

# Table of Contents

Contents	Page
<b>1. EXECUTIVE SUMMARY .....</b>	<b>1-1</b>
1.1 INTRODUCTION .....	1-1
1.2 ENVIRONMENTAL PROCEDURES .....	1-1
1.2.1 EIR Format .....	1-2
1.3 PROJECT LOCATION .....	1-4
1.4 PROJECT SUMMARY .....	1-4
1.5 SUMMARY OF PROJECT ALTERNATIVES .....	1-6
1.5.1 No Project/No Development Alternative .....	1-7
1.5.2 No Project/Existing General Plan Alternative .....	1-7
1.5.3 Reduced Intensity Alternative .....	1-8
1.6 ISSUES TO BE RESOLVED .....	1-8
1.7 AREAS OF CONTROVERSY .....	1-8
1.8 SUMMARY OF ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, AND LEVELS OF SIGNIFICANCE AFTER MITIGATION .....	1-9
<b>2. INTRODUCTION .....</b>	<b>2-1</b>
2.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT .....	2-1
2.1.1 CEQA Tiering and Streamlining .....	2-1
2.1.2 Lead Agency .....	2-2
2.2 NOTICE OF PREPARATION AND INITIAL STUDY .....	2-2
2.3 SCOPE OF THIS DEIR .....	2-5
2.3.1 Impacts Considered Less Than Significant .....	2-5
2.3.2 Potentially Significant Adverse Impacts .....	2-6
2.3.3 Unavoidable Significant Adverse Impacts .....	2-6
2.4 INCORPORATION BY REFERENCE .....	2-7
2.5 FINAL EIR CERTIFICATION .....	2-8
2.6 MITIGATION MONITORING .....	2-8
<b>3. PROJECT DESCRIPTION .....</b>	<b>3-1</b>
3.1 PROJECT LOCATION .....	3-1
3.2 STATEMENT OF OBJECTIVES .....	3-1
3.3 PROJECT CHARACTERISTICS .....	3-2
3.3.1 Description of the Project .....	3-9
3.4 INTENDED USES OF THE EIR .....	3-25
<b>4. ENVIRONMENTAL SETTING .....</b>	<b>4-1</b>
4.1 INTRODUCTION .....	4-1
4.2 REGIONAL ENVIRONMENTAL SETTING .....	4-1
4.2.1 Regional Location .....	4-1
4.2.2 Regional Planning Considerations .....	4-1
4.3 LOCAL ENVIRONMENTAL SETTING .....	4-4
4.3.1 Location and Land Use .....	4-4
4.3.2 Existing Physical Conditions and Infrastructure .....	4-6
4.3.3 General Plan and Zoning .....	4-13
4.4 ASSUMPTIONS REGARDING CUMULATIVE IMPACTS .....	4-13
4.4.1 Related Projects .....	4-22
4.5 REFERENCES .....	4-25
<b>5. ENVIRONMENTAL ANALYSIS .....</b>	<b>5-1</b>
5.1 AESTHETICS .....	5.1-1
5.1.1 Environmental Setting .....	5.1-1
5.1.2 Thresholds of Significance .....	5.1-8
5.1.3 Environmental Impacts .....	5.1-11

# Table of Contents

<b>Contents</b>	<b>Page</b>
5.1.4	Cumulative Impacts ..... 5.1-19
5.1.5	Existing Regulations ..... 5.1-20
5.1.6	Level of Significance Before Mitigation ..... 5.1-20
5.1.7	Mitigation Measures ..... 5.1-21
5.1.8	Level of Significance After Mitigation ..... 5.1-21
5.1.9	References ..... 5.1-21
5.2	<b>AIR QUALITY</b> ..... 5.2-1
5.2.1	Environmental Setting ..... 5.2-1
5.2.2	Thresholds of Significance ..... 5.2-16
5.2.3	Environmental Impacts ..... 5.2-20
5.2.4	Cumulative Impacts ..... 5.2-38
5.2.5	Existing Regulations ..... 5.2-39
5.2.6	Level of Significance Before Mitigation ..... 5.2-39
5.2.7	Mitigation Measures ..... 5.2-40
5.2.8	Level of Significance After Mitigation ..... 5.2-41
5.2.9	References ..... 5.2-42
5.3	<b>BIOLOGICAL RESOURCES</b> ..... 5.3-1
5.3.1	Environmental Setting ..... 5.3-1
5.3.2	Thresholds of Significance ..... 5.3-8
5.3.3	Environmental Impacts ..... 5.3-9
5.3.4	Cumulative Impacts ..... 5.3-14
5.3.5	Existing Regulations ..... 5.3-15
5.3.6	Level of Significance Before Mitigation ..... 5.3-15
5.3.7	Mitigation Measures ..... 5.3-16
5.3.8	Level of Significance After Mitigation ..... 5.3-16
5.3.9	References ..... 5.3-17
5.4	<b>CULTURAL RESOURCES</b> ..... 5.4-1
5.4.1	Environmental Setting ..... 5.4-1
5.4.2	Thresholds of Significance ..... 5.4-10
5.4.3	Environmental Impacts ..... 5.4-14
5.4.4	Cumulative Impacts ..... 5.4-17
5.4.5	Existing Regulations ..... 5.4-17
5.4.6	Level of Significance Before Mitigation ..... 5.4-18
5.4.7	Mitigation Measures ..... 5.4-18
5.4.8	Level of Significance After Mitigation ..... 5.4-21
5.4.9	References ..... 5.4-22
5.5	<b>GEOLOGY AND SOILS</b> ..... 5.5-1
5.5.1	Environmental Setting ..... 5.5-1
5.5.2	Thresholds of Significance ..... 5.5-11
5.5.3	Environmental Impacts ..... 5.5-12
5.5.4	Cumulative Impacts ..... 5.5-14
5.5.5	Existing Regulations ..... 5.5-14
5.5.6	Level of Significance Before Mitigation ..... 5.5-15
5.5.7	Mitigation Measures ..... 5.5-15
5.5.8	Level of Significance After Mitigation ..... 5.5-15
5.5.9	References ..... 5.5-15
5.6	<b>GREENHOUSE GAS EMISSIONS</b> ..... 5.6-1
5.6.1	Environmental Setting ..... 5.6-1
5.6.2	Thresholds of Significance ..... 5.6-21
5.6.3	Environmental Impacts ..... 5.6-24
5.6.4	Cumulative Impacts ..... 5.6-34

## Table of Contents

<b>Contents</b>	<b>Page</b>
5.6.5 Existing Regulations .....	5.6-35
5.6.6 Level of Significance Before Mitigation .....	5.6-35
5.6.7 Mitigation Measures.....	5.6-36
5.6.8 Level of Significance After Mitigation .....	5.6-39
5.6.9 References.....	5.6-40
5.7 HAZARDS AND HAZARDOUS MATERIALS .....	5.7-1
5.7.1 Environmental Setting.....	5.7-1
5.7.2 Thresholds of Significance.....	5.7-15
5.7.3 Environmental Impacts.....	5.7-16
5.7.4 Cumulative Impacts .....	5.7-22
5.7.5 Existing Regulations .....	5.7-23
5.7.6 Level of Significance Before Mitigation .....	5.7-25
5.7.7 Mitigation Measures.....	5.7-25
5.7.8 Level of Significance After Mitigation .....	5.7-26
5.7.9 References.....	5.7-27
5.8 HYDROLOGY AND WATER QUALITY .....	5.8-1
5.8.1 Environmental Setting.....	5.8-1
5.8.2 Thresholds of Significance.....	5.8-21
5.8.3 Environmental Impacts.....	5.8-22
5.8.4 Cumulative Impacts .....	5.8-31
5.8.5 Existing Regulations .....	5.8-32
5.8.6 Level of Significance Before Mitigation .....	5.8-33
5.8.7 Mitigation Measures.....	5.8-33
5.8.8 Level of Significance After Mitigation .....	5.8-33
5.8.9 References.....	5.8-33
5.9 LAND USE AND PLANNING .....	5.9-1
5.9.1 Environmental Setting.....	5.9-1
5.9.2 Thresholds of Significance.....	5.9-5
5.9.3 Environmental Impacts.....	5.9-6
5.9.4 Cumulative Impacts .....	5.9-13
5.9.5 Existing Regulations .....	5.9-14
5.9.6 Level of Significance Before Mitigation .....	5.9-14
5.9.7 Mitigation Measures.....	5.9-14
5.9.8 Level of Significance After Mitigation .....	5.9-14
5.9.9 References.....	5.9-14
5.10 NOISE.....	5.10-1
5.10.1 Environmental Setting.....	5.10-1
5.10.2 Thresholds of Significance.....	5.10-24
5.10.3 Environmental Impacts.....	5.10-24
5.10.4 Cumulative Impacts .....	5.10-38
5.10.5 Existing Regulations .....	5.10-39
5.10.6 Level of Significance Before Mitigation .....	5.10-39
5.10.7 Mitigation Measures.....	5.10-40
5.10.8 Level of Significance After Mitigation .....	5.10-43
5.10.9 References.....	5.10-43
5.11 POPULATION AND HOUSING .....	5.11-1
5.11.1 Environmental Setting.....	5.11-1
5.11.2 Thresholds of Significance.....	5.11-7
5.11.3 Environmental Impacts.....	5.11-7
5.11.4 Cumulative Impacts .....	5.11-10
5.11.5 Existing Regulations .....	5.11-11
5.11.6 Level of Significance Before Mitigation .....	5.11-11

## Table of Contents

<b>Contents</b>	<b>Page</b>
5.11.7 Mitigation Measures.....	5.11-12
5.11.8 Level of Significance After Mitigation.....	5.11-12
5.11.9 References.....	5.11-12
5.12 PUBLIC SERVICES.....	5.12-1
5.12.1 Fire Protection and Emergency Services.....	5.12-1
5.12.2 Police Protection.....	5.12-4
5.12.3 Other Services.....	5.12-8
5.12.4 References.....	5.12-10
5.13 RECREATION.....	5.13-1
5.13.1 Environmental Setting.....	5.13-1
5.13.2 Thresholds of Significance.....	5.13-6
5.13.3 Environmental Impacts.....	5.13-7
5.13.4 Cumulative Impacts.....	5.13-8
5.13.5 Existing Regulations.....	5.13-8
5.13.6 Level of Significance Before Mitigation.....	5.13-8
5.13.7 Mitigation Measures.....	5.13-8
5.13.8 Level of Significance After Mitigation.....	5.13-8
5.13.9 References.....	5.13-9
5.14 TRANSPORTATION AND TRAFFIC.....	5.14-1
5.14.1 Environmental Setting.....	5.14-1
5.14.2 Thresholds of Significance.....	5.14-20
5.14.3 Environmental Impacts.....	5.14-26
5.14.4 Cumulative Impacts.....	5.14-51
5.14.5 Existing Regulations.....	5.14-51
5.14.6 Level of Significance Before Mitigation.....	5.14-52
5.14.7 Mitigation Measures.....	5.14-52
5.14.8 Level of Significance After Mitigation.....	5.14-55
5.14.9 References.....	5.14-57
5.15 TRIBAL CULTURAL RESOURCES.....	5.15-1
5.15.1 Environmental Setting.....	5.15-1
5.15.2 Thresholds of Significance.....	5.15-4
5.15.3 Environmental Impacts.....	5.15-5
5.15.4 Cumulative Impacts.....	5.15-7
5.15.5 Existing Regulations.....	5.15-8
5.15.6 Level of Significance Before Mitigation.....	5.15-8
5.15.7 Mitigation Measures.....	5.15-8
5.15.8 Level of Significance After Mitigation.....	5.15-9
5.15.9 References.....	5.15-9
5.16 UTILITIES AND SERVICE SYSTEMS.....	5.16-1
5.16.1 Wastewater Treatment and Collection.....	5.16-1
5.16.2 Water Supply and Distribution Systems.....	5.16-11
5.16.3 Storm Drainage Systems.....	5.16-28
5.16.4 Solid Waste.....	5.16-29
5.16.5 References.....	5.16-34
5.17 ENERGY.....	5.17-1
5.17.1 Environmental Setting.....	5.17-1
5.17.2 Thresholds of Significance.....	5.17-7
5.17.3 Project Design Features.....	5.17-7
5.17.4 Environmental Impacts.....	5.17-9
5.17.5 Cumulative Impacts.....	5.17-17
5.17.6 Level of Significance Before Mitigation.....	5.17-18

## Table of Contents

<b>Contents</b>	<b>Page</b>
5.17.7 Mitigation Measures.....	5.17-18
5.17.8 Level of Significance After Mitigation.....	5.17-18
5.17.9 References.....	5.17-18
<b>6. SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS .....</b>	<b>6-1</b>
6.1 GREENHOUSE GAS EMISSIONS.....	6-1
6.2 NOISE.....	6-1
6.3 TRANSPORTATION AND TRAFFIC .....	6-1
<b>7. ALTERNATIVES TO THE PROPOSED PROJECT .....</b>	<b>7-1</b>
7.1 INTRODUCTION.....	7-1
7.1.1 Purpose and Scope.....	7-1
7.1.2 Project Objectives .....	7-2
7.2 SIGNIFICANT AND UNAVOIDABLE IMPACTS .....	7-3
7.3 ALTERNATIVES CONSIDERED AND REJECTED DURING THE SCOPING/PROJECT PLANNING PROCESS .....	7-3
7.3.1 Alternative Development Areas .....	7-4
7.4 ALTERNATIVES SELECTED FOR FURTHER ANALYSIS.....	7-4
7.5 NO PROJECT/NO DEVELOPMENT ALTERNATIVE.....	7-5
7.5.1 Aesthetics.....	7-5
7.5.2 Air Quality .....	7-5
7.5.3 Biological Impacts.....	7-6
7.5.4 Cultural Resources.....	7-6
7.5.5 Geology and Soils .....	7-6
7.5.6 Greenhouse Gas Emissions .....	7-6
7.5.7 Hazards and Hazardous Materials.....	7-7
7.5.8 Hydrology and Water Quality .....	7-7
7.5.9 Land Use and Planning .....	7-7
7.5.10 Noise.....	7-7
7.5.11 Population and Housing .....	7-8
7.5.12 Public Services .....	7-8
7.5.13 Recreation .....	7-8
7.5.14 Transportation and Traffic .....	7-8
7.5.15 Tribal Cultural Resources.....	7-9
7.5.16 Utilities and Service Systems.....	7-10
7.5.17 Energy .....	7-10
7.5.18 Conclusion.....	7-10
7.6 NO PROJECT/EXISTING GENERAL PLAN ALTERNATIVE.....	7-11
7.6.1 Aesthetics.....	7-12
7.6.2 Air Quality .....	7-12
7.6.3 Biological Impacts.....	7-12
7.6.4 Cultural Resources.....	7-13
7.6.5 Geology and Soils .....	7-13
7.6.6 Greenhouse Gas Emissions .....	7-13
7.6.7 Hazards and Hazardous Materials.....	7-13
7.6.8 Hydrology and Water Quality .....	7-14
7.6.9 Land Use and Planning .....	7-14
7.6.10 Noise.....	7-14
7.6.11 Population and Housing .....	7-14
7.6.12 Public Services .....	7-15
7.6.13 Recreation .....	7-15
7.6.14 Transportation and Traffic .....	7-15
7.6.15 Tribal Cultural Resources.....	7-15

## Table of Contents

Contents	Page
7.6.16 Utilities and Service Systems .....	7-15
7.6.17 Energy .....	7-15
7.6.18 Conclusion .....	7-16
7.7 REDUCED INTENSITY ALTERNATIVE .....	7-17
7.7.1 Aesthetics.....	7-17
7.7.2 Air Quality .....	7-17
7.7.3 Biological Impacts.....	7-18
7.7.4 Cultural Resources.....	7-18
7.7.5 Geology and Soils .....	7-18
7.7.6 Greenhouse Gas Emissions .....	7-18
7.7.7 Hazards and Hazardous Materials.....	7-18
7.7.8 Hydrology and Water Quality .....	7-19
7.7.9 Land Use and Planning .....	7-19
7.7.10 Noise.....	7-19
7.7.11 Population and Housing .....	7-20
7.7.12 Public Services .....	7-20
7.7.13 Recreation .....	7-20
7.7.14 Transportation and Traffic .....	7-20
7.7.15 Tribal Cultural Resources.....	7-21
7.7.16 Utilities and Service Systems.....	7-21
7.7.17 Energy .....	7-21
7.7.18 Conclusion.....	7-21
7.8 ENVIRONMENTALLY SUPERIOR ALTERNATIVE.....	7-23
<b>8. IMPACTS FOUND NOT TO BE SIGNIFICANT.....</b>	<b>8-1</b>
8.1 ASSESSMENT IN THE INITIAL STUDY .....	8-1
<b>9. SIGNIFICANT IRREVERSIBLE CHANGES DUE TO THE PROPOSED PROJECT.....</b>	<b>9-1</b>
<b>10. GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT.....</b>	<b>10-1</b>
<b>11. ORGANIZATIONS AND PERSONS CONSULTED.....</b>	<b>11-1</b>
<b>12. QUALIFICATIONS OF PERSONS PREPARING EIR.....</b>	<b>12-1</b>
PLACEWORKS .....	12-1
CADRE ENVIRONMENTAL .....	12-2
FEHR & PEERS .....	12-3
KPFF CONSULTING ENGINEERS.....	12-3
SWCA ENVIRONMENTAL CONSULTANTS.....	12-3
<b>13. BIBLIOGRAPHY.....</b>	<b>13-1</b>

## Table of Contents

<b>Contents</b>	<b>Page</b>
<b>APPENDICES (PROVIDED ON FLASH DRIVE)</b>	
Appendix A	Initial Study/Notice of Preparation (NOP)
Appendix B	NOP Comments
Appendix C1	Air Quality and GHG Modeling Data
Appendix C2	Health Risk Assessment
Appendix D	Biological Report
Appendix E1	Cultural Resources Technical Report
Appendix E2	Paleontological Resources Assessment Report
Appendix F	Geotechnical Report
Appendix G	Hazardous Materials Information
Appendix H1	Hydrology Report
Appendix H2	Low Impact Development Study
Appendix I	Noise Modeling Data
Appendix J1	Transportation Impact Study
Appendix J2	City of Hope Memorandum
Appendix J3	Parking Study
Appendix J4	Parking Demand Rate Memorandum
Appendix K1	Wastewater Analysis
Appendix K2	Water Analysis
Appendix L	Water Supply Assessment
Appendix M	Public Services Correspondence

## Table of Contents

<b>Figure</b>		<b>Page</b>
Figure 3-1	Regional Location.....	3-3
Figure 3-2	Local Vicinity.....	3-5
Figure 3-3	Aerial Photograph.....	3-7
Figure 3-4	Campus Land Use Plan .....	3-11
Figure 3-5	Illustrative Site Plan.....	3-17
Figure 3-6	Proposed Vehicular Circulation and Access System .....	3-19
Figure 4-1	Existing Land Uses.....	4-7
Figure 4-2	Existing General Plan Designations .....	4-17
Figure 4-3	Existing Zoning .....	4-19
Figure 4-4	Related Projects.....	4-23
Figure 5.1-1	Photographs of Existing Campus.....	5.1-5
Figure 5.1-2	Existing Visual Resources .....	5.1-9
Figure 5.3-1	Vegetation Communities Map.....	5.3-5
Figure 5.4-1	Historical Resources and Construction Dates.....	5.4-11
Figure 5.5-1	Local Fault Map .....	5.5-5
Figure 5.5-2	Regional Fault Map .....	5.5-7
Figure 5.5-3	Locations of Previous Geotechnical Investigations .....	5.5-9
Figure 5.8-1	Regional Drainage .....	5.8-9
Figure 5.8-2	Local Storm Drain System.....	5.8-11
Figure 5.8-3	San Gabriel Valley Groundwater Basin .....	5.8-13
Figure 5.8-4	Dam Inundation Map .....	5.8-19
Figure 5.8-5	Proposed Storm Drainage System.....	5.8-29
Figure 5.10-1	Noise Measurement Locations.....	5.10-17
Figure 5.13-1	Existing Parks.....	5.13-3
Figure 5.14-1	Study Area Intersection Analysis Locations.....	5.14-3
Figure 5.14-2	Existing Transit Service .....	5.14-17
Figure 5.14-3	Existing and Proposed Bicycle Facilities .....	5.14-21
Figure 5.16-1	Existing Sanitary Sewer System.....	5.16-5
Figure 5.16-2	Proposed Sanitary Sewer System .....	5.16-9
Figure 5.16-3	Existing Water System .....	5.16-19
Figure 5.16-4	Proposed Water System.....	5.16-25



## Table of Contents

Table		Page
Table 1-1	Proposed Buildout by Land Use District .....	1-5
Table 1-2	Alternatives Comparison.....	1-7
Table 1-3	Summary of Environmental Impacts, Mitigation Measures and Levels of Significance After Mitigation .....	1-11
Table 2-1	NOP Comment Summary .....	2-3
Table 3-1	Proposed Buildout by Land Use District .....	3-14
Table 3-2	Approximate Proposed Buildout by Jurisdiction.....	3-14
Table 3-3	Proposed Population Buildout.....	3-15
Table 3-4	Proposed Project Design Features .....	3-21
Table 3-5	Proposed Buildout by Phase.....	3-23
Table 3-6	Proposed Central Utility Plant.....	3-24
Table 4-1	Existing Central Utility Plant.....	4-5
Table 4-2	Public Service and Utility Providers .....	4-12
Table 4-3	Duarte General Plan Buildout Capacities.....	4-14
Table 4-4	City of Duarte and City of Irwindale Growth Projections.....	4-15
Table 4-5	Summary of Related Projects.....	4-22
Table 5.1-1	Maximum Allowed Building Heights.....	5.1-16
Table 5.2-1	Ambient Air Quality Standards for Criteria Pollutants .....	5.2-2
Table 5.2-2	Attainment Status of Criteria Pollutants in the South Coast Air Basin.....	5.2-12
Table 5.2-3	Ambient Air Quality Monitoring Summary .....	5.2-14
Table 5.2-4	Existing City of Hope Daily Emissions Inventory .....	5.2-15
Table 5.2-5	SCAQMD Significance Thresholds.....	5.2-17
Table 5.2-6	SCAQMD Localized Significance Thresholds .....	5.2-18
Table 5.2-7	SCAQMD Screening-Level Localized Significance Thresholds.....	5.2-19
Table 5.2-8	SCAQMD Toxic Air Contaminants Incremental Risk Thresholds .....	5.2-20
Table 5.2-9	Phase 1: Construction Activities, Phasing, and Equipment .....	5.2-22
Table 5.2-10	Phase 2: Construction Activities, Phasing, and Equipment .....	5.2-22
Table 5.2-11	Phase 3: Construction Activities, Phasing, and Equipment .....	5.2-23
Table 5.2-12	Phase 4: Construction Activities, Phasing, and Equipment .....	5.2-23
Table 5.2-13	Maximum Daily Regional Construction Emissions by Development Phase .....	5.2-26
Table 5.2-14	Phase 1: Net Maximum Daily Operation-Phase Emissions.....	5.2-29
Table 5.2-15	Phase 2: Net Maximum Daily Operation-Phase Emissions.....	5.2-29
Table 5.2-16	Phase 3: Net Maximum Daily Operation-Phase Emissions.....	5.2-30
Table 5.2-17	Phase 4 (Full Buildout): Net Maximum Daily Operation-Phase Emissions .....	5.2-32
Table 5.2-18	Maximum Daily Onsite Localized Construction Emissions .....	5.2-33

## Table of Contents

Figure	Page
Table 5.2-19	Construction Risk Summary ..... 5.2-35
Table 5.2-20	Maximum Daily On-Site Localized Operational Phase Emissions at Full Buildout..... 5.2-37
Table 5.2-21	Maximum Daily Onsite Localized Construction Emissions, Mitigated ..... 5.2-41
Table 5.2-22	Construction Risk Summary, Mitigated..... 5.2-42
Table 5.4-1	Potentially Historical Buildings Analyzed within Campus Plan area ..... 5.4-8
Table 5.5-1	Selected Historic Earthquakes in the Region..... 5.5-4
Table 5.6-1	GHG Emissions and their Relative Global Warming Potential Compared to CO <sub>2</sub> ..... 5.6-3
Table 5.6-2	Summary of GHG Emissions Risks to California ..... 5.6-6
Table 5.6-3	2017 Climate Change Scoping Plan Emissions Reductions Gap to Achieve the 2030 GHG Target ..... 5.6-11
Table 5.6-4	2017 Climate Change Scoping Plan Emissions Change by Sector to Achieve the 2030 Target ..... 5.6-12
Table 5.6-5	Existing Annual Operational Phase GHG Emissions Inventory ..... 5.6-21
Table 5.6-6	Forecasting the Post-2020 GHG Reduction Targets ..... 5.6-23
Table 5.6-7	Annual Operational Phase GHG Emissions ..... 5.6-27
Table 5.6-8	Consistency with the City of Duarte Energy Action Plan ..... 5.6-31
Table 5.6-9	Consistency with the City of Irwindale Energy Action Plan..... 5.6-33
Table 5.7-1	Environmental Database Listings Within 0.25 Mile of City of Hope ..... 5.7-11
Table 5.8-1	Designated Beneficial Uses of Downstream Water Bodies ..... 5.8-4
Table 5.8-2	Section 303(d) List of Impaired Water Bodies to Which Project Site Discharges ..... 5.8-15
Table 5.8-3	Construction Best Management Practices (BMPs) ..... 5.8-23
Table 5.8-4	Potential Pollutants Created by Land Use Type..... 5.8-24
Table 5.8-5	Preliminary Sizing of Stormwater Treatment System..... 5.8-25
Table 5.8-6	Existing vs. Proposed Runoff Volumes and Flow Rates for 10-Year and 50-Year Storms ..... 5.8-27
Table 5.9-1	Existing Duarte General Plan Land Use Designations ..... 5.9-2
Table 5.9-2	Consistency with SCAG’s 2016–2040 RTP/SCS Goals..... 5.9-7
Table 5.9-3	Consistency with the City of Duarte General Plan..... 5.9-9
Table 5.9-4	Consistency with the Irwindale General Plan..... 5.9-11
Table 5.10-1	Noise Perceptibility ..... 5.10-3
Table 5.10-2	Typical Noise Levels ..... 5.10-4
Table 5.10-3	Human Reaction to Typical Vibration Levels ..... 5.10-8
Table 5.10-4	Land Use Compatibility Noise Guidelines..... 5.10-11
Table 5.10-5	Stationary Source Noise Level Limits ..... 5.10-13
Table 5.10-6	Groundborne Vibration Criteria: Human Annoyance..... 5.10-15

## Table of Contents

Table		Page
Table 5.10-7	Groundborne Vibration Criteria: Architectural Damage.....	5.10-15
Table 5.10-8	Short-Term Noise Measurements Summary <sup>1</sup> .....	5.10-21
Table 5.10-9	Existing Conditions Traffic Noise Levels .....	5.10-22
Table 5.10-10	Campus Plan Existing Conditions Traffic Noise Increases .....	5.10-28
Table 5.10-11	Campus Plan Buildout Traffic Noise Increases .....	5.10-30
Table 5.10-12	Vibration Levels for Typical Construction Equipment .....	5.10-34
Table 5.10-13	Maximum Vibration Levels (PPV) at Nearest Structures.....	5.10-35
Table 5.11-1	Adopted SCAG Existing Conditions and Forecasts .....	5.11-4
Table 5.11-2	Existing Duarte Employment by Business Sector, 2012 .....	5.11-5
Table 5.11-3	Existing Irwindale Employment by Business Sector, 2012.....	5.11-6
Table 5.12-1	Fire Stations.....	5.12-2
Table 5.13-1	City of Duarte Parks Serving the Project Site.....	5.13-5
Table 5.14-1	Intersection Level of Service Criteria.....	5.14-12
Table 5.14-2	Existing Intersection Levels of Service.....	5.14-13
Table 5.14-3	Freeway Mainline and Ramp Junction Section LOS Threshold.....	5.14-15
Table 5.14-4	Existing Freeway Mainline Level of Service .....	5.14-16
Table 5.14-5	Los Angeles County Incremental Increase Criteria .....	5.14-25
Table 5.14-6	LOS Definitions for Basic Freeway Segments @ 65 Miles/Hour.....	5.14-25
Table 5.14-7	Trip Generation Estimate .....	5.14-28
Table 5.14-8	Existing Plus Project Intersection Levels of Service .....	5.14-31
Table 5.14-9	Future Plus Project Intersection Levels of Service.....	5.14-37
Table 5.14-10	Existing Freeway Mainline Level of Service .....	5.14-41
Table 5.14-11	Future Freeway Mainline Level of Service .....	5.14-43
Table 5.16-1	Existing Wastewater Generation.....	5.16-3
Table 5.16-2	Projected Wastewater Generation – Campus Plan Buildout .....	5.16-4
Table 5.16-3	Summary of CAW Existing and Forecast Water Supplies and Demands, afy.....	5.16-18
Table 5.16-4	Existing Water Demand.....	5.16-21
Table 5.16-5	Projected Water Generation – Campus Plan Buildout .....	5.16-22
Table 5.16-6	Landfills Serving Duarte and Irwindale .....	5.16-31
Table 5.16-7	Projected Solid Waste Generation.....	5.16-32
Table 5.16-8	Estimated Net Increase in Solid Waste Generation, County of Los Angeles.....	5.16-33
Table 5.17-1	Existing Estimated Electricity Demands.....	5.17-5
Table 5.17-2	Existing Estimated Natural Gas Demands .....	5.17-6
Table 5.17-3	Forecast Electricity Demands from Project Buildout.....	5.17-11
Table 5.17-4	Forecast Natural Gas Demands from Project Buildout .....	5.17-13

## Table of Contents

<b>Figure</b>		<b>Page</b>
Table 7-1	Alternatives Comparison.....	7-5
Table 7-2	Summary of No Project/No Development Alternative Impacts .....	7-11
Table 7-3	Summary of No Project/Existing General Plan Alternative Impacts.....	7-16
Table 7-4	Summary of Reduced Intensity Alternative Impacts.....	7-22
Table 7-5	Summary of Impacts of Alternatives Compared to the Proposed Project.....	7-24
Table 8-1	Impacts Found Not to Be Significant.....	8-1

## Abbreviations and Acronyms

### ABBREVIATIONS AND ACRONYMS

AAQS	ambient air quality standards
AB	Assembly Bill
ACM	asbestos-containing materials
afy	acre-feet per year
amsl	above mean sea level
AQMP	air quality management plan
AR4	<i>Fourth Assessment Report: Climate Change 2007</i> (Intergovernmental Panel on Climate Change)
BAU	business as usual
bcfd	billion cubic feet per day
bgs	below ground surface
BMP	best management practices
Cal Am	California American Water
CalARP	California Accidental Release Prevention Program
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
Cal/OSHA	California Occupational Safety and Health Administration
CalRecycle	California Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
Caltrans TIS Guide	Guide for the Preparation of Traffic Impact Studies
CARB	California Air Resources Board
CAW	California American Water Company Duarte Service Area
CBC	California Building Code
CCR	California Code of Regulations
CDE	California Department of Education
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CESA	California Endangered Species Act
CFC	California Fire Code
CFR	Code of Federal Regulations

## Abbreviations and Acronyms

cfs	cubic feet per second
CGP	Construction General Permit
CMP	congestion management program
CNEL	community noise equivalent level
CO	carbon monoxide
CO <sub>2</sub> e	carbon dioxide equivalent
COH	City of Hope
Corps	US Army Corps of Engineers
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DEIR	draft environmental impact report
DOF	California Department of Finance
DPF	diesel particulate filter
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
DUSD	Duarte Unified School District
EAP	Energy Action Plan
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
°F	degrees Fahrenheit
FAR	floor area ratio
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FIRM	flood insurance rate map
FTA	Federal Transit Administration
FY	fiscal year
g	acceleration of gravity
GHG	greenhouse gases
gpd	gallons per day

## Abbreviations and Acronyms

GWh	gigawatt hour
GWP	global warming potential
HCD	Housing and Community Development Department
HCM	Highway Capacity Manual
HHMD	Health Hazardous Materials Division (LA County Fire Dept.)
HRA	health risk assessment
ICU	intersection capacity utilization
IPCC	Intergovernmental Panel on Climate Change
IPD	Irwindale Police Department
IRRP	Indirect Reuse Replenishment Project
kBTU	thousand British thermal units
kV	kilovolt
kW	kilowatt
kWh	kilowatt hour
$L_{dn}$	day-night noise level
$L_{eq}$	equivalent continuous noise level
LACFCD	Los Angeles County Flood Control District
LACFD	Los Angeles County Fire Department
LACM	Los Angeles County Natural History Museum
LACSD	Los Angeles County Sheriff's Department
LACSD	Sanitation Districts of Los Angeles County
LBP	lead-based paint
LEED	Leadership in Energy Efficiency and Design (U.S. Green Building Council)
LID	low impact development
LOS	level of service
LQG	large quantity generator
LST	localized significance thresholds
$M_w$	moment magnitude
Ma	million years old
MATES	Multiple Air Toxics Exposure Study
MBTA	Migratory Bird Treaty Act
MER	maximum exposed receptor
Metro	Metropolitan Transportation Authority of Los Angeles County

## Abbreviations and Acronyms

mgd	million gallons per day
MMBTU	million British thermal units
MMI	modified Mercalli intensity
MMT	million metric tons
MOE	measure of effectiveness
MPO	metropolitan planning organization
MS4	municipal separate storm sewer system
MSGB	Main San Gabriel Basin
MT	metric ton
MUTCD	California Manual on Uniform Traffic Control Devices
MVA	mega-volt-ampere
MW	megawatt
MWD	Metropolitan Water District of Southern California
NAHC	Native American Heritage Commission
NHPA	National Habitat Preservation Authority
NIOSH	National Institute of Occupational Safety and Health
NO <sub>x</sub>	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
O <sub>3</sub>	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration (US)
OSHPD	Office of Statewide Health Planning and Development
OSY	operating safe yield
PCBs	polychlorinated biphenyls
PCE	passenger car equivalent
PDF	project design feature
PM	particulate matter
PPV	peak particle velocity
RCRA	Resource Conservation and Recovery Act
RHNA	Regional Housing Needs Assessment
RMF	Residential Medical Flex (Campus Plan district)



## Abbreviations and Acronyms

RPS	renewable portfolio standard
RTP/SCS	regional transportation plan / sustainable communities strategy
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCGC	Southern California Gas Company
SCS	sustainable communities strategy
sf	square foot
SGVCOG	San Gabriel Valley Council of Governments
SIP	state implementation plan
SJCWRP	San Jose Creek Water Reclamation Plant
SoCAB	South Coast Air Basin
SO <sub>x</sub>	sulfur oxides
SP/yr	service population per year
SQG	small quantity generator
SRA	source receptor area [or state responsibility area]
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminants
TCR	tribal cultural resource
TMDL	total maximum daily load
tpd	tons per day
TTCP	traditional tribal cultural places
UFPs	ultrafine particulates
USDOT	United States Department of Transportation
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
UWMP	urban water management plan
V/C	volume-to-capacity ratio
VCP	vitrified clay pipe

## Abbreviations and Acronyms

VdB	velocity decibels
VMT	vehicle miles traveled
VOC	volatile organic compound
WSA	water supply assessment