needs but reduce off-site impacts.
- **Sustainable Infrastructure.** The proposed project would incorporate sustainable infrastructure practices in an efficient and cost-effective manner, including a stormwater treatment system in the southern portion of the campus that reduces the campus' stormwater and urban run-off.

2. City of Hope Campus Plan Enhances Multimodal Connectivity in Support of State Law (AB 375, SB 743)

The City of Hope Campus Plan offers several improvements to the roadway, bicycle, and pedestrian network. In addition to the improvements identified below, City of Hope currently and will continue to participate in a number of transportation demand management programs, including subsidized transit passes, shuttles to and from Baldwin Park, designated carpool parking spaces, incentive programs, carpool matching, subsidized vanpools, and a Guaranteed Ride Home Program for carpoolers and van poolers.

Circulation and Access

In order to ensure sufficient and convenient parking, access, and internal circulation through each phase of campus development, interim parking and circulation improvements would occur prior to building permit issuance. (see Figure 15 of the Specific Plan). Improvements would include:

- Connectivity improvements throughout and around the campus with the introduction of an internal roadway system that safely accommodates bicycling, as well as improved bike and pedestrian connections to the Duarte/City of Hope Metro Gold Line station.
- In addition to the four primary campus access points that are maintained (including three on Duarte Road and one on Buena Vista Street) three additional points of access will be provided for emergency and maintenance vehicle access only. One at the southeastern end of Cinco Robles Drive cul-de-sac and the other two along Buena Vista Street, north and south of the Village Road access.
- Currently unsignalized access points at Circle Road and Village Road (one access point on Duarte Road and the other on Buena Vista St.) will be signalized.

Internal Roadway System

Roadways will be improved and widened as new development is built and phased in over time. The goal of improving the internal roadway system is to create landscaped, complete streets accommodating pedestrians, bicyclists, automobiles, and a campus shuttle. Parking structures and new asphalt paved parking areas will be constructed with enhanced access, circulation, and streetscape improvements. Refer to the Chapter 4 of the City of Hope Specific Plan regarding the proposed improvements to

Village Road, Circle Road, Hope Drive, Mannie Fineman Road, Isadore Familian Way, and Center Drive.

Bicycle Network

Many hospital employees and visitors currently ride their bikes alongside cars in the roadway or alongside pedestrians on the sidewalk through and around campus. Improving bicycle safety, circulation, and access are important objectives of the City of Hope Specific Plan. Figure 17 of the Specific Plan illustrates proposed bike improvements and the internal roadways which will accommodate those upgrades. These improvements include:

- Shared lane treatments
- Bike parking facilities
- Connections to the Emerald Necklace Recreational Trail System (with an access point immediately east of campus)
- Bike lanes/sharrows along Duarte Road and Buena Vista Street.

Pedestrian Connectivity

The Specific Plan strives to enhance the pedestrian experience throughout campus with a combination of landscape design elements, improved signage, lighting, and wayfinding, and the provision of safe, accessible, and well-marked pathways to all building entrances. The circulation design guidelines and standards in the Specific Plan contain regulations and guidelines that aim to create a welcoming and accessible pedestrian environment throughout campus. This environment is to be achieved through connections between the main campus entrances and public streets, and through internal pathways that provide pedestrian linkages between buildings and uses.

3. City of Hope Campus Plan is Consistent with SCAG's RTP/SCS

SCAG's 2016-2040 RTP/SCS was adopted April 7, 2016. The RTP/SCS identifies multimodal transportation investments, including bus rapid transit, light rail transit, heavy rail transit, commuter rail, high-speed rail, active transportation strategies (e.g., bike ways and sidewalks), transportation demand management strategies, transportation systems management, highway improvements (interchange improvements, high-occupancy vehicle lanes, high-occupancy toll lanes), arterial improvements, goods movement strategies, aviation and airport ground access improvements, and operations and maintenance to the existing multimodal transportation system.

SCAG's RTP/SCS identifies that land use strategies that focus on new housing and job growth in areas served by high quality transit and other opportunity areas would be consistent with a land use development pattern that supports and complements the proposed transportation network. The overarching strategy in the 2016-2040 RTP/SCS is to allow the southern California region to grow in more compact communities in existing urban areas; provide neighborhoods with efficient and plentiful public transit and abundant and safe opportunities to walk, bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural lands (SCAG 2016). The 2016-2040

RTP/SCS transportation projects help more efficiently distribute population, housing, and employment growth and forecast development that is generally consistent with regional-level general plan data. The projected regional development pattern, when integrated with the proposed regional transportation network identified in the RTP/SCS, would reduce per capita vehicular travel-related GHG emissions and achieve the GHG reduction per capita targets for the SCAG region.

As discussed in Impact 5.9-1 and shown in Table 5.9-2 (applicable goals reproduced below) of the DEIR, the proposed project would be consistent with the RTP/SCS goals.

Table 5.9-2 Consistency with SCAG's 2016–2040 RTP/SCS Goals

RTP/SCS Goal	Project Compliance with Goal
RTP/SCS G2: Maximize mobility and accessibility for all people and goods in the region. **RTP/SCS G3:** Ensure travel safety and reliability for all people and goods in the region. **RTP/SCS G4:** Preserve and ensure a sustainable regional transportation system. **RTP/SCS G5:** Maximize the productivity of our transportation system.	**Consistent:** Campus Plan implementation would ensure that mobility, accessibility, travel safety, and reliability for people and goods would be maximized. The vehicular and pedestrian improvements called for in the City of Hope Campus Plan would be implemented and maintained to meet the needs of employees, patients and their families, and other guests. Fundamental changes to the campus's internal circulation network are not anticipated, although improvements are expected to increase pedestrian connectivity and visual experience; increase cyclist safety; and enhance the ease of patient arrivals, drop-offs, and departures. All modes of public and commercial transit throughout the City of Hope Campus Plan area would be required to follow safety standards set by state, regional, and local regulatory documents. For example, sidewalks must follow precautions established in Development Code Chapter 12.08 (Sidewalks, Pavements, Curbs and Gutters in New Construction Areas), in addition to the 6-foot-minimum-wide sidewalks along street-facing buildings requirement in the proposed Campus Plan. The proposed improvements to the nonvehicular modes of transportation (e.g., sidewalks, bicycle storage) would provide convenient, efficient, and safe access to uses within the campus. The proposed Campus Plan recognizes the importance of Metro Gold Line Foothill Extension's Duarte/City of Hope station, which is immediately north of the northeast corner of campus across Duarte Road. New bike lanes and paths are proposed to improve cyclist access to and from the Duarte/City of Hope station. All improvements to the existing traffic and transportation networks within the City of Hope Campus Plan area must also be assessed with some level of traffic analysis (e.g., traffic assessments, traffic impact studies) to determine how individual development projects would impact capacities. A transportation impact analysis was prepared for the proposed Campus Plan by Fehr & Peers and is included in its entirety in Appendix J1 of this DEIR. The findings, conclusions, and recommendations of the analysis are provided in Section 5.14, *Transportation and Traffic*.
RTP/SCS G6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).	**Consistent:** The CEQA process ensures that non-exempt projects at all levels of government in California consider all potential environmental impacts. Air quality impacts are addressed in Section 5.2 of this DEIR. The reduction of energy use, improvement of air quality, and promotion of more environmentally sustainable development would be encouraged through the existing and proposed alternative transportation modes, sustainable building and landscaping design techniques, and other best management practices for structures and non-structures. For example, there are design standards for connector spaces to improve pedestrian and cyclist access, safety, and overall non-motorized travel experience on campus. Project implementation would also

Table 5.9-2 Consistency with SCAG's 2016–2040 RTP/SCS Goals

RTP/SCS Goal	Project Compliance with Goal
	maximize the protection of the environment and potential improvement of air quality by encouraging the use of the region's public transportation system by City of Hope workers, patients, and their families. The Campus Plan also calls for improved bicycle paths to the Metro Gold Line Foothill Extension's Duarte/City of Hope station. A transportation impact analysis was prepared for the proposed Campus Plan by Fehr & Peers and is included in its entirety in Appendix J1 of this DEIR. The findings, conclusions, and recommendations of the analysis are provided in Section 5.14, *Transportation and Traffic*.
RTP/SCS G7: Actively encourage and create incentives for energy efficiency, where possible.	**Consistent**: In the proposed Specific Plan, Goal 4, Sustainable Development and Design, reads, "Sustainable practices in building design, construction, and maintenance help to minimize the campus' impact on surrounding infrastructure and facilities." Objectives under this goal include: • Green Building Standards. Maximize energy efficiency, indoor air quality, energy efficient lighting, building orientation, and shading through local and state standards and/or through implementation of LEED principles. • Building Systems. Replace older buildings and infrastructure that require high maintenance with more efficient, lower maintenance, and environmentally sensitive systems. • Energy Generation. Consider building layout, siting, and design so as to not preclude on site alternative energy production. Implementation of Mitigation Measures GHG 1 and GHG 2, requiring implementation of GHG reduction measures as set forth in DEIR Section 5.6, Greenhouse Gas Emissions, would also be consistent with Goal G7.
RTP/SCS G8: Encourage land use and growth patterns that facilitate transit and active transportation.	**Consistent:** See responses to RTP/SCS Goals G2 through G5.

Source: SCAG 2016.

In addition, as discussed in Impact 5.11-1 of the DEIR, the new jobs anticipated to be created from implementation of the proposed Campus Plan would likely be filled by the local labor force. Based on the existing average service population of 6,448 persons and an estimated 170,585 VMT per day, the current VMT per capita is approximately 26.5 vehicle miles per person. At full buildout, the City of Hope's average daily service population would be 9,393 persons, who would generate approximately 238,553 VMT. This would equate to a VMT per capita of approximately 25.4 vehicle miles per person, which would be a 1-mile per person decrease over existing conditions. Thus, implementation of the proposed Campus Plan would be consistent with the overall RTP/SCS goal of reducing VMT per capita.

4. City of Hope Campus Plan is Consistent with the City of Duarte Energy Action Plan

Portions of the project site within the City of Duarte would be subject to Duarte's EAP and development standards. Table 5.6-8, *Consistency with the Duarte Energy Action Plan*, from the DEIR and with applicable goals and policies reproduced below evaluates the proposed project's consistency with the goals and policies in the EAP. The EAP goals and policies focus on reducing GHG emissions

through reducing citywide and municipal electricity demand (Duarte 2012). As shown in the aforementioned table, implementation of the City of Hope Campus Plan would replace some of the existing facility buildings with newer, more energy-efficient buildings that would comply with the current and future Building Energy Efficiency Standards. Additionally, the future individual projects under the proposed City of Hope Campus Plan would comply with the City of Duarte's Sustainable Development Practices (Article 3, Chapter 19.52 of the City of Duarte Development Code), which include a variety of requirements in energy efficiency and water conservation. Furthermore, the City of Hope Campus Plan design guidelines include measures that encourage and promote incorporation and inclusion of design features that would contribute to increasing energy efficiency, reducing energy demand, and conserving water. Therefore, overall, the proposed project would be consistent with the City's EAP.

Table 5.6-8 Consistency with the City of Duarte Energy Action Plan

EAP Goal	EAP Policies	Compliance with Goals
Goal 2: Transform Duarte's nonresidential buildings into a model for energy efficient communities.	Policy 2.1: Identify opportunities to conserve additional energy resources in the nonresidential building sector.	Consistent: The proposed project would replace existing less energy-efficient buildings with newer, more energy-efficient buildings that would comply with the current 2016 Building Energy Efficiency Standards at minimum.
	Policy 2.2: Facilitate retrofits and energy efficiency improvements to existing nonresidential buildings.	
	Policy 2.3: Maximize energy efficiency in large nonresidential facilities greater than 25,000 square feet.	
Goal 3: By 2020, new residential construction with five units or more and new nonresidential construction projects of 25,000 square feet or more in Duarte will have no net impact on community-wide energy demand.	Policy 3.1: The City will work with project applicants to maximize the energy-efficient design and orientation of new buildings pursuant to the City's sustainable development practices.	Consistent: Implementation of the Specific Plan would comply with Duarte's sustainable development practices (Article 3, Chapter 19.52 of the development code) for the components not subject to the jurisdiction of OSHPD. Duarte's sustainable development practices include compliance with the latest Building Energy Efficiency Standards at minimum and 15 percent and 30 percent beyond the standards for projects categorized as a Level 3 or Level 4 development project; incorporating water efficiency landscape designs; and reducing heat island effect. Components subject to OSHPD jurisdiction would comply with the latest Building Energy Efficiency Standards. Additionally, the proposed Specific Plan design guidelines promote energy efficiency, such as encouraging buildings to integrate photovoltaic panels and green roofs, incorporation of natural lighting and ventilation, and exceeding local and state energy efficiency building requirements.
	Policy 3.2: Regularly update the City's sustainable development practices to integrate new or revised building code standards that improve energy efficiency.	
	Policy 3.3: The City will encourage the use of energy-efficient appliances and equipment in new buildings.	
Goal 5: Optimize shading and cooling to reduce community-wide energy demand.	Policy 5.1: Increase shading and cooling capacity of the community's urban forest through additional tree planting, preservation of existing trees, and proper maintenance.	Consistent: Implementation of the Specific Plan will comply with Duarte's sustainable development practices. Future specific individual projects under the proposed project that are not subject to OSHPD jurisdiction would be subject to minimum sustainable design requirements for the development category they fall into (§ 19.52.020(B) of the development code). At minimum, except for components under OSHPD jurisdiction, all future projects would be required to incorporate designs to reduce the heat island effect.
	Policy 5.2: Maximize the use of cool roofs and surfaces to reduce building energy use.	

Table 5.6-8 Consistency with the City of Duarte Energy Action Plan

EAP Goal	EAP Policies	Compliance with Goals
		In addition, the proposed Specific Plan design guidelines encourage and promote use of shading design features, such as incorporating the use large specimen trees near major new buildings, creating shading through landscaping or man-made structures in landscaped areas, using shades for south- and west-facing windows.
Goal 6: Integrate water conservation efforts into new and existing development to conserve energy used to pump, treat, and convey water.	Policy 6.1: Encourage voluntary water conservation, efficient use behaviors, and related energy efficiency efforts in the community.	Consistent: Implementation of the Specific Plan would comply with Duarte's sustainable development practices, for components not under OSHPD jurisdiction. Projects would be required to comply with Section 19.52.050(A), Water Conservation, of the development code. Additionally, the Specific Plan irrigation standards encourage use of water-efficient irrigation systems such as drip emitters, evapotranspiration controllers, and moisture sensors.
	Policy 6.2: Promote water efficient landscaping practices.	
	Policy 6.3: Facilitate the use of water-conserving appliances.	
	Policy 6.4: Maximize the efficient use of limited water resources through efficient building and landscaping practices in new development.	
	Policy 7.2: Identify additional opportunities to improve the energy efficiency of City facilities.	
	Policy 7.3: Work with the SCVCOG to use regional partners for creation of an energy management position to track energy use at City facilities, identify opportunities for efficiencies and cost savings, and implement energy efficiency projects.	

Source: Duarte 2012

5. The City of Hope Campus Plan Will Maximize Employment Opportunities in Duarte and Irwindale

The proposed Campus Plan will maximize employment opportunities and maintain and enhance the economic vitality of the cities of Duarte and Irwindale. First, the Campus Plan will maximize the creation of construction jobs during the approximately 20-year buildout of the Campus Plan. Second, the Campus Plan will maximize employment in fields relating to hospital, outpatient services, research services, office space and support services over the life of the Campus Plan. As documented in Section 5.11, *Population and Housing*, of the DEIR starting on page 5.11-8, the Campus Plan would result in the creation of approximately 1,530 new full-time and part-time employees (from 3,633 jobs in 2015 to 5,163 jobs in 2035), as well as increasing the number of physicians by 311, from 418 to 729. Therefore, the Campus Plan would result in the creation of 1,841 permanent jobs in the health care, administration, scientific research, academia, facilities maintenance, and hospitality fields. The employment increases will result in ancillary benefits for local businesses, improving the overall economic health of the region. These economic benefits will be achieved in concert with the sustainability goals of the Duarte Energy Action Plan and the regional transportation objectives outlined in SCAG's RTP/SCS, at a site in close proximity to public transit.

Kosmont Companies prepared a summary-level analysis of the potential economic benefits of the proposed project to the cities of Duarte and Irwindale and the greater Los Angeles County region (see Attachment A). The findings from this memorandum are presented below.

Construction-Related Economic Benefits

During the construction period, the project is estimated to create approximately 13,810 job-years of employment (direct on-site jobs, indirect off-site jobs, and induced off-site jobs), approximately $803 million in labor income (wages), and approximately $2.2 billion in economic output (see Attachment A, Table 5). These economic benefits do not include the on-going operational and permanent jobs and related benefits that accrue as the project is absorbed.

The City of Duarte's estimated capture of construction related economic benefits is approximately 8,317 job-years (direct on-site jobs, indirect off-site jobs, and induced offsite jobs), approximately $475 million in labor income, and approximately $1.3 billion in economic output, based on proposed new development within the City's jurisdiction.

Operation-Related Economic Benefits (Upon Full Buildout)

Upon build-out and stabilization after the approximately 20-year buildout period, ongoing operation of the project is estimated to create approximately 3,350 jobs (direct on-site jobs, indirect off-site jobs, and induced off-site jobs), approximately $260 million in annual labor income, and approximately $481 million in annual economic output (see Attachment A, Table 6).

The City of Duarte's estimated capture of economic benefits from ongoing operation is approximately 1,740 jobs (direct on-site jobs, indirect off-site jobs, and induced off-site jobs), approximately $165 million in labor income, and approximately $237 million in economic output, based on proposed new development within the City's jurisdiction.

Finding:

Having (i) adopted all feasible mitigation measures, (ii) rejected alternatives to the City of Hope Campus Plan project discussed above and found that the project is preferable to those alternatives, (iii) recognized all unavoidable significant adverse impacts, and (iv) balanced the benefits of the project against the project's unavoidable significant adverse impacts, the City Council hereby finds that the benefits of the proposed project described in the overriding considerations outlined above outweigh the unavoidable significant adverse impacts of the project as identified in the Final EIR and these Findings. Accordingly, the City Council adopts the Statement of Overriding Considerations.

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ATTACHMENT A

ECONOMIC BENEFIT ANALYSIS MEMORANDUM

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MEMORANDUM

Date: February 21, 2018

To: Jon Reuter, City of Hope

From: Larry J. Kosmont, CRE®, President & CEO, Kosmont Companies
Joseph Dieguez, Senior Vice President, Kosmont Companies

Subject: **Executive Summary of City of Hope Campus Plan Economic Benefit Analysis**

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1. Background & Purpose

Kosmont Companies ("Kosmont") was retained to prepare a summary-level analysis ("Analysis") of the potential economic benefits of the proposed City of Hope Campus Plan ("Project") to the Cities of Duarte and Irwindale and the greater Los Angeles County region. This memorandum summarizes key findings from the Analysis.

2. Project Description

The proposed Project contemplates the expansion and enhancement of City of Hope's approximately 116-acre campus over approximately 20 years, including the addition of approximately 1 million new square feet of outpatient, research, hospital, office and other improvements (net of demolition of existing structures).

Table 1 provides an overview of the Project by land use district. Development costs for full buildout of the Project over 20 years are estimated in the range of $1.4 billion.[1] Table 2 provides an approximate summary of proposed Project buildout by jurisdiction. Table 3 provides an overview of proposed Project buildout population estimates.

[1] Development costs are estimates only, provided solely for the purpose of evaluating potential economic benefits. The actual level of development spending may vary based on market conditions and other factors.

Table 1: Proposed Buildout by Land Use District

Land Use District	Existing Conditions (GSF)	Proposed Demolition (GSF)	Proposed New Buildings (GSF)	Proposed Net New Development (GSF)	Existing with Net New (GSF)
Core Medical	1,421,417	(335,500)	1,366,000	1,030,500	2,451,917
Transitional Medical	5,958	0	0	0	5,958
Cultural Amenity	40,322	0	0	0	40,322
Infrastructure/Utility	133,153	(52,000)	60,000	8,000	141,153
Total	**1,600,850**	**(387,500)**	**1,426,000**	**1,038,500**	**2,639,350**

Source**:** City of Hope Campus Plan Draft Environmental Impact Report (2017), City of Hope (2016)
Notes: GSF = gross square feet

Table 2: Approximate Proposed Buildout by Jurisdiction

Jurisdiction	Proposed Demolition (GSF)	Proposed New (GSF)	Proposed Net New (GSF)
Duarte	(342,660)	1,307,000	**964,340**
Irwindale	(44,840)	119,000	**74,160**

Source**:** City of Hope Campus Plan Draft Environmental Impact Report (2017), City of Hope (2016)
Notes: GSF = gross square feet

Table 3: Proposed Population Buildout

User Group	Existing	Proposed	Net New
Patients	1,046	2,110	1,064
Employees	4,944	6,474	1,530
Physicians	418	729	311
Residents	40	80	40
Total	**6,448**	**9,393**	**2,945**

Source**:** City of Hope Campus Plan Draft Environmental Impact Report (2017), Fehr & Peers, Walker (2016)

3. Analysis Methodology

This Analysis uses the IMPLAN (IMpact analysis for PLANning) econometric input/output model developed by the IMPLAN Group to quantify the economic impact to the local region from Project construction and ongoing operations. This proprietary model estimates the economic benefits on the industries in a given geographic area based on known economic inputs, such as construction costs.

The model estimates benefits expressed in terms of increased employment, earnings ("labor income"), and economic activity ("output"). Employment is quantified in job-years during the construction period, due to the one-time / temporary nature of construction

activities. A job-year is defined as one year of employment for one employee. Employment during the ongoing operation period is quantified in permanent jobs. Labor income includes employee compensation (wages and benefits) and proprietor income. Output is defined by IMPLAN as the total value of industry production. For example, for service sectors, output is defined as sales. For retail and wholesale trade sectors, output is defined as gross margin. Direct, indirect, and induced economic benefits were evaluated.

Direct economic benefits refer to the initial changes resulting from a specific business activity (construction spending and on-site employment in this case). Applying these initial changes to the multipliers in the IMPLAN model will then simulate how the region will respond economically to these changes.

Indirect economic benefits will result from local industries buying goods and services from other local industries. Examples would include increased sales of medical supplies or food for patients, or other inputs related to the business operations of the Project.

Induced economic benefits occur through the re-spending of income received by employees that are directly or indirectly affected by the Project. Examples would include the goods and services normally associated with household consumption, such as housing, retail purchases, healthcare, and education-related spending.

Inputs for the IMPLAN analysis include the estimated construction costs over the life of the proposed Project and permanent on-site employment estimates, which have been provided by City of Hope. Inputs are summarized in Table 4.

Table 4: IMPLAN Economic Benefit Analysis Inputs

Construction Inputs (Industry Spending)

Industry NAICS Category	IMPLAN Input
52 Construction of new health care structures	$775,190,000
57 Construction of new commercial structures, including farm structures	$560,140,000
53 Construction of new manufacturing structures	$32,000,000
56 Construction of new highways and streets	$15,933,333
51 Water, sewage and other systems	$15,933,333
58 Construction of other new nonresidential structures	$15,933,333

Ongoing Operation Inputs (Employment Change)

Industry NAICS Category	IMPLAN Input
475 Offices of physicians	1,841 Jobs

Source: IMPLAN, Los Angeles County dataset (2018)

4. Summary of Analysis Findings

Construction-Related Impacts

During the construction period, the Project is estimated to create approximately 13,810 job-years[2] of employment (direct on-site jobs, indirect off-site jobs, and induced off-site jobs), approximately $803 million in labor income (wages), and approximately $2.2 billion in economic output as summarized in Table 5. These impacts do not include the ongoing operational / permanent jobs and related benefits that accrue as the Project is absorbed (estimated separately below).

The City of Duarte's estimated capture of construction related economic benefits is approximately 8,317 job-years (direct on-site jobs, indirect off-site jobs, and induced off-site jobs), approximately $475 million in labor income, and approximately $1.3 billion in economic output, based on proposed new development within the City's jurisdiction.

The City of Irwindale's estimated capture of construction related economic benefits is approximately 960 job-years (direct on-site jobs, indirect off-site jobs, and induced off-site jobs), approximately $55 million in labor income, and approximately $152 million in economic output, based on proposed new development within the City's jurisdiction.

Impacts from Ongoing Operations (Upon Full-Buildout after 20-Year Buildout Period)

Upon build-out and stabilization after the approximately 20-year buildout period, ongoing operation of the Project is estimated to create approximately 3,350 jobs (direct on-site jobs, indirect off-site jobs, and induced off-site jobs), approximately $260 million in annual labor income, and approximately $481 million in annual economic output as summarized in Table 6.

The City of Duarte's estimated capture of economic benefits from ongoing operation is approximately 1,740 jobs (direct on-site jobs, indirect off-site jobs, and induced off-site jobs), approximately $165 million in labor income, and approximately $237 million in economic output, based on proposed new development within the City's jurisdiction.

The City of Irwindale's estimated capture of construction related economic benefits is approximately 177 jobs (direct on-site jobs, indirect off-site jobs, and induced off-site jobs), approximately $15 million in labor income, and approximately $25 million in economic output, based on proposed new development within the City's jurisdiction.

[2] For reference, 13,810 job-years divided by approximately 20 years of buildout yields an annual average construction employment of approximately 690 jobs.

Table 5: Summary of Economic Benefits from Project Construction (Construction Period)

	Construction-Related Employment (Job-Years)	Construction-Related Labor Income	Construction-Related Economic Output
Direct (On-Site)	9,038	$516,391,385	$1,415,129,930
Indirect (Off-Site)	1,767	$129,627,130	$368,654,223
Induced (Off-Site)	3,002	$157,337,672	$447,446,777
Total Countywide	**13,807**	**$803,356,187**	**$2,231,230,930**
Estimated City of Duarte Capture	**8,317**	**$475,477,489**	**$1,303,602,550**
Estimated City of Irwindale Capture	**960**	**$55,262,137**	**$152,332,430**

Source: IMPLAN, Los Angeles County dataset (2018)
Notes:
Construction-related benefits are one-time over approximately 20-year buildout period.
Approximately 90% of direct benefits estimated to be captured on-site within the City of Duarte based on proposed new development within the City's jurisdiction.
Approximately 10% of direct benefits estimated to be captured on-site within the City of Irwindale based on proposed new development within the City's jurisdiction.
Approximately 5% of indirect and induced benefits estimated to be captured off-site within the Cities of Duarte and Irwindale (based on Project location and current city share of total county employment base).
Values in 2018 dollars

Table 6: Summary of Economic Benefits from Ongoing Project Operation Upon Full 20-Year Buildout (Annual)

	Employment	Labor Income	Economic Output
Direct (On-Site)	1,841	$175,357,502	$250,516,546
Indirect (Off-Site)	534	$33,233,787	$85,784,214
Induced (Off-Site)	973	$51,035,920	$145,127,803
Total Countywide	**3,349**	**$259,627,209**	**$481,428,563**
Estimated City of Duarte Capture	**1,740**	**$164,520,496**	**$237,245,227**
Estimated City of Irwindale Capture	**177**	**$15,050,491**	**$24,816,920**

Source: IMPLAN, Los Angeles County dataset (2018)
Notes:
1,841 direct / on-site jobs includes estimated new 1,530 employees and 311 new physicians, consistent with the Draft EIR.
Approximately 90% of direct benefits estimated to be captured on-site within the City of Duarte based on proposed new development within the City's jurisdiction.
Approximately 10% of direct benefits estimated to be captured on-site within the City of Irwindale based on proposed new development within the City's jurisdiction.
Approximately 5% of indirect and induced benefits estimated to be captured off-site within the Cities of Duarte and Irwindale (based on Project location and current city share of total county employment base).
Estimated ongoing benefits upon full build-out and stabilization.
Values in 2018 dollars