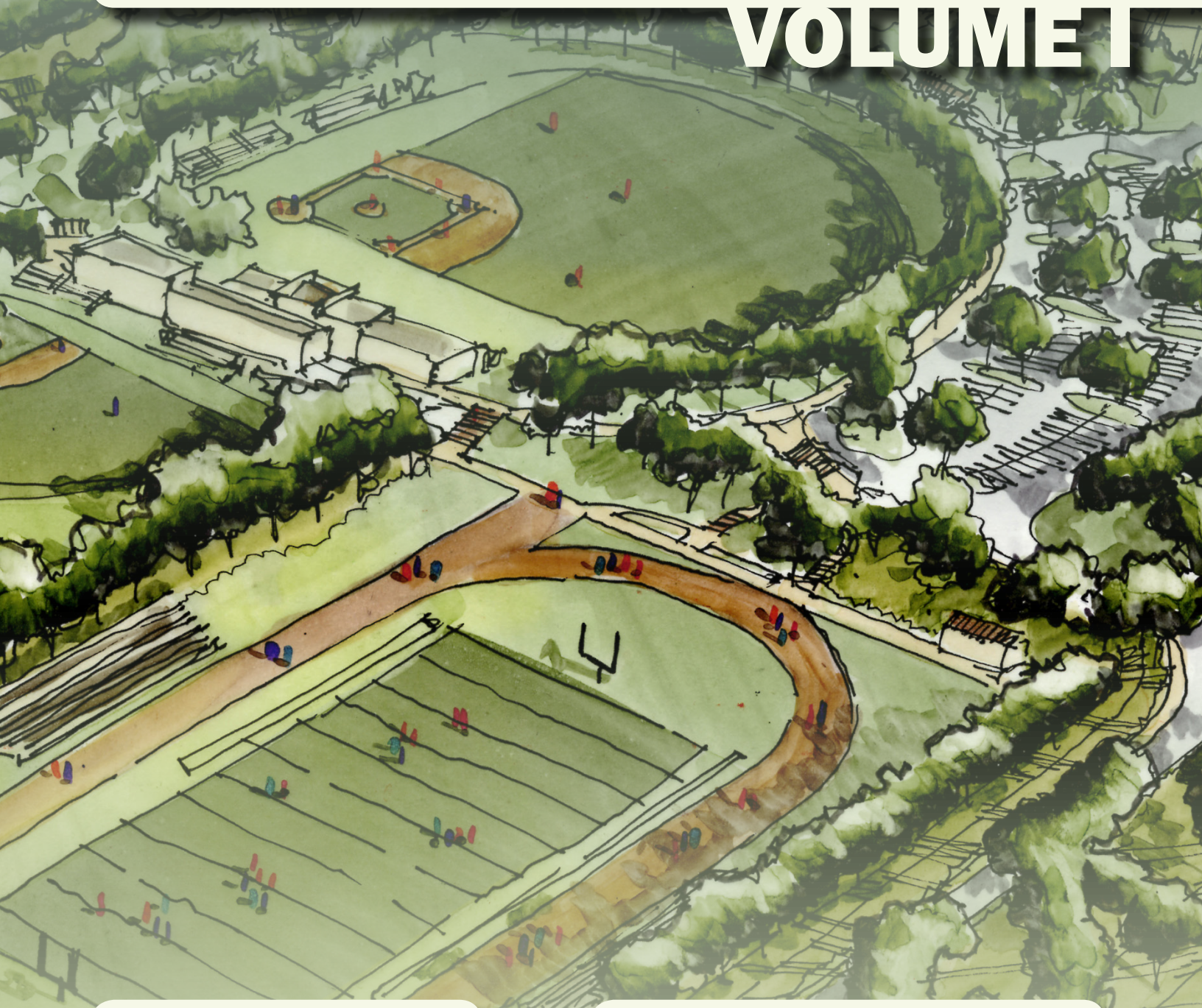
# Claremont Colleges East Campus
# Draft Environmental Impact Report

State Clearinghouse Number 2010021040
October, 2015

## VOLUME I

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# Claremont Colleges East Campus

## Draft Environmental Impact Report
## Volume I

## SCH 2010021040
## October 2015

City of Upland
City of Claremont

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# CEQA and Purpose of the EIR 1.1

The City of Upland (Lead Agency) and the City of Claremont (Responsible Agency) received applications prepared by the Claremont University Consortium (project proponent, applicant) for the subdivision of approximately 75 acres at the southwest corner of Monte Vista Avenue and Foothill Boulevard. A Master Site Plan, Site Plan, and development agreements, and for the City of Upland only a Conditional Use Permit (CUP), that identify the proposed sports facilities and improvements on and off the project site have also been submitted. The approval of the subdivision, Master Site Plan, and Site Plan applications, the terms of the development agreements, and the CUP constitute a "project" that is subject to review under the California Environmental Quality Act (CEQA) 1970 (Public Resources Code, Section 21000 et seq.), and the State CEQA Guidelines (California Code of Regulations, Section 15000 et. seq.).

This environmental impact report (EIR) has been prepared to assess the short-term, long-term, and cumulative environmental impacts that could result from the proposed subdivision, build-out of the facilities identified on the Master Site Plan and Site Plan, the improvements identified in the terms of the development agreements, and the CUP for the City of Upland.

This report has been prepared in accordance with the CEQA Statutes and Guidelines, and with the City of Upland and City of Claremont local rules and procedures for implementing the CEQA. This EIR was prepared by professional planning consultants under contract to the project proponent. As Lead Agency, the City of Upland retained a CEQA specialist to conduct a third party review of the screencheck EIR in order to confirm the analysis and findings. While the project site is located within two jurisdictions, each of which have discretionary approval power over their respective portion of the proposed project, by agreement of both municipalities the City of Upland has been designated the Lead Agency for the preparation of this EIR, as defined by CEQA (Public Resources Code, Section 21067, as amended). The content of this document reflects the independent judgment of both the City of Upland and the City of Claremont.

The body of state law known as "CEQA" was originally enacted in 1970 and has been amended a number of times since then. The legislative intent of these regulations is established in Section 21000 of the California Public Resources Code, as follows:

The Legislature finds and declares as follows:

*a) The maintenance of a quality environment for the people of this state now and in the future is a matter of statewide concern.*
*b) It is necessary to provide a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man.*
*c) There is a need to understand the relationship between the maintenance of high-quality ecological systems and the general welfare of the people of the state, including their enjoyment of the natural resources of the state.*

*d) The capacity of the environment is limited, and it is the intent of the Legislature that the government of the state take immediate steps to identify any critical thresholds for the health and safety of the people of the state and take all coordinated actions necessary to prevent such thresholds being reached.*
*e) Every citizen has a responsibility to contribute to the preservation and enhancement of the environment.*
*f) The interrelationship of policies and practices in the management of natural resources and waste disposal requires systematic and concerted efforts by public and private interests to enhance environmental quality and to control environmental pollution.*
*g) It is the intent of the Legislature that all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian.*

The Legislature further finds and declares that it is the policy of the State to:

*h) Develop and maintain a high-quality environment now and in the future, and take all action necessary to protect, rehabilitate, and enhance the environmental quality of the state.*
*i) Take all action necessary to provide the people of this state with clean air and water, enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise.*
*j) Prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history.*
*k) Ensure that the long-term protection of the environment, consistent with the provision of a decent home and suitable living environment for every Californian, shall be the guiding criterion in public decisions.*
*l) Create and maintain conditions under which man and nature can exist in productive harmony to fulfill the social and economic requirements of present and future generations.*
*m) Require governmental agencies at all levels to develop standards and procedures necessary to protect environmental quality.*
*n) Require governmental agencies at all levels to consider qualitative factors as well as economic and technical factors and long-term benefits and costs, in addition to short-term benefits and costs and to consider alternatives to proposed actions affecting the environment.*

A concise statement of legislative policy, with respect to public agency consideration of projects for some form of approval, is found in Section 21002 of the Public Resources Code, quoted below:

*The Legislature finds and declares that it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially*

*lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects. The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof.*

In addition to the policies declared by the Legislature concerning environmental protection and administration of CEQA in Sections 21000, 21001, 21002, and 21002.1 of the Public Resources Code, the courts of the State have declared the following policies to be implicit in CEQA:

a) *The EIR requirement is the heart of CEQA. (County of Inyo v. Yorty, 32 Cal. App. 3d 795.)*
b) *The EIR serves not only to protect the environment but also to demonstrate to the public that it is being protected. (County of Inyo v. Yorty, 32 Cal. App. 3d 795.)*
c) *The EIR is to inform other governmental agencies and the public generally of the environmental impact of a proposed project. (No Oil, Inc. v. City of Los Angeles, 13 Cal. 3d 68.)*
d) *The EIR is to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action. (People ex rel. Department of Public Works v. Bosio, 47 Cal. App. 3d 495.)*
e) *The EIR process will enable the public to determine the environmental and economic values of their elected and appointed officials thus allowing for appropriate action come election day should a majority of the voters disagree. (People v. County of Kern, 39 Cal. App. 3d 830.)*
f) *CEQA was intended to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language. (Friends of Mammoth v. Board of Supervisors, 8 Cal. 3d 247.)*
g) *The purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind. (Bozung v. LAFCO (1975) 13 Cal.3d 263)*
h) *The lead agency must consider the whole of an action, not simply its constituent parts, when determining whether it will have a significant environmental effect. (Citizens Assoc. For Sensible Development of Bishop Area v. County of Inyo (1985) 172 Cal.App.3d 151)*
i) *CEQA does not require technical perfection in an EIR, but rather adequacy, completeness, and a good-faith effort at full disclosure. A court does not pass upon the correctness of an EIR's environmental conclusions, but only determines if the EIR is sufficient as an informational document. (Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692)*
j) *CEQA requires that decisions be informed and balanced. It must not be subverted into an instrument for the oppression and delay of social, economic, or recreational development or advancement. (Laurel Heights Improvement*

*Assoc. v. Regents of U.C. (1993) 6 Cal.4th 1112 and Citizens of Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553)*

This report has been prepared in accordance with the CEQA Statutes and Guidelines, and with the City of Upland and City of Claremont local rules and procedures for implementing the CEQA.

# Type of EIR 1.2

This EIR has been prepared as a project EIR as defined by Sections 15161 of the CEQA guidelines. Section 15161 of the CEQA Guidelines indicates that "the most common type of EIR examines the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation."

## *Organization of the EIR*

This EIR is divided into four volumes. Volume I contains the following nine sections:

| | | |
|---|---|---|
| Section 1.0 | Introduction | |
| Section 2.0 | Executive Summary | A brief project description and summarizes project impacts and mitigation measures |
| Section 3.0 | Project Description | Provides detailed description of the proposed subdivision, Master Site Plan, Site Plan, development agreements, and CUP for the City of Upland only. |
| Section 4.0 | Environmental Impact Analysis | Considers short-term and long-term impacts and identifies mitigation measures designed to reduce significant impacts |
| Section 5.0 | Alternatives | Provides an analysis of alternatives to the proposed project |
| Section 6.0 | Analysis of Long-Term Effects | Provides an analysis of cumulative impacts, growth-inducing impacts, and significant irreversible environmental impacts |
| Section 7.0 | Effects Found Not to be Significant | Identifies areas of no significant impact |
| Section 8.0 | Preparation Team | Lists the preparers of this analysis |
| Section 9.0 | Organizations and Persons Consulted | Contains reference to people and organizations consulted in preparation of this EIR |

Volume II and III contain Appendix materials A through Q, as listed below. Volumes II and III include documentation of the EIR scoping process along with the technical studies and background reports prepared as part of the project and environmental analysis effort.

| | |
|---|---|
| Appendix A | Notice of Preparation and Scoping Materials |
| Appendix B | Initial Study |
| Appendix C | Air Quality Analysis |
| Appendix D | Updated Biological Inventory and Analysis |
| Appendix E | Special Status Species Information Update |
| Appendix F | California Gnatcatcher Protocol Survey |
| Appendix G | Preliminary Geotechnical Assessment |
| Appendix H | Phase I Environmental Site Assessment |
| Appendix I | Phase II Environmental Site Assessment |
| Appendix J | Cable Airport Land Use Compatibility Report |
| Appendix K | Noise Analysis |
| Appendix L | Traffic Impact Analysis |
| Appendix M | Public Utilities Infrastructure Report (2003) |
| Appendix N | Public Utilities Infrastructure Report (2007) |
| Appendix O | Preliminary Hydrology Analysis |
| Appendix P | Historical/Archaeological Resources Report |
| Appendix Q | Mitigation Monitoring Reporting Program |

In compliance with Public Resources Code Section 21081.6, a mitigation monitoring reporting program (MMRP) has been prepared and included as Appendix Q. In conjunction with the certification of the Final EIR, responses to public comments, any revisions to the Draft EIR, and findings will be identified as Volume IV.

## *Approach to EIR Analysis*

The analytical approach to the components of the project is summarized below.

### Subdivision

The proposed subdivision of the project site is a project-level application. Approval of the project would result in the approval of the Tentative Parcel Map (TPM) in each City that would go into effect in the near-term. This EIR approaches the subdivision of the property as the primary application and analyzes near-term impacts related to the approval of the subdivision.

### Master Site Plan, Conditional Use Permit and Site Plan

The proposed sports facilities would be approved through a Master Plan and CUP applications by the City of Upland and a Site Plan application by the City of Claremont (in conjunction with development agreements with each City, discussed herein). The Master Site Plan, Site Plan, CUP, and development agreements are planning documents designed to guide future development on and off the project site. In support of those planning documents, this EIR examines the potential physical effects of construction, land disturbing activities, and operation at the project-level; however, proposals to construct future facilities identified on the Master Site Plan, Site Plan, CUP, and development agreements would be subject to future review by Upland, Claremont, or both, in order to receive approval of grading permits, building permits, and certificates of occupancy. Future applications would

identify building footprints, color, architectural design, and landscape design. This EIR analyzes the short- and long-term impacts of the Master Site Plan, Site Plan, CUP, and development agreements. Mitigation measures identified for potential impacts related to the Master Site Plan, Site Plan, CUP, and development agreements identify specific requirements for future development through the establishment of performance standards and project-specific requirements.

## Development Agreements

Development Agreements are currently being negotiated between the City of Claremont and the project proponent and between the City of Upland and the project proponent for the proposed subdivision and phasing of the offsite improvements required for the proposed tentative parcel maps, Master Site Plan, and Site Plan. A Development Agreement documents the negotiated terms between the project proponent and the approving City for development of the project site. It is a binding contract between both parties. The Development Agreement includes terms for timing of offsite improvements, the potential for future establishment of joint service agreements between the project proponent and the City of Claremont and/or the City of Upland, and the potential for future establishment of cross-jurisdictional utility installation and service. Development Agreements would be negotiated separately for each approving jurisdiction.

## Tiering

This EIR has been designed for future development projects to "tier" from. Tiering is an environmental streamlining tool defined in Section 15152 et al of the CEQA Guidelines, as follows:

a) *"Tiering" refers to using the analysis of general matters contained in a broader EIR (such as one prepared for a general plan or policy statement) with later EIRs and negative declarations on narrower projects; incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project.*

b) *Agencies are encouraged to tier the environmental analyses which they prepare for separate but related projects including general plans, zoning changes, and development projects. This approach can eliminate repetitive discussions of the same issues and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review. Tiering is appropriate when the sequence of analysis is from an EIR prepared for a general plan, policy, or program to an EIR or negative declaration for another plan, policy, or program of lesser scope, or to a site-specific EIR or negative declaration. Tiering does not excuse the lead agency from adequately analyzing reasonably foreseeable significant environmental effects of the project and does not justify deferring such analysis to a later tier EIR or negative declaration. However, the level of detail contained in a first tier EIR need not be greater than that of the program, plan, policy, or ordinance being analyzed.*

*c) Where a lead agency is using the tiering process in connection with an EIR for a large-scale planning approval, such as a general plan or component thereof (e.g., an area plan or community plan), the development of detailed, site-specific information may not be feasible but can be deferred, in many instances, until such time as the lead agency prepares a future environmental document in connection with a project of a more limited geographical scale, as long as deferral does not prevent adequate identification of significant effects of the planning approval at hand.*

*d) Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for a later project pursuant to or consistent with the program, plan, policy, or ordinance should limit the EIR or negative declaration on the later project to effects which:*

*1) Were not examined as significant effects on the environment in the prior EIR; or*

*2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means.*

*e) Tiering under this section shall be limited to situations where the project is consistent with the general plan and zoning of the city or county in which the project is located, except that a project requiring a rezone to achieve or maintain conformity with a general plan may be subject to tiering.*

*f) A later EIR shall be required when the Initial Study or other analysis finds that the later project may cause significant effects on the environment that were not adequately addressed in the prior EIR. A negative declaration shall be required when the provisions of Section 15070 are met.*

*1) Where a lead agency determines that a cumulative effect has been adequately addressed in the prior EIR that effect is not treated as significant for purposes of the later EIR or negative declaration, and need not be discussed in detail.*

*2) When assessing whether there is a new significant cumulative effect, the lead agency shall consider whether the incremental effects of the project would be considerable when viewed in the context of past, present, and probable future projects. At this point, the question is not whether there is a significant cumulative impact, but whether the effects of the project are cumulatively considerable. For a discussion on how to assess whether project impacts are cumulatively considerable, see [Section 15064(h)(1).*

*3) Significant environmental effects have been "adequately addressed" if the lead agency determines that:*

*A) they have been mitigated or avoided as a result of the prior environmental impact report and findings adopted in connection with that prior environmental report; or*

*B) they have been examined at a sufficient level of detail in the prior environmental impact report to enable those effects to be mitigated or avoided by site specific revisions, the imposition of conditions, or by other means in connection with the approval of the later project.*

*g) When tiering is used, the later EIRs or negative declarations shall refer to the prior EIR and state where a copy of the prior EIR may be examined. The later EIR or negative declaration should state that the lead agency is using the tiering concept and that it is being tiered with the earlier EIR.*

*h) There are various types of EIRs that may be used in a tiering situation. These include, but are not limited to, the following:*

*1) General Plan EIR (Section 15166).*

*2) Staged EIR (Section 15167).*

*3) Program EIR (Section 15168).*

*4) Master EIR (Section 15175).*

*5) Multiple-family residential development / residential and commercial or retail mixed-use development (Section 15179.5).*

*6) Redevelopment project (Section 15180).*

*7) Projects consistent with community plan, general plan, or zoning (Section 15183).*

Any future development proposals on or off the project site pursuant to the Master Site Plan, Site Plan, CUP, or development agreements would be reviewed for consistency with the environmental analysis and determinations certified herein upon submittal of specific development applications to the approving jurisdiction. Any future development that would increase impacts beyond impacts that have already been studied in this EIR would require further analysis. Those proposals found to be completely consistent with this EIR would have the environmental review process substantially reduced. Consistency would be noted in the record via memorandum to the project file. Those projects found to be generally consistent with this EIR would have a reduced environmental review process that focuses on any issues that may have not been specifically addressed in this EIR.

## Existing Sports Facilities

The purpose of the proposed subdivision of the property that is currently owned by the Claremont University Consortium is to create separate parcels which can then be conveyed to Claremont McKenna College and Pitzer College. The Master Site Plan and Site Plan identify the anticipated uses for those parcels as new parking

facilities and relocated and new sports facilities. The purpose for relocating the sports facilities is to make available on-campus space for other future facilities or to replace facilities that have already been removed. For Pitzer College, construction of the multi-use fields, volleyball courts, and basketball court is to replace facilities that were previously removed to construct new student housing. The student housing has been completed and is in operation; therefore, it is part of the baseline existing conditions of the project area and is not included as a component of the project. On the Claremont McKenna Campus, the football field, softball field, and baseball field are expected to be relocated to make room for future facilities. These facilities were included as part of the Claremont McKenna College (CMC) Master Plan. Claremont McKenna College submitted the master plan for its school facilities to the City of Claremont. An EIR was prepared in compliance with CEQA and certified by the Claremont City Council in July 2012. The master plan envisions the sites of the relocated facilities to include student apartments, soccer and lacrosse fields, an administration building, educational buildings, and senior student housing. The planned development of the CMC Master Plan is also addressed in a Development Agreement between CMC and the City of Claremont. Components of the approved CMC Master Plan that are not a part of the proposed East Campus project will be considered in the cumulative impact analysis.

# Scoping and Public Review 1.3

## Notice of Preparation

To define the scope of the investigation of this EIR, the City of Upland distributed a Notice of Preparation (NOP) to city, county, and state agencies; other public agencies; and interested private organizations and individuals (attached as Appendix A). The purpose of the NOP was to identify agency and public concerns regarding potential impacts of the proposed project and to request suggestions concerning ways to avoid significant impacts (Section 15082, CEQA Guidelines). The NOP period began on February 11, 2010 and concluded on March 12, 2010.

Copies of written comments received during the 30-day public review period for the NOP are included in Appendix A of this EIR. Metropolitan Water District (MWD) submitted a comment letter indicating that no MWD facilities are within the limits of the project; therefore, the scope of the EIR was not modified by this comment. The Native American Heritage Commission (NAHC) submitted comments related to cultural resources; however, no impacts would occur to cultural resources as discussed in the project Initial Study (Appendix B) and the NAHC did not dispute that determination. Cultural resources are not further analyzed in the EIR.

On March 15, 2010, the City conducted a scoping meeting to solicit oral comments on the NOP. Copies of the notes from that meeting are also included in Appendix A. Mr. Matt Liebman submitted an oral comment regarding funding for the project. This comment was not included in the scope of the EIR because it is not related to environmental review. The scoping comments that are addressed in this EIR are as follows:

| | Commenting Agency/Person | Addressed In EIR As |
|---|---|---|
| A | South Coast Air Quality Management District | -Air Quality<br>-Greenhouse Gas Emissions |
| B | Inland Empire Utilities Agency | -Utilities and Service Systems |
| C | Caltrans Division of Aeronautics | -Hazards and Hazardous Materials |
| D | San Bernardino County LAFCO | -Public Services<br>-Utilities and Service Systems |
| E | San Bernardino County Solid Waste Division | -Hazards and Hazardous Materials<br>-Utilities and Service Systems |
| F | Dr. Susan M. Schenk | -Biological Resources |
| G | California Department of Fish and Game | -Biological Resources |

## Notice of Completion and Public Review of the Draft EIR

Pursuant to Section 15085 of the State CEQA Guidelines, a Notice of Completion (NOC) was filed with the State Office of Planning and Research (OPR) on October 31, 2011 and the Draft EIR (DEIR) circulated for public and agency review for a period of 45 days. Notice of the availability of the DEIR was published in the Inland Valley Daily Bulletin newspaper. Hard copies of the DEIR were posted at Upland City Hall, Upland City Library, Claremont City Hall, Claremont Public Library, the Alexander Hughes Community Center, and the Claremont Youth Activity Center. Electronic copies of the DEIR were sent to responsible agencies, local agencies, and concerned agencies and individuals, as requested. Public hearings will be held in conjunction with the review of the project.

## Recirculation of the EIR

The Draft EIR for this project is being recirculated as a result of changes to the project to include the development of all-purpose athletic fields on Parcel 5 and Parcel 6 in Upland and Parcel 3 in Claremont. The previously circulated EIR included Parcel 5 and Parcel 6 in Upland and Parcel 3 in Claremont in the total acreage; however there were no plans to develop those parcels at that time. The revisions to the project will increase impacts related to operational noise, resulting in additional mitigation measures and a significant and unavoidable operational noise impact determination. In addition, additional mitigation measures have been included related to biological resources, hazards, and noise. Revisions to the project will not increase impacts described in the previously circulated EIR for all other impact areas. In addition, a mitigation measure previously included for greenhouse gas emissions is no longer required and has been removed. Pursuant to Section 15088.5(a)(1) and 15088.5(a)(2), "the Draft EIR shall be recirculated to provide the public an opportunity to comment upon the revisions to the project and environmental effects."

The comments previously received on the Draft EIR are addressed in this Recirculation Draft EIR. Therefore, the City will provide additional responses to comments only for those comments received regarding revisions to the originally circulated Draft EIR.

Pursuant to Section 15088.5 of the State CEQA Guidelines, a Draft EIR must be recirculated for public review when significant new information is added to the EIR, as discussed below.

*(a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation includes, for example, a disclosure showing that:*

*(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.*

*(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.*

*(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.*

*(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. (Mountain Lion Coalition v. Fish and Game Com. (1989) 214 Cal.App.3d 1043)*

*(b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.*

*(c) If the revision is limited to a few chapters or portions of the EIR, the lead agency need only re-circulate the chapters or portions that have been modified.*

*(d) Recirculation of an EIR requires notice pursuant to Section 15087, and consultation pursuant to Section 15086.*

*(e) A decision not to re-circulate an EIR must be supported by substantial evidence in the administrative record.*

*(f) The lead agency shall evaluate and respond to comments as provided in Section 15088. Re-circulating an EIR can result in the lead agency receiving more than one set of comments from reviewers. The following are two ways in which the lead agency may identify the set of comments to which it will respond. This dual approach avoids confusion over whether the lead agency must respond to comments which are duplicates or which are no longer pertinent due to revisions to the EIR. In no case shall the lead agency fail to respond to pertinent comments on significant environmental issues.*

*(1) When an EIR is substantially revised and the entire document is recirculated, the lead agency may require reviewers to submit new comments and, in such cases, need not respond to those comments received during the earlier circulation period. The lead agency shall advise reviewers, either in the text of the revised EIR or by an attachment to the revised EIR, that although part of the administrative record, the previous comments do not require a written response in the final EIR, and that new comments must be submitted for the revised EIR. The lead agency need only respond to those comments submitted in response to the recirculated revised EIR.*

*(2) When the EIR is revised only in part and the lead agency is recirculating only the revised chapters or portions of the EIR, the lead agency may request that reviewers limit their comments to the revised chapters or portions of the recirculated EIR. The lead agency need only respond to (i) comments received during the initial circulation period that relate to chapters or portions of the document that were not revised and recirculated, and (ii) comments received during the recirculation period that relate to the chapters or portions of the earlier EIR that were revised and recirculated. The lead agency's request that reviewers limit the scope of their comments shall be included either within the text of the revised EIR or by an attachment to the revised EIR.*

*(3) As part of providing notice of recirculation as required by Public Resources Code Section 21092.1, the lead agency shall send a notice of recirculation to every agency, person, or organization that commented on the prior EIR. The notice shall indicate, at a minimum, whether new comments may be submitted only on the recirculated portions of the EIR or on the entire EIR in order to be considered by the agency.*

*(g) When recirculating a revised EIR, either in whole or in part, the lead agency shall, in the revised EIR or by an attachment to the revised EIR, summarize the revisions made to the previously circulated draft EIR.*

### Response to Comments on DEIR

Comments from all agencies and individuals are invited regarding the information contained in the DEIR. Such comments should explain any perceived deficiencies in the assessment of impacts, identify the information that is purportedly lacking in the DEIR or indicate where the information may be found. All comments on the DEIR are to be submitted to:

Keri Johnson, Senior Administrative Assistant
City of Upland
Development Services Department
460 North Euclid Avenue
Upland, California 91786
(909) 931-4305

Following a 45-day period of circulation and review of the DEIR, all comments and the responses to the comments shall be incorporated into a FEIR prior to certification of the document by the City of Upland with subsequent approval by the City of Claremont as a responsible agency.

### Availability of EIR Materials

All materials related to the preparation of this EIR are available for public review. To request an appointment to review these materials, please contact:

Keri Johnson, Senior Administrative Assistant
City of Upland
Development Services Department
460 North Euclid Avenue
Upland, California 91786
(909) 931-4305

## Citation 1.4

Preparation of this EIR relied on information from many sources including the appendix materials previously listed and numerous other references. Pursuant to Section 15148 of the State CEQA Guidelines, citations from the appendix materials and other sources are provided throughout the EIR. Citations are numbered sequentially and inclusive to each environmental impact section (Sections 4.1 through 4.12). References are located at the end of each environmental impact section. Resources are referenced in the following manner:

## Books and Technical Reports

Author. Agency. Department. Document Title. Publication Date

## Internet Resources

Author. Agency. Department. Webpage Title. Web Address [Access Date]

## Persons Consulted

Name. Agency. Department. "Personal Communication". Date Consulted

# Project Summary 2.1

The project consists of the subdivision of the project site (see Exhibits 3.6 and 3.7) and analysis of anticipated future recreational facilities identified on the Upland Master Site Plan (see Exhibit 3.3) and Claremont Site Plan (see Exhibit 3.4) for use by the Claremont McKenna and Pitzer Colleges. The project is consistent with the Subdivision Map Act, the General Plan Land Use designations, and zoning standards of the City of Upland and the City of Claremont.

The project involves the subdivision of three existing parcels that comprise the project site. Assessor's Parcel Number (APN) 1007-011-01 within the City of Upland would be subdivided into six parcels. APN 8308-025-012 and 8308-009-023 within the City of Claremont would be subdivided into three parcels. Table 2.1 (Proposed Subdivision Summary) includes details of each tentative parcel map. APN 8308-009-023 is a small, landscape area located at the southwest corner of Arrow Route and Claremont Boulevard and no change or development is proposed for this area as part of this project.

**Table 2.1**

**Proposed Subdivision Summary**

| TPM | City | Parcel No. | Size (AC) |
|---|---|---|---|
| 18989 | Upland | 1 | 2.50 |
| | | 2 | 3.40 |
| | | 3 | 3.00 |
| | | 4 | 29.40 |
| | | 5 | 3.20 |
| | | 6 | 3.80 |
| | | TOTAL | 45.30 |
| 70243 | Claremont | 1 | 16.75 |
| | | 2 | 11.80 |
| | | 3 | 0.59 |
| | | TOTAL | 29.14 |
| | | GRAND TOTAL | 74.44 |
| Source: Andreasen Engineering 2009 | | | |

## *Master Site Plan, City of Upland*

A Master Site Plan (Exhibit 3.3) has been prepared to guide site development over an approximate 10-15 year timeframe within the City of Upland. The Master Site Plan identifies the locations of proposed sports fields, activity areas, and ancillary buildings and structures. The baseball field, softball field, football/track field, and archery range would be relocation sites for replaced facilities as proposed in the Claremont McKenna Colleges (CMC) Master Plan. The Argentinean paddle tennis court would be a new sports facility along with proposed ancillary facilities and all-purpose athletic fields. An application for approval of the Master Site Plan has been submitted to the City of Upland. Separate development applications and plans

providing specific building locations and site layout of the proposed facilities must be submitted and approved prior to actual construction of the facilities. Required future submittals would include architectural plans, landscape and lighting plans, and sign plans for design review and approval of site plans by the Administrative Committee and a conditional use permit by the Planning Commission. At this time, Parcels 1 through 3 of TPM 18989 are not proposed for development and would be left vacant until future uses are identified and approved. The remaining parcels are proposed for development, as detailed herein.

### TPM 18989 Parcels 1, 2, and 3

Parcel 1, 2, and 3 will remain in the ownership of CUC. No uses for these parcels have been identified at this time.

### TPM 18989, Parcel 4, City of Upland

Parcel 4 of TPM 18989 is under the ownership of CUC and would be developed with a National Collegiate Athletic Association (NCAA) regulation size baseball field. The baseball field would be centrally located within the East Campus Project and would be constructed across the existing boundary line between the Cities of Upland and Claremont and within a portion of Parcel 2 of TPM 70243 in the City of Claremont. The baseball field would include support features consisting of home and away bleachers and team dugouts. The baseball field bleachers would seat a maximum of 500 spectators with an additional estimated 100 participants including coaches, team members, and other personnel on the field. Attached to the southern portion of the baseball field would be a 30,000 square foot (SF) facilities building that would contain offices, team rooms, classrooms, lockers, concession facilities and storage areas. Offices would be used by sports instructors and support staff. Restrooms would be located directly to the west of the facilities building. South of the baseball field would be developed with a softball field including bleachers and dugouts, a football field and track including bleachers and an equipment storage building, and a retention basin designed to contain storm drain runoff from 100-year storm events. The softball field bleachers would seat a maximum of 500 spectators with an additional estimated 100 participants including coaches, team members, and other personnel on the field. Baseball, softball, and track and field events are spring sports with a total of 13 Saturday events, one Sunday event, and 11 weekday events. Practice typically begins mid-afternoon and ends around 6:00pm.

The football field bleachers would seat a maximum of 3,500 spectators with an additional estimated 200 participants including coaches, team members, and other personnel on the field. The football field would typically host five Saturday home games beginning at 1:00pm and ending at approximately 4:00pm. Night games may also be scheduled beginning at 7:00pm. Football practice could occur concurrently during Spring baseball, softball, and/or track and field practice or events. To the east of the baseball field, a 154-space (including 13 American with Disabilities Act (ADA) accessible spaces) parking area would be constructed to serve the combined sports fields described herein in addition to the 604 parking spaces along Claremont Boulevard and the 32 parking spaces provided along Arrow

Route. Two restroom buildings and a maintenance building abut the parking area. Adjacent to the parking area are an archery range and an Argentinean paddle tennis court with equipment storage building. The majority of these facilities would be the result of the relocation of existing sports facilities on the CMC campus, as identified in the draft campus Master Site Plan.

### TPM 18989 Parcels 5 and 6

Parcels 5 and 6 in the City of Upland are under CUC ownership and will be developed with all-purpose athletic fields in conjunction with Parcel 3 in the City of Claremont (TPM 70843) for the use of the Claremont Colleges. In addition, monument signs will be installed with similar landscaping features to match the other entrances on the site. The parcels will also be developed with a 5,000-square foot field house and restroom facility, and a 32-space parking area.

## *Site Plan, City of Claremont*

A Site Plan (Exhibit 3.4) has been prepared to guide site development within the City of Claremont over a 10-15 year timeframe. The Site Plan identifies the locations of proposed parking areas, sports fields, activity areas, and ancillary buildings and structures. The proposed multi-purpose fields, volleyball courts, and basketball courts are replacement facilities that were previously removed from the Pitzer College campus to accommodate new student housing. The golf practice area would be a new sports facility along with the proposed ancillary facilities. Development applications and plans providing details of the proposed facilities must be submitted and approved prior to actual construction of the facilities.

### TPM 70243, Parcel 1, City of Claremont

Parcel 1 is under CUC ownership and includes two large, multi-purpose recreation fields for unspecified sports activities and intramural sports. A basketball court, tennis court, and sand volleyball court would also be provided on Parcel 1. An equipment storage building and restrooms would be located to the south of the basketball court. A linear parking area would be constructed on the western edge of Parcel 1, parallel to Claremont Boulevard. This parking area would contain a total of 390 parking stalls (including 11 ADA accessible spaces) for use by Pitzer College. Bleachers are not proposed for any of the sports fields or activity areas on this parcel and its estimated approximately 100 persons would be using these fields and courts at any one time.

### TPM 70243, Parcel 2, City of Claremont

Parcel 2 is under CUC ownership and would include another linear parking area parallel to Claremont Boulevard that would include 214 parking spaces (including seven ADA accessible spaces). A golf practice area would be located directly south and down-hill of the multi-purpose field discussed above. This practice area would be used for short-game and putting practice and would not include a driving range. Parcel 2 also includes a portion of the baseball field identified in TPM 18989 (Upland). Uses on this parcel will be operated by Claremont McKenna College. Parcel 2 was included in the CMC Master Plan for which an EIR was prepared and

certified by the Claremont City Council in July 2012. The proposed uses on this parcel were identified as part of the CMC Master Plan and addressed in an approved Development Agreement between CMC and the City of Claremont.

### TPM 70843 Parcel 3, City of Claremont

Parcel 3 is under CUC ownership and will be developed with an all-purpose athletic field in conjunction with Parcel 5 in the City of Upland for the use of the Claremont Colleges.

## *Development Agreements*

Development Agreements are currently being negotiated between the City of Claremont and the project proponent and between the City of Upland and the project proponent for the proposed subdivision and phasing of the offsite improvements required for the proposed tentative parcel maps, Master Site Plan, and Site Plan. A Development Agreement documents the negotiated terms between the project proponent and the approving City for development of the project site. It is a binding contract between both parties. The Development Agreement includes terms for timing of offsite improvements, the potential for future establishment of joint service agreements between the project proponent and the City of Claremont and/or the City of Upland, and the potential for future establishment of cross-jurisdictional utility installation and service. Development Agreements would be negotiated separately for each approving jurisdiction. Project phasing to be finalized in the development agreements is summarized in Table 2.2 (Summary Phasing Plan) and discussed thoroughly in Section 3.4 of this EIR.

**Table 2.2**

**Summary Phasing Plan**

| Phase | Start Year | On-Site Development | Off-Site Improvements |
|---|---|---|---|
| I | 0 | Obtain TPM Approvals | -- |
| | 1 | Record Maps<br>Sell Parcels | Record Dedications |
| II | 2 | Construct 2 Parking lots along Claremont Boulevard<br>Parcel 3 (Claremont)<br>Parcel 5 (Upland)<br>Parcel 6 (Upland) | Claremont Boulevard<br>Arrow Route |
| III | 4 | Parcel 1 (Claremont)<br>Parcel 2 (Claremont)<br>Parcel 4 (Upland) | Foothill Boulevard |
| IV | 7 | Parcel 2 (Claremont)<br>Parcel 4 (Upland) | Monte Vista Avenue |
| V | 10-15 | Complete on-site facilities* | -- |

Source: MIG | Hogle-Ireland 2015
* Completion of athletic fields to be determined upon availability of funding

## Project Location 2.2

The Claremont Colleges East Campus project is located within the Cities of Upland and Claremont in the Counties of San Bernardino and Los Angeles, respectively. Approximately 45 acres of the project site are within the jurisdiction of the City of Upland with the remaining 30 acres within the jurisdiction of the City of Claremont (see Exhibit 3.1, Regional Context and Vicinity Map, Exhibit 3.2, Aerial Photograph, Exhibit 3.3, Master Site Plan, and Exhibit 3.4, Site Plan). The boundary line between the jurisdictions transverses the site in a northeast to southwest direction with the eastern portion of the property lying in the City of Upland and the western portion of the property in the City of Claremont. The subject property has a rectangular shape that is elongated in a north-south direction and is approximately 1,220 feet wide and 2,540 feet long. The property encompasses an entire block and is bound by the following streets: Foothill Boulevard on the north, Claremont Boulevard on the west, Arrow Route on the south, and Monte Vista Avenue on the east.

## Environmental Setting 2.3

The site is dominated by two types of vegetation: alluvial fan scrub that is associated with the foothills of the southern slope of the San Gabriel Mountains, and ruderal. The site also supports approximately 0.7 acres of willow scrub and a 0.6 acre ponding area in the southeast portion of the site. The variety of shrub and sub-shrub species collectively referred to as alluvial fan scrub shows various stages of re-growth from past and ongoing disturbances associated with quarrying and landfill activities. Ruderal vegetation type describes species growing in disturbed areas, including non-native plants.

The project site is comprised of five geologic units: alluvium, landfill deposits, roadfill, compacted fill, and dumped fill. Alluvial deposits consist of coarse grained soils from San Antonio Canyon and the San Gabriel Mountains located approximately three miles north of the project site. The upper portions of these deposits consist of younger alluvium composed of light gray sandy gravel and gravelly sand with cobble and some boulders. The lower portion of these deposits consists of older alluvium composed of orange, brown, and reddish-brown soils of similar composition. These alluvial deposits are found at the lower elevations of the site. The other portions of the site consist of artificial fill resulting from the site's use as a landfill and construction staging area.

The current drainage pattern for the site flows in a southerly direction where it infiltrates into the ground. The project proposes to maintain existing drainage patterns, improving the retention basin in the southern portion of the site that would collect the site's storm water via on-site storm drains and v-shaped concrete drainage swales that would be installed along graded terraces on the site's slopes. The basin has been designed to capture runoff from a 100-year storm event. The project preliminary hydrology report indicates that the 100-year (24-hour) frequency storm at the project site would generate a maximum flow rate of 189.16 cubic feet per second and a maximum volume of 2,433,753 cubic feet (see

Appendix O). This amount of storm water is estimated to require retention up to 90,000 cubic yards; the proposed retention basin and football field area is proposed to hold approximately 125,000 cubic yards. Water collected in the retention basin would infiltrate into the ground that would not only maintain existing drainage but would also treat the water prior to reaching groundwater.

Water, sewer, electricity, natural gas, and storm drain services are available to the project site. Undergrounding of all existing overhead utility lines (less than 66 Kv) would be required as part of proposed street and parkway improvements. Typical sewer laterals are expected to serve the restroom and support structure facilities. Connections would be made to surrounding water lines to supply water for potable use. Pump stations are proposed at the southern portion of the project site just east of the proposed retention basin to pump wastewater and water up to the mains located under Arrow Route for facilities on the Upland portion of the site. These pumps are required because the proposed facilities generally sit below the grade of the existing sewer mains; therefore, wastewater must be pumped up to the main sewer lines. Pump stations will be maintained privately by the property owners. Pump stations would not be required on the Claremont portion of the site because facilities would be at grade with surrounding facilities. Based on the Recycled Water Master Plan developed by the Inland Empire Utilities Agency, non-potable, recycled water is expected to be available in the future for irrigation purposes and the project would be “double-piped” in order to connect to this future service when it becomes available. “Double-piping refers to the installation of two separate onsite water systems, one for potable water and the other for irrigation purposes (typically identified by purple piping). Until recycled water is available, the purple pipe will be connected to the potable water source for irrigation. When recycled water becomes available, the purple pipe will be connected to that source. Trenching would be required to route underground conduits for electrical lines and nominally sized gas lines. Solid waste services are available to the proposed sports facilities from the City of Claremont and the City of Upland. The project would include the extension of the Claremont McKenna and Pitzer colleges existing recycling programs to the proposed sports and parking facilities. This would include a comingled recyclables program, use of self-mulching mowers, green-waste recycling, and on-site mulch and composting areas. Formal agreements regarding the provision of utility and public services have not been made at this time but would be considered and possibly negotiated at the time the actual development of the facilities occurs.

The property is served on all sides by the existing roadway system. Foothill Boulevard is located north of the site, Claremont Boulevard lies to the west of the site, Arrow Route is located on the southern border of the property, and Monte Vista Avenue is east of the subject property. Claremont Boulevard, a portion of Foothill Boulevard, and a short section of Arrow Route are within the jurisdiction of the City of Claremont. The remaining portion of Foothill Boulevard, the entirety of Monte Vista Avenue, and an approximate 1,243-foot section of Arrow Route are within the jurisdiction of the City of Upland. On-site and surrounding land uses are summarized in Table 2.3 (Project Site and Surrounding Land Uses).

**Table 2.3**

**Project Site and Surrounding Land Uses**

| | Land Use | Jurisdiction | Zoning | General Plan |
|---|---|---|---|---|
| **Site** | Landfill<br>Temporary Parking<br>Archery | Upland<br>Claremont | SP: Special Purpose<br>IE: Institution Education | Institutional<br>Institutional |
| **N** | Arco Gas Station<br>Plant Nursery<br>Vacant | Claremont<br>Upland | CH: Commercial Highway<br>CC: Community Commercial | Commercial<br>Commercial/Industrial-Mixed-Use |
| **NE** | Business Park | Upland | CC: Community Commercial | Commercial/Industrial-Mixed-Use |
| **E** | Neighborhood Commercial<br>Service Commercial<br>Vacant<br>Recharge Basin | Upland | CH: Highway Commercial<br>Upland Crossing Specific Plan ML: Light Industrial | Commercial/Industrial-S<br>Upland Crossing Specific Plan |
| **SE** | Vacant | Upland | ML: Light Industrial | Commercial/Industrial-S |
| **S** | Shopping Center<br>Vacant | Upland | College Park Specific Plan | College Park Specific Plan |
| **SW** | Children's School | Claremont | AV2: Arbol Verde 2 | Residential 15 |
| **W** | Student Housing<br>Baseball Field<br>Parking Lot<br>Vacant | Claremont | IE: Institutional Educational | Institutional |
| **NW** | Chevron Gas Station<br>Neighborhood Commercial | Claremont | CH: Commercial Highway | Commercial |
| Source: MIG \| Hogle Ireland 2015 | | | | |

## Environmental Impacts 2.4

Based on the preliminary environmental analysis of the proposed subdivision, Master Site Plan, and Site Plan included in the project Initial Study (see Appendix B), potentially significant environmental effects could occur with regard to the following issues:

| Topic | Issue |
|---|---|
| Aesthetics | Light and Glare |
| Air Quality | Air Quality Standards Violations<br>Cumulative Air Quality Impacts<br>Sensitive Receptor Exposure |
| Biological Resources | Special Status Species |
| Geology and Soils | Unstable Geologic Units |
| Hazards and Hazardous Materials | Risk of Upset<br>Airport Hazards |
| Hydrology and Water Quality | Groundwater Contamination |
| Mineral Resources | Statewide/Regionally Important Resources<br>Locally Important Resources |
| Noise | Excessive Noise<br>Vibration<br>Ambient Noise Increases<br>Temporary and Periodic Noise Increases<br>Airport Noise |
| Public Services | Police Services<br>Fire Department Services |
| Transportation and Traffic | Circulation System Performance<br>Congestion Management Programs<br>Design Hazards<br>Alternative Transportation |

This EIR examines each of these issues in separate sections, in addition to other required topics specified in the State CEQA Guidelines. Table 2.4 (Significant and Unavoidable Impacts), Table 2.5 (Less than Significant Impacts with Mitigation Incorporated), and Table 2.6 (Less than Significant and No Impacts) at the end of this section summarize the environmental impacts associated with the project and list the mitigation measures and standard conditions required to reduce or avoid impacts.

CEQA Guidelines Section 15128 requires a statement indicating the reason that various possible significant effects are determined not to be significant and therefore are not discussed in the EIR. The Initial Study prepared for the East Campus Project and circulated on February 11, 2010 determined that the impacts listed below would not occur or would be less than significant; therefore, these topics have not been further analyzed in this DEIR. Please refer to Appendix B (Initial Study) for explanations of the basis for these conclusions.

## *Aesthetics*

- Scenic Vistas – No Impact
- Scenic Resources – No Impact
- Visual Character – No Impact

## *Agriculture Resources*

- Farmland Mapping and Monitoring Program – No Impact
- Agricultural Zoning and Land Use – No Impact
- Farmland Conversion – No Impact

## *Air Quality*

- Air Quality Management Plan – No Impact
- Odors – No Impact

## *Biological Resources*

Please note that although the following topics were originally screened out of the EIR in the project Initial Study, due to the high level of interest in biological resources among the community within the City of Claremont, impacts related to sensitive plant communities, wetlands, and wildlife migration were re-analyzed in Section 4.3.

- Sensitive Natural Communities – Less than Significant Impact with Mitigation Incorporated
- Wetlands – No Impact
- Wildlife Migration – Less than Significant with Mitigation Incorporated
- Conservation Planning – No Impact

## *Cultural Resources*

Although the discussion of Cultural Resources was screened out of the EIR in the project Initial Study, comments were submitted by the Native American Heritage Commission regarding these topics; therefore, the discussion from the Initial Study has been included for reference. The supporting documentation has been attached as Appendix P. Regulatory requirements have been included as project conditions.

- Historical Resources – No Impact
- Archaeological Resources – No Impact
- Paleontological Resources – No Impact
- Human Remains – Less than Significant Impact

*A Historical/Archaeological Resources Survey Report was prepared by CRM Tech (Revised July 3, 2007). Based on a records search and a field survey of the project site, CRM Tech did not encounter any historical or archaeological resources as defined by CEQA, within or immediately adjacent to the project area. The field survey was conducted walking parallel north-south transects spaced 25 meters apart, and systematically examined the entire project site for any evidence of*

*human activities dating to prehistoric or historic periods. The records search resulted in a total of 14 cultural resources recorded in the project vicinity; none of which were located within the project site. Additionally, based on information contained in the Upland Crossings Specific Plan Environmental Impact Report, the likelihood of paleontological resources is minimal due to the type of soils present on-site. The project site is highly disturbed from past aggregate extraction, current landfill activities of inert waste, and continuous grading of the fill on the alluvial surface of the quarry bottom, thus the potential to encounter paleontological resources such as fossilized materials is greatly diminished. Excavation into native subsurface materials is not anticipated for the grading required for the proposed sports facilities. Adherence to California Health and Safety Code Section 7050.5, requiring the cessation of grading and construction activities and the contacting of the coroner if human remains are uncovered would ensure that any human remains are appropriately identified and exhumed. This project is not expected to result in any adverse impacts to cultural or paleontological resources and no additional analysis or mitigation is required.*

## Geology and Soils

- Surface Fault Rupture – Less than Significant Impact
- Loss of Topsoil – Less than Significant Impact
- Expansive Soils – Less than Significant Impact
- Septic Tanks – No Impact

## Hazards and Hazardous Materials

- Transport, Use, and Disposal of Hazardous Materials – Less than Significant Impact
- Hazardous Materials Emissions – No Impact
- Hazardous Materials Sites – No Impact
- Emergency Planning – No Impact
- Wildland Fires – Less than Significant Impact

## Hydrology and Water Quality

- Water and Wastewater Standards – Less than Significant Impact
- Groundwater Supplies and Recharge – Less than Significant Impact
- On- and Off-Site Erosion – Less than Significant Impact
- On- and Off-Site Flooding – Less than Significant Impact
- Storm Drain Capacity and Runoff – No Impact
- 100-Year Flooding and Housing – No Impact
- Impedance or Redirection of 100-Year Flooding – No Impact
- Dam or Levee Failure – Less than Significant Impact
- Seiche, Tsunami, or Mudflow – Less than Significant Impact
- Stormwater Velocity and Runoff – No Impact

## Land Use and Planning

- Division of Communities – No Impact

- Planning Conflicts – Less than Significant Impact (please see Section 4.6 for the discussion of consistency with the Cable Airport Comprehensive Land Use Compatibility Plan)
- Conservation Planning – No Impact

### *Population and Housing*

- Population Growth – No Impact
- Displacement of Housing – No Impact
- Displacement or People – No Impact

### *Public Services*

- Schools – No Impact
- Parks – No Impact
- Other Services – No Impact

### *Recreation*

- Deterioration of Facilities – No Impact
- Expansion of Facilities – No Impact

### *Transportation and Traffic*

- Changes in Air Traffic Patterns – Less than Significant Impact
- Emergency Access – No Impact

### *Utilities and Service Systems*

- Wastewater Treatment Requirements – No Impact
- Solid Waste Regulations – No Impact

## Recirculation of the EIR 2.5

The Draft EIR for this project is being recirculated as a result of changes to the project to include the development of all-purpose athletic fields on Parcel 5 and Parcel 6 in Upland and Parcel 3 in Claremont. The previously circulated EIR included Parcel 5 and Parcel 6 in Upland and Parcel 3 in Claremont in the total acreage; however there were no plans to develop those parcels at that time. The revisions to the project will increase impacts related to operational noise, resulting in additional mitigation measures and a significant and unavoidable operational noise impact determination. In addition, additional mitigation measures have been included related to biological resources, hazards, and noise. Revisions to the project will not increase impacts described in the previously circulated EIR for all other impact areas. In addition, a mitigation measure previously included for greenhouse gas emissions is no longer required and has been removed.

## Issues to be Resolved 2.6

Pursuant to Section 15123(b)(3) of the CEQA Guidelines, an EIR summary must identify "Issues to be resolved including the choice among alternatives and whether or how to mitigate the significant effects." This EIR identifies and resolves issues related to project alternatives in Section 5. Potentially significant impacts are identified in the analysis provided in Section 4 and mitigation is considered for all impacts.

## Areas of Potential Controversy 2.7

The public Scoping Meeting held for the project on March 15, 2010 did not identify any areas of controversy to be examined in the EIR. Responses to the circulation of the Notice of Preparation (NOP) identified a variety of environmental concerns related to air quality, biological resources, cultural resources, greenhouse gas emissions, hazards and hazardous materials, public services, and utilities and service systems (see Appendix A). These areas of potential controversy are examined in this EIR and further addressed in the "Scoping Comments" section at the end of each applicable impact area.

## Alternatives to the Proposed Project 2.8

CEQA requires that an EIR examine alternatives to the project that are capable of reducing or eliminating any environmental impacts. The alternatives examined in Section 5.0 are:

- Alternative 1: No Project
- Alternative 2: Alternative Location, CUC North Campus- Golf Course
- Alternative 3: Alternative Location, CUC North Campus-Bernard Field Station
- Alternative 4: Alternative, CUC North Campus-East Property
- Alternative 5: Alternative Institutional Uses
- Alternative 6: Limited Facilities Relocation
- Alternative 7: Alternative Project Configuration

The alternatives screening procedures found that Alternatives 2, 3, 4, and 6 would not meet the objectives of the project and were rejected. Alternative 5 would not reduce or avoid any significant impacts and was also rejected. Impacts from Alternative 1 and Alternative 7 were compared to the project to determine which would result in the least impacts to the environment. Alternative 7 was found to be the environmentally superior alternative pursuant to CEQA. However, although Alternative 7 could result in reduced environmental impacts, it would not meet the seating or lighting objectives of the project.

**Table 2.4**
**Significant and Unavoidable Impacts**

| Impact | Summary | Mitigation Measures | Level of Significance |
|---|---|---|---|
| | *Noise* | | |
| 4.9.A<br>4.9.C | Impacts to surrounding uses and the project site caused by increase in traffic generated noise and operational noise in the project area would be less than significant in the City of Claremont because projected noise levels would not exceed the City standards and would not result in a substantial permanent increase in existing noise levels. Impacts to surrounding uses and the project site caused by increases in traffic generated noise and operational noise in the project area in the City of Upland would be significant and unavoidable | 4.9.A-1<br>4.9.A-2<br>4.9.A-3 | Significant and Unavoidable |

**Table 2.5**
**Less than Significant Impacts with Mitigation Incorporated**

| Impact | Summary | Standard Conditions* | Mitigation Measures |
|---|---|---|---|
| | *Aesthetics* | | |
| 4.1.A | Impacts to day or nighttime views due to the installation of parking lot and sports field lighting and potential glare from building materials would be less than significant with incorporation of Mitigation Measure 4.1.A-1 through 4.1.A-3 and implementation of mandatory zoning regulations | C16.154.030<br>C16.136.050<br>C16.300 | 4.1.A-1<br>4.1.A-2<br>4.1.A-3 |
| | *Air Quality* | | |
| 4.2.A | Short-term construction related air quality impacts would be less than significant with implementation of existing regulations (SCAQMD Rule 403) and mitigation incorporated; long-term operational impacts would be less than significant and no mitigation is required | SCAQMD403 | 4.2.A-1 |
| | *Biological Resources* | | |
| 4.3.A | Direct impacts to special status plant and wildlife species and indirect impacts to special status species due to habitat loss would be less than significant with mitigation incorporated | -- | 4.3.A-1<br>4.3.A-2<br>4.3.A-3<br>4.3.A-4 |
| 4.3.C | Impacts related to the migration would be less than significant with mitigation incorporated | -- | 4.3.C-1 |
| | *Geology and Soils* | | |
| 4.4.A.2<br>4.4.B | Impacts to future structures due to settlement and other forms of potential ground deformation would be less than significant with incorporation of mitigation and implementation of existing regulations | CBC18 | 4.4.A-1<br>4.4.A-2<br>4.4.A-3<br>4.4.A-4<br>4.4.A-5 |

| Impact | Summary | Standard Conditions* | Mitigation Measures |
|---|---|---|---|
| 4.4.A.3 | Impacts to people and future structures due to landslides would be less than significant with mitigation incorporation and implementation of existing regulations | CBC18 | 4.4.A-6 |
| | *Hazards and Hazardous Materials* | | |
| 4.6.A | Impacts to public health and the environment due to the presence of hazardous materials on the project site would be less than significant with mitigation incorporated and implementation of existing regulations | CCR22 | 4.6.A-1<br>4.6.A-2 |
| 4.6.B | Impacts to persons working or residing within the vicinity of Cable Airport due to compatibility issues with the proposed subdivision and future sports facilities would be less than significant with mitigation incorporated and implementation of existing regulations | FAR77 | 4.6.B-1<br>4.6.B-2<br>4.6.B-3 |
| | *Noise* | | |
| 4.9.D | Temporary and periodic noise impacts related to construction activities in the City of Upland and City of Claremont would be less than significant with mitigation incorporated and implementation of existing regulations | U9.40<br>C16.154.020 | 4.9.D-1 |
| | *Transportation and Traffic* | | |
| 4.11.A | Impacts on the performance of the local and regional transportation system due to increased traffic generation from the proposed sports fields in consideration of cumulative traffic increase over the long-term and short-term construction-related impacts would be less than significant with implementation of existing regulations and mitigation measures | U3.44.030<br>C16.200 | 4.11.A-1<br>4.11.A-2<br>4.11.A-3 |
| 4.11.C | Safety hazards associated with students crossing the street from the existing Claremont McKenna and Pitzer Colleges to access the project site would be less than significant with mitigation incorporated | -- | 4.11.C-1 |

* U – Upland Municipal Code
C – Claremont Municipal Code
SCAQMD – South Coast Air Quality Management District
CBC – California Building Code
CCR – California Code of Regulations
FAR – Federal Air Regulations

**Table 2.6**
**Less than Significant and No Impacts**

| Impact | Summary | Standard Conditions* |
|---|---|---|
| | *Air Quality* | |
| 4.2.B | The proposed project would result in less than cumulatively considerable short- and long-term emissions of pollutants for which the Basin is in nonattainment | -- |
| 4.2.C | Impacts to sensitive receptors related to toxic air contaminants, carbon monoxide hotspots, and localized emissions would be less than significant | -- |
| | *Biological Resources* | |
| 4.3.B | Impacts to federally protected wetlands could not occur | -- |
| 4.3.D | The proposed subdivision, Master Site Plan, Site Plan, and development agreements do not conflict with the open space and land use goals of the Claremont Sustainable City Plan; impacts would be less than significant | -- |
| | *Geology and Soils* | |
| 4.4.A.1 | Impacts to people and future structures due to strong seismic groundshaking would be less than significant with implementation of existing regulations | CBC18 |
| | *Greenhouse Gas Emissions* | |
| 4.5.A | Short-term and long-term impacts related to greenhouse gas emissions would be less than significant | -- |
| 4.5.B | Impacts related to conflicts with GHG emissions reduction plans, policies, or regulations would be less than significant | -- |
| | *Hydrology and Water Quality* | |
| 4.7.A.1 | Potential impairment of groundwater resources due to the closure of the Claremont Landfill would be less than significant with implementation of existing regulations | PRC40000<br>WC13700 |
| 4.7.A.2 | Potential impairment of groundwater resources due to improper closure of existing onsite wells would be less than significant with implementation of existing regulations | PRC40000<br>WC13700 |
| | *Mineral Resources* | |
| 4.8.A | Impacts due to the loss of known mineral resources of value to the region and the State would be less than significant | -- |
| 4.8.B | No impacts related to the loss of minerals locally-important to the Cities of Upland or Claremont or the Counties of San Bernardino or Los Angeles could occur | -- |
| | *Noise* | |
| 4.9.B | The proposed project would result in less than significant impacts related to exposure of persons to excessive groundborne vibration | -- |
| 4.9.E | Noise impacts to students, staff, and visitors utilizing the future sports fields due to operations at Cable Airport would be less than significant | -- |
| | *Public Services* | |
| 4.10.A<br>4.10.B | Police of fire protection facilities would not need to be constructed to serve the proposed sports facilities; impacts would be less than significant | -- |

| Impact | Summary | Standard Conditions* |
|---|---|---|
| | *Transportation and Traffic* | |
| 4.11.B | The project would not conflict with the Los Angeles County or San Bernardino County Congestion Management Programs; impacts would be less than significant | -- |
| 4.11.D | The proposed off-site improvements would improve pedestrian and bicycle mobility in the project vicinity and would not conflict with Foothill Transit services in the area; impacts would be less than significant | -- |
| | *Utilities and Service Systems* | |
| 4.12.A | Expansion of water distribution and wastewater collection facilities in Upland would not be required and no impact would occur; expansion of water distribution and wastewater collection facilities in Claremont is not anticipated and impacts would be less than significant | -- |
| 4.12.B | Impacts to the Upland or Claremont storm drain systems would be less than significant | -- |
| 4.12.C | Expanded water supplies would not be required to serve the proposed sports facilities; impacts would be less than significant | -- |
| 4.12.D | Wastewater treatment capacity at servicing plants would be sufficient to serve the proposed sports facilities and future demand; impacts would be less than significant | -- |
| 4.12.E | Impacts related to the adequacy of landfill capacity to serve the proposed sports facilities would be less than significant | -- |

* CBC – California Building Code
PRC – California Public Resources Code
WC – California Water Code
U – Upland Municipal Code
C – Claremont Municipal Code

# Project Title 3.1

Claremont Colleges East Campus (also known as the East Campus Project)

# Project Proponent 3.2

Claremont University Consortium
101 South Mills Avenue
Claremont, California 91711-5053

Katherine Rubel
Director
Facilities Management and Planning
(909) 607-9192

# Project Location 3.3

The Claremont Colleges East Campus project is located within the Cities of Upland and Claremont in the Counties of San Bernardino and Los Angeles, respectively. Approximately 45 acres of the project site are within the jurisdiction of the City of Upland with the remaining 30 acres within the jurisdiction of the City of Claremont (see Exhibit 3.1, Regional Context and Vicinity Map, Exhibit 3.2, Aerial Photograph, Exhibit 3.3, Master Site Plan, and Exhibit 3.4, Site Plan). The boundary line between the jurisdictions transverses the site in a northeast to southwest direction with the eastern portion of the property lying in the City of Upland and the western portion of the property in the City of Claremont. The subject property has a rectangular shape that is elongated in a north-south direction and is approximately 1,220 feet wide and 2,540 feet long. The property encompasses an entire block and is bound by the following streets: Foothill Boulevard on the north, Claremont Boulevard on the west, Arrow Route on the south, and Monte Vista Avenue on the east.

## *Coordinates*

Longitude: North 34° 06’ 11.39”, Latitude: West 117° 42’ 03.51”

## *Legal Description*

In the City of Upland, the proposed project includes the subdivision of a portion of the east ½ of the northeast ¼ of Section 10, Township 1 South, Range 8 West San Bernardino Meridian, according to the official plat thereof, except therefrom any portion lying within the boundaries of Los Angeles County.

In the City of Claremont, the proposed project includes the subdivision of a portion of the east ½ of the east ½ of Section 10, Township 1 South, Range 8 West San Bernardino Base and Meridian, lying westerly of the easterly line of Los Angeles County.

## Project Site and Surrounding Land Uses

Existing land uses on the site include temporary parking, and a Class III landfill. Within the City of Upland, the project site is designated Institutional (I) and zoned Special Purpose (SP). Within the City of Claremont, the project site is designated Institutional and zoned Institution Education (IE).

North of the project site is an ARCO gas station and a plant nursery, both located at the northeast corner of Claremont Boulevard and Foothill Boulevard (see Exhibit 3.5, Photographic Survey). The remainder of the block north of the project site is vacant. To the northwest are a Chevron gas station and a neighborhood commercial center that includes a dry cleaner, a tanning salon, a Starbuck's coffee shop, fitness center, yoga studio, day care facility, restaurant, and several other retail and service related uses. To the northeast is a business park that includes an escrow company and a home furnishings retail establishment. Surrounding land uses, zoning districts, and general plan land use designations are summarized in Table 3.1 (Surrounding Land Uses).

East of the project site are neighborhood and service commercial uses at the southeast corner of Monte Vista Avenue and Foothill Boulevard that include a pool service establishment and a liquor store. An industrial park with warehousing is located approximately 400 feet south of the intersection of Monte Vista Avenue and Foothill Boulevard that includes a data processing business and a gymnastics studio. The remainder of the block to the east is vacant; however, there is an approximately 7-acre detention basin located at the northeast corner of Arrow Route and Monte Vista Avenue. To the southeast is currently vacant.

South of the project site is a mixed-use Specific Plan project (known as College Park) that incorporates commercial and residential land uses. The northeast corner of the College Park site is developed with a commercial center that includes a Subway sandwich shop, a frozen yogurt shop, and a hamburger restaurant. Residential development is located to the south and southwest of the commercial development. The property at the southeast corner of Arrow Route and Claremont Boulevard has been constructed and includes single-family residences.

Located to the southwest of the project is a preschool and student housing apartments. To the west are the Claremont McKenna College and Pitzer College campuses. The facilities nearest the project site include student housing, a baseball field, a parking lot, and vacant land.

**Table 3.1**

**Project Site and Surrounding Land Uses**

| | Land Use | Jurisdiction | Zoning | General Plan |
|---|---|---|---|---|
| **Site** | Landfill<br>Temporary Parking | Upland<br>Claremont | SP: Special Purpose<br>IE: Institution Education | Institutional<br>Institutional |
| **N** | Arco Gas Station<br>Plant Nursery<br>Vacant | Claremont<br>Upland | CH: Commercial Highway<br>CC: Community Commercial | Commercial<br>Commercial/Industrial-Mixed-Use |
| **NE** | Business Park | Upland | CC: Community Commercial | Commercial/Industrial-Mixed-Use |
| **E** | Neighborhood Commercial<br>Service Commercial<br>Vacant<br>Recharge Basin | Upland | CH: Highway Commercial<br>Upland Crossing Specific Plan<br>ML: Light Industrial | Commercial/Industrial-S<br>Upland Crossing Specific Plan |
| **SE** | Vacant | Upland | ML: Light Industrial | Commercial/Industrial-S |
| **S** | Shopping Center<br>Vacant | Upland | College Park Specific Plan | College Park Specific Plan |
| **SW** | Children's School | Claremont | AV2: Arbol Verde 2 | Residential 15 |
| **W** | Student Housing<br>Baseball Field<br>Parking Lot<br>Vacant | Claremont | IE: Institutional Educational | Institutional |
| **NW** | Chevron Gas Station<br>Neighborhood Commercial | Claremont | CH: Commercial Highway | Commercial |
| Source: Hogle Ireland 2011 | | | | |

# The Project 3.4

## *Project Objectives*

The Claremont East Campus Project's primary objective is to provide viable parcels of land to be purchased and/or utilized by individual colleges which are constituent members of Claremont University Consortium for the construction of recreational and intramural sport facilities and parking for students attending The Claremont Colleges. Additional objectives include the following:

- Reclaim the project site while minimizing environmental impacts
- Enhance the visual quality of the site and neighborhood
- Provide additional parking
- Increase campus space for potential building construction and/or expansion
- Provide improved and expanded sports facilities

## *Background and History*

The approximately 75-acre project site consists of three separate parcels; one parcel located within the City of Upland and two within the City of Claremont (see Table 3.2, Project Parcel Summary).

Beginning in the 1920's, the subject property was used as a quarry to supply gravel and aggregate for construction uses. Extraction of gravel occurred at depths between approximately 50 feet to 80 feet. In 1972, quarry activities ceased and

the property was permitted for use as an inert, Class III landfill. The landfill was permitted to accept non-water soluble, non-decomposable inert solids. Class III landfills are prohibited from accepting hazardous materials or wastes. Landfill materials are estimated to consist of approximately 50 to 70 percent clean soil and 30 to 50 percent solid materials such as concrete, brick, and plaster board with some wood and metal.

**Table 3.2**

**Project Parcel Summary**

| Owner | Assessor's Parcel Number | Size (AC) | Jurisdiction |
|---|---|---|---|
| Claremont College Consortium | 1007-001-011 | 45.17 | City of Upland |
| Claremont College Consortium | 8308-025-012 | 29.79 | City of Claremont |
| Claremont College Consortium | 8308-009-023 | 0.01 | City of Claremont |
| Sources: Los Angeles County 2009; San Bernardino County 2009 | | | |

In 1984, landfill operations were suspended pending potential development of the site as a business park. The site was sold in 1986 to the Claremont Facilities Corporation. Several studies were conducted including an Environmental Impact Report (EIR) and a landfill closure report to evaluate the site's development potential. In 1987, the site was sold to the Arrow/Claremont Venture that in turn sold the property to the Claremont University Consortium in 1988. The Claremont University Consortium resumed Class III, inert landfill activities in 1991. In the summer of 2002, Claremont University Consortium generally stopped accepting construction wastes from entities other than The Claremont Colleges project contractors; however, the site was utilized by the City of Upland in 2005 for inert construction debris disposal under a special permit. Currently, the project site is primarily vacant. The southwestern portion of the site is used for construction staging and soil dumping.

## *Project Characteristics*

The following provides a general description of the project's technical, economic, and environmental characteristics pursuant to Section 15124(c) of the California Environmental Quality Act Guidelines.

### Land Use

The project consists of subdivision of the project site and construction of future recreational facilities for use by the Claremont McKenna and Pitzer Colleges, consistent with the Subdivision Map Act and the zoning standards and General Plan Land Use designations of Upland and Claremont.

Subdivision

The project involves the subdivision of the three existing parcels that comprise the project site. Assessor's Parcel Number (APN) 1007-001-011 within the City of Upland would be subdivided into six parcels (see Exhibit 3.6, Tentative Parcel Map No. 18989). APN 8308-025-012 and 8308-009-023 within the City of Claremont

would be subdivided into three parcels (see Exhibit 3.7, Tentative Parcel Map No. 70243). Table 3.3 (Proposed Subdivision Summary) includes details of each tentative parcel map. APN 8308-009-023 is a small, landscape area located on the south side of Arrow Route/6th Street and no changes or development is proposed for this area.

**Table 3.3**

**Proposed Subdivision Summary**

| TPM | City | Parcel No. | Size (AC) |
|---|---|---|---|
| 18989 | Upland | 1 | 2.50 |
| | | 2 | 3.40 |
| | | 3 | 3.00 |
| | | 4 | 29.40 |
| | | 5 | 3.20 |
| | | 6 | 3.80 |
| | | *TOTAL* | *45.30* |
| 70243 | Claremont | 1 | 16.75 |
| | | 2 | 11.80 |
| | | 3 | 0.59 |
| | | *TOTAL* | *29.14* |
| | | **GRAND TOTAL** | **74.44** |
| Source: Andreasen Engineering 2009 | | | |

Master Site Plan, City of Upland

A Master Site Plan (Exhibit 3.3) has been prepared to guide site development within the City of Upland over a 10-15 year timeframe. The Master Site Plan identifies the locations of proposed sports fields, activity areas, and ancillary buildings and structures. The baseball field, softball field, football/track field, and archery range would be relocation sites for replaced facilities as proposed in the Claremont McKenna Colleges (CMC) Master Plan. The Argentinean paddle tennis court would be a new sports facility along with proposed ancillary facilities and all-purpose athletic fields. Development applications and plans providing details of the proposed facilities must be submitted and approved prior to actual construction of the facilities. Required future submittals would include architectural plans, landscape and lighting plans, and sign plans for design review and site plan and conditional use permit approval. At this time, Parcels 1 through 3 of TPM 18989 are not proposed for development and would be left vacant until future uses are defined. Future uses proposed at a later date may be subject to further environmental review, as determined by the City of Upland. For the purposes of environmental review and future development of the parcels, the Master Site Plan identifies the following proposed uses:

*TPM 18989, Parcel 4, City of Upland*
Parcel 4 of TPM 18989 would be developed with a National Collegiate Athletic Association (NCAA) regulation size baseball field. The baseball field would be centrally located within the East Campus Project and would be constructed across the existing boundary line between the Cities of Upland and Claremont and within a portion of Parcel 2 of TPM 70243 in the City of Claremont. The baseball field would include support features consisting of home and away bleachers and team dugouts. The baseball field bleachers would seat a maximum of 500 spectators in addition to approximately 100 participants including coaches, team members, and other personnel. Attached to the southern portion of the baseball field would be a 30,000 square foot (SF) facilities building that would contain offices, team rooms, classrooms, lockers, concession facilities and storage areas. Offices would be used by sports instructors and support staff. Restrooms would be located directly to the west of the facilities building. South of the baseball field would be developed with a softball field including bleachers and dugouts, a football field and track including bleachers and an equipment storage building, and a retention basin designed to contain storm drain runoff from 100-year storm events. The softball field bleachers would seat a maximum of 500 spectators in addition to approximately 100 participants including coaches, team members, and other personnel. Baseball, softball, and track and field events are spring sports with a total of 13 Saturday events, one Sunday event, and 11 weekday events. Practice typically begins mid-afternoon and ends around 6:00pm.

The football field bleachers would seat a maximum of 3,500 spectators in addition to approximately 200 participants including coaches, team members, and other personnel. The football field would typically host five Saturday home games beginning at 1:00pm and ending at approximately 4:00pm. Night games may also be scheduled beginning at 7:00pm. Football practice could occur concurrently during Spring baseball, softball, and/or track and field practice or events. To the east of the baseball field, a 154-space (including 13 American with Disabilities Act (ADA) accessible spaces) parking area would be constructed to serve the combined sports fields described herein in addition to the 604 parking spaces provided along Claremont Boulevard and the 32 parking spaces provided along Arrow Route. Two restroom buildings and a maintenance building abut the parking area. Adjacent to the parking area are an archery range and an Argentinean paddle tennis court with equipment storage building. The majority of these facilities would be the result of the relocation of existing sports facilities on the CMC campus, as identified in the draft campus Master Site Plan.

TPM 18989 Parcels 1, 2, and 3
Parcel 1, 2, and 3 will remain in the ownership of CUC. No uses for these parcels have been identified at this time.

TPM 18989 Parcels 5 and 6
Parcels 5 and 6 in the City of Upland will be developed with all-purpose athletic fields in conjunction with Parcel 3 in the City of Claremont (TPM 70843) for the use of the Claremont Colleges. In addition, monument signs will be installed with similar

landscaping features to match the other entrances on the site. The parcels will also be developed with a 5,000 square foot field house, and a 32 space parking area.

## Site Plan, City of Claremont

A Site Plan (Exhibit 3.4) has been prepared to guide site development within the City of Claremont over a 10-15 year timeframe. The Site Plan identifies the locations of proposed parking areas, sports fields, activity areas, and ancillary buildings and structures. The proposed multi-purpose fields, volleyball courts, and basketball courts are replacement facilities that were previously removed from the Pitzer College campus to accommodate new student housing. The golf practice area would be a new sports facility along with the proposed ancillary facilities. Development applications and plans providing details of the proposed facilities must be submitted and approved prior to actual construction of the facilities.

*TPM 70243, Parcel 1, City of Claremont*

Parcel 1 includes two large, multi-purpose recreation fields for unspecified sports activities and intramural sports. A basketball court, tennis court, and sand volleyball court would also be provided on Parcel 1. An equipment storage building and restrooms would be located to the south of the basketball court. A linear parking area would be constructed on the western edge of Parcel 1, parallel to Claremont Boulevard. This parking area would contain a total of 390 parking stalls (including 11 ADA accessible spaces) for use by Pitzer College. Bleachers are not proposed for any of the sports fields or activity areas on this parcel and its estimated approximately 100 persons would be using these fields and courts at any one time.

*TPM 70243, Parcel 2, City of Claremont*

Parcel 2 would include another linear parking area parallel to Claremont Boulevard that would include 214 parking spaces (including seven ADA accessible spaces). A golf practice area would be located directly south and down-hill of the multi-purpose field discussed above. This practice area would be used for short-game and putting practice and would not include a driving range. Parcel 2 also includes a portion of the baseball field identified in TPM 18989 (Upland). Uses on this parcel will be owned and operated by Claremont McKenna College. Parcel 2 was included in the CMC Master Plan for which an EIR was prepared and certified by the Claremont City Council in July 2012. The proposed uses on this parcel were approved as part of the CMC Master Plan and addressed in an approved Development Agreement between CMC and the City of Claremont.

TPM 70843 Parcel 3, City of Claremont

Parcel 3 will be developed with an all-purpose athletic field in conjunction with Parcel 5 in the City of Upland for the use of the Claremont Colleges.

## Development Agreements

Development Agreements are currently being negotiated between the City of Claremont and the project proponent and between the City of Upland and the project proponent for the proposed subdivision and phasing of the offsite improvements required for the proposed tentative parcel maps, Master Site Plan,

and Site Plan. A Development Agreement documents the negotiated terms between the project proponent and the approving City for development of the project site. It is a binding contract between both parties. The Development Agreement includes terms for timing of offsite improvements, the potential for future establishment of joint service agreements between the project proponent and the City of Claremont and/or the City of Upland, and the potential for future establishment of cross-jurisdictional utility installation and service. Development Agreements would be negotiated separately for each approving jurisdiction.

The proposed East Campus project is tentatively scheduled to be completed in five phases over a 10-15 year timeframe starting with approval of the tentative parcel maps. This phasing plan is based on costs associated with the amount of on- and off-site improvements and the availability of funding sources. Development of the athletic fields would rely on funding from donors; therefore, the tentative phasing plan presented below is a general framework for future site development over a 10-15 year timeframe and could be implemented earlier or delayed depending on the availability of funding. Completion of all off-site improvements would adhere to this schedule regardless of the progression of on-site development. The phasing plan is summarized in Table 3.4 (Summary Phasing Plan).

Phase 1: The initial phase of the project would be to obtain approvals of the Tentative Parcel Maps (TPM), record individual parcel maps within each jurisdiction, and record all easements or dedications. Recorded parcels would then be sold to the Pitzer and Claremont McKenna Colleges or retained by the Claremont Colleges Consortium.

Phase 2: The second phase, beginning in years two to three, involves the construction of parking areas within Parcels 1 and 2 of TPM 70243, the all-purpose athletic fields on Parcel 3 of TPM 70243 and Parcels 5 and 6 of TPM 18989, and all right-of-way improvements along Claremont Boulevard and Arrow Route. Right-of-way improvements along Claremont Boulevard and Arrow Route must commence prior to the earlier of (a) the third anniversary of the recording of TPM 70243 or (b) commencement of construction of the parking lots. The all-purpose athletic fields will include a 5,000-square-foot field house. Improvements along Claremont Boulevard include construction of the sidewalk, corner improvements with disabled access ramps, installation of street lights, installation of perimeter fencing, landscape and irrigation in the parkway, planting of street trees, undergrounding of existing power lines, improvements to two Foothill Transit bus stops with relocation of the northern most bus stop, and installation of a traffic signal and left-hand turn pocket at the intersection of Ninth Street and Claremont Boulevard. Improvements to Arrow Route would also begin and would include construction of the sidewalk, undergrounding of existing aboveground utilities except for 66kv utility lines, installation of perimeter fencing, construction of corner improvements with disabled access ramps, installation of street trees, and installation of landscaping and irrigation in the parkway. As identified on the proposed Master Site Plan and Site Plan, three driveways would be constructed on Claremont Boulevard and one driveway on Arrow Route during this phase.

Phase 3: Beginning in year four to six, the third phase would include securing entitlements and construction of athletic fields by Pitzer College on Parcel 1 of TPM 70243 and improvements on Foothill Boulevard. Right-of-Way improvements along Foothill Boulevard must commence prior to the earlier of (a) the sixth anniversary of the recordation of TPM 18989 or (b) commencement of construction of any athletic fields in Upland. Entitlements would be secured and construction begun for some athletic fields by Claremont McKenna College (CMC) on Parcel 2 of TPM 70243 and Parcel 4 of TPM 18989. Improvements to the south side of Foothill Boulevard would include construction of street improvements such as lane improvements and curb and gutter, construction of corner improvements including disabled access ramps, construction of a storm drain outlet structure, construction of sidewalks, installation of street lights, median improvements, construction of disabled access ramps at the corner with Monte Vista Avenue, planting of street trees, undergrounding of existing aboveground utilities except for 66kv utility lines, installation of perimeter fencing, and installation of landscaping and irrigation in the parkway and median. The exact construction phasing of the proposed CMC sports facilities is not known considering that construction would be funded by donors. In order to ensure that off-site improvements associated with Phase 4 (below) are implemented within a reasonable timeframe after the beginning of construction of sport facilities in Phase 3, CUC has agreed that Phase 4 improvements will be constructed when 60 percent of the total acreage of Parcel 4 (approximately 18 acres) has been developed.

Phase 4: Phase 4 includes construction of additional athletic fields on Parcel 1 of TPM 70243 beginning around year seven and improvements to Monte Vista Avenue would be initiated. Improvements to the west side of Monte Vista Boulevard would include construction of street improvements such as lane improvements and curb and gutter, construction of sidewalks, installation of street lights, installation of perimeter fencing, planting of trees onsite within a "tree zone", utility undergrounding, and installation of landscaping and irrigation in the parkway and in the median.

**Table 3.4**

**Summary Phasing Plan**

| Phase | Start Year | On-Site Development | Off-Site Improvements |
|---|---|---|---|
| I | 0 | Obtain TPM Approvals | -- |
| | 1 | Record Maps<br>Sell Parcels | Record Dedications |
| II | 2 | Construct 2 Parking lots along Claremont Boulevard<br>Parcel 3 (Claremont)<br>Parcel 5 (Upland)<br>Parcel 6 (Upland) | Claremont Boulevard<br>Arrow Route |
| III | 4 | Parcel 1 (Claremont)<br>Parcel 2 (Claremont)<br>Parcel 4 (Upland) | Foothill Boulevard |
| IV | 7 | Parcel 2 (Claremont)<br>Parcel 4 (Upland) | Monte Vista Avenue |
| V | 10-15 | Complete on-site facilities* | |
| Source: Hogle-Ireland 2009<br>* Completion of athletic fields to be determined upon availability of funding | | | |

Phase 5: The final phase of the project includes completion of any remaining athletic fields, based on the availability of funding. Completion of athletic fields may be delayed beyond the tenth year by Claremont McKenna College.

## Vegetation and Landscaping

The site is dominated by two types of vegetation: alluvial fan scrub that is associated with the foothills of the southern slope of the San Gabriel Mountains, and ruderal. The site also supports approximately 0.7 acres of willow scrub and a 0.6 acre seasonal ponding area in the southeast portion of the site. The variety of shrub and sub-shrub species collectively referred to as alluvial fan scrub shows various stages of recovery from past disturbances associated with quarrying and dumping activities. Ruderal vegetation type describes species growing in disturbed areas, including non-native plants.

Full implementation of the Claremont Colleges East Campus project would change the current site conditions and appearance. Implementation of the Master Site Plan, Site Plan, and development agreements would create a new streetscape including parkway plantings and street trees. Currently, Claremont Boulevard is the only roadway adjacent to the site with a full complement of street trees. Eucalyptus trees are located along Foothill Boulevard and are absent from Monte Vista Avenue and Arrow Route. The project includes landscape enhancements on adjacent roadways including installation of street trees and native/drought-tolerant landscaping. Perimeter fencing consisting of 2-inch by 6-inch anodized wire mesh would be installed concurrently with site development. The project also includes corner treatments at each intersection to include a monument sign and landscaping (see Exhibit 3.8, Corner and Monumentation Detail). All fields would have grass or

artificial turf installed and maintained for practice and competition. All parking areas include parking stall trees to provide vehicle shading and hedge rows or shrubbery for screening. The retention basin would be allowed to grow with native vegetation to the extent that vegetation does not interfere with the hydrologic function of the basin. Manufactured side slopes would also be planted with native vegetation to partially replace native vegetation that would be lost due to development of the site.

## Circulation

The property is served on all sides by the existing roadway system. Foothill Boulevard is located north of the site, Claremont Boulevard is located west of the site, Arrow Route is located south of the site, and Monte Vista Avenue is located east of the site. Claremont Boulevard and a portion of Foothill Boulevard are within the jurisdiction of the City of Claremont. The remaining portion of Foothill Boulevard and the entirety of Monte Vista Avenue and Arrow Route are within the jurisdiction of the City of Upland.

### Claremont Boulevard

Claremont Boulevard is a tree-lined, four-lane divided street with a raised, landscaped median and a Class-II bike lane on the east side of the roadway. Parking is permitted on both sides of Claremont Boulevard. Claremont Boulevard is designated as a secondary arterial within the Circulation Element of the Claremont General Plan (see Exhibit 3.9.A, Proposed Street Sections).

Three access points to the site are proposed from Claremont Boulevard. These entrances would be designed to accommodate two-way vehicle travel to the new parking areas located adjacent to Claremont Boulevard. The centrally located entry at the intersection of Ninth Street and Claremont Boulevard also provides direct access to the lower level parking area adjacent to the baseball field. The project includes installation of a traffic signal at this intersection and a southbound left-hand turn pocket.

### Foothill Boulevard

Foothill Boulevard is designated a major arterial by both jurisdictions' General Plans. Foothill Boulevard is a four-lane divided highway with a raised and landscaped center median. The General Plans of both Cities explain that the major arterial designation is intended to transport large volumes of traffic at increased speeds. Site inspection and photos show that Foothill Boulevard's design is consistent through both Cities. The portion of Foothill Boulevard within Upland is under the Upland's jurisdiction and the portion within Claremont was previously under the California Department of Transportation (Caltrans); however it is currently under the jurisdiction of the City of Claremont. The Site Plan identifies a single access point on Foothill Boulevard that may be installed should the future developer of Parcel 1 of TPM 18989 request it; however, this driveway is not proposed to be constructed in conjunction with the proposed sports facilities. See Exhibit 3.9.A for proposed street sections.

Monte Vista Avenue

Monte Vista is a six-lane, divided roadway with a raised median. The City of Upland General Plan designates Monte Vista Avenue as a major arterial roadway. Parking is not allowed on either side of Monte Vista Avenue and no parkway improvements have been completed adjacent to the project site. No access to the project site is proposed from Monte Vista Avenue. See Exhibit 3.9.B for proposed street sections.

Arrow Route

The roadway bordering the south is identified as Arrow Route within Upland's jurisdictional boundaries and as 6th Street to the west of the project site within Claremont's jurisdictional boundaries. Arrow Route currently is a four lane, divided roadway adjacent to the project site and a two-lane, undivided roadway east of Monte Vista. Arrow Route/6th Street is designated as a collector by both jurisdictions. A single-entry point from Arrow Route is proposed approximately mid-block along the southern boundary, at the intersection of Arrow Route and College Park Drive. This access point would allow ingress and egress to the lower parking area attached to the baseball field and the southern parking area serving the all-purpose athletic fields. This parking area allows access to Claremont Boulevard and Arrow Route. A traffic signal is currently installed at the intersection of Arrow Route at College Park Drive on the southern perimeter of the project site. This traffic light is currently a three-way light and would be modified for the four-way intersection when that driveway is constructed. See Exhibit 3.9.B for proposed street sections.

## Grading

Import or export of soil would not be required because all cut and fill would balance on-site. Approximately 260,000 cubic yards (CY) of soil would be cut/filled on-site to balance the proposed facility pads. The proposed sports facilities have been designed around the site's existing topography (see Exhibit 3.10, Topographical Survey Map, and Exhibit 3.11, USGS Quadrangle). Preliminary geologic investigations have concluded that site development in accordance with the proposed Master Site Plan, Site Plan, and development agreements would be feasible with preparation of phase-specific geotechnical engineering and soils reports. See Exhibit 3.12 (Conceptual Grading Plan) for project elevations and proposed site topography. Geotechnical reports would be required to be prepared by qualified and registered engineers for future, structure-specific proposals.

## Hydrology and Drainage

The current drainage pattern for the site flows in a southerly direction where it infiltrates into the ground. The project proposes to maintain existing drainage patterns, improving the retention basin in the southern portion of the site that would collect the site's storm water via on-site storm drains, vegetated swales, and/or v-shaped concrete drainage swales that would be installed along graded terraces on the site's slopes. Final drainage design will be determined upon application for development permits. The basin has been designed to capture runoff from a 100-year storm event. The project preliminary hydrology report indicates that the 100-year (24-hour) frequency storm at the project site would

generate a maximum flow rate of 189.16 cubic feet per second and a maximum volume of 2,433,753 cubic feet (see Appendix O). This amount of storm water is estimated to require retention up to 90,000 cubic yards; the proposed retention basin and football field area is proposed to hold approximately 125,000 cubic yards. Water collected in the retention basin would infiltrate into the ground that would not only maintain existing drainage but would also treat the water prior to reaching groundwater.

## Utilities and Infrastructure

Water, sewer, electricity, natural gas, and storm drain services are available to the project site. Currently, one 66 kV and four 12 kV power lines are located on the south side of Foothill Boulevard and the north side of Arrow Route adjacent to the project's north and south boundaries. Four 12 kV power lines are located on the east side of Claremont Boulevard adjacent to the project's west boundary. Undergrounding of all existing overhead utility lines that are less than 66 Kv would be required as part of proposed street and parkway improvements. Typical sewer laterals are expected to serve the restroom and support structure facilities. Connections would be made to surrounding water lines to supply water for potable use. Pump stations are proposed at the southern portion of the project site just east of the proposed retention basin to pump wastewater and water uphill to the mains located under Arrow Route for facilities on the Upland portion of the site. These pumps are required because the proposed facilities generally sit below the grade of the existing sewer mains; therefore, wastewater must be pumped uphill.

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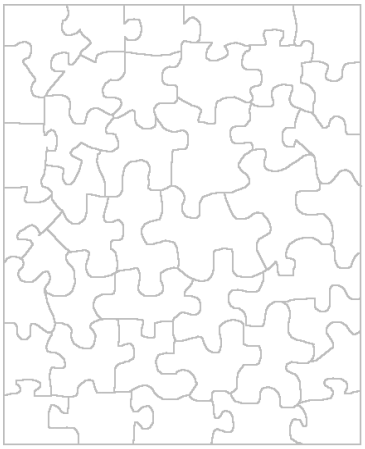
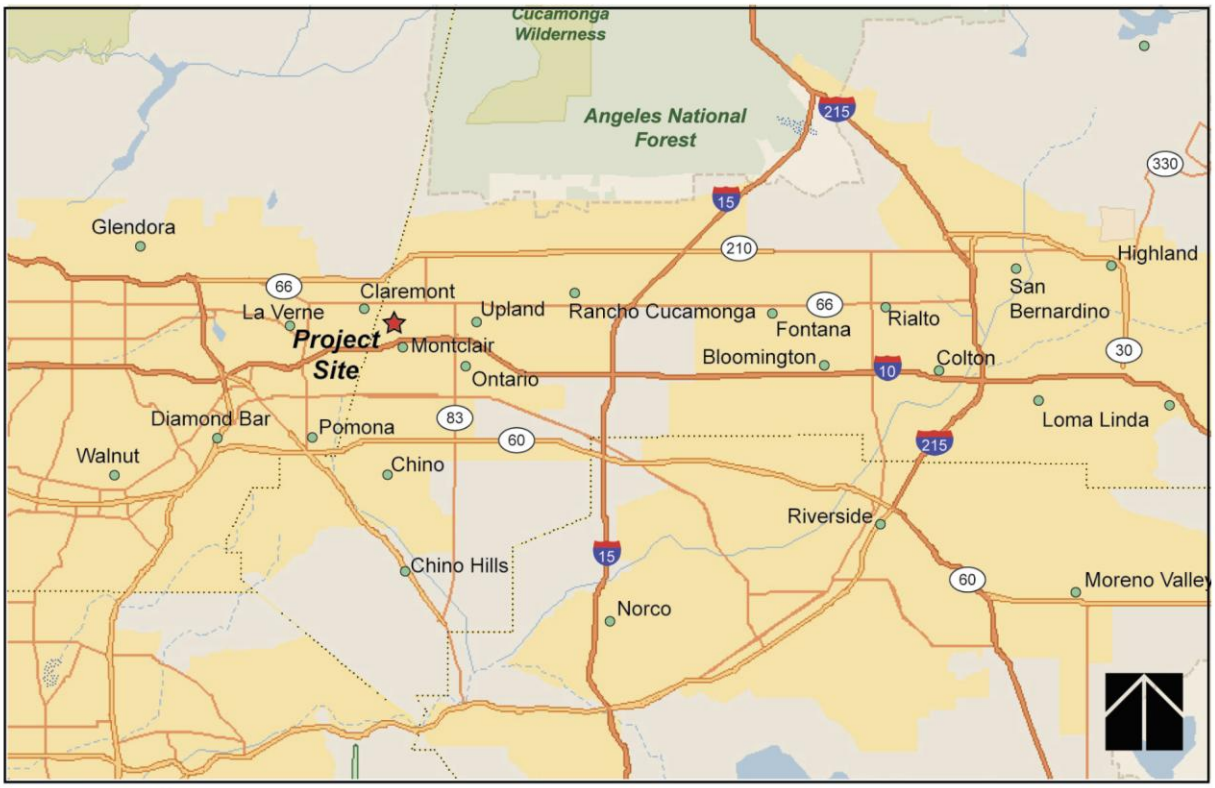
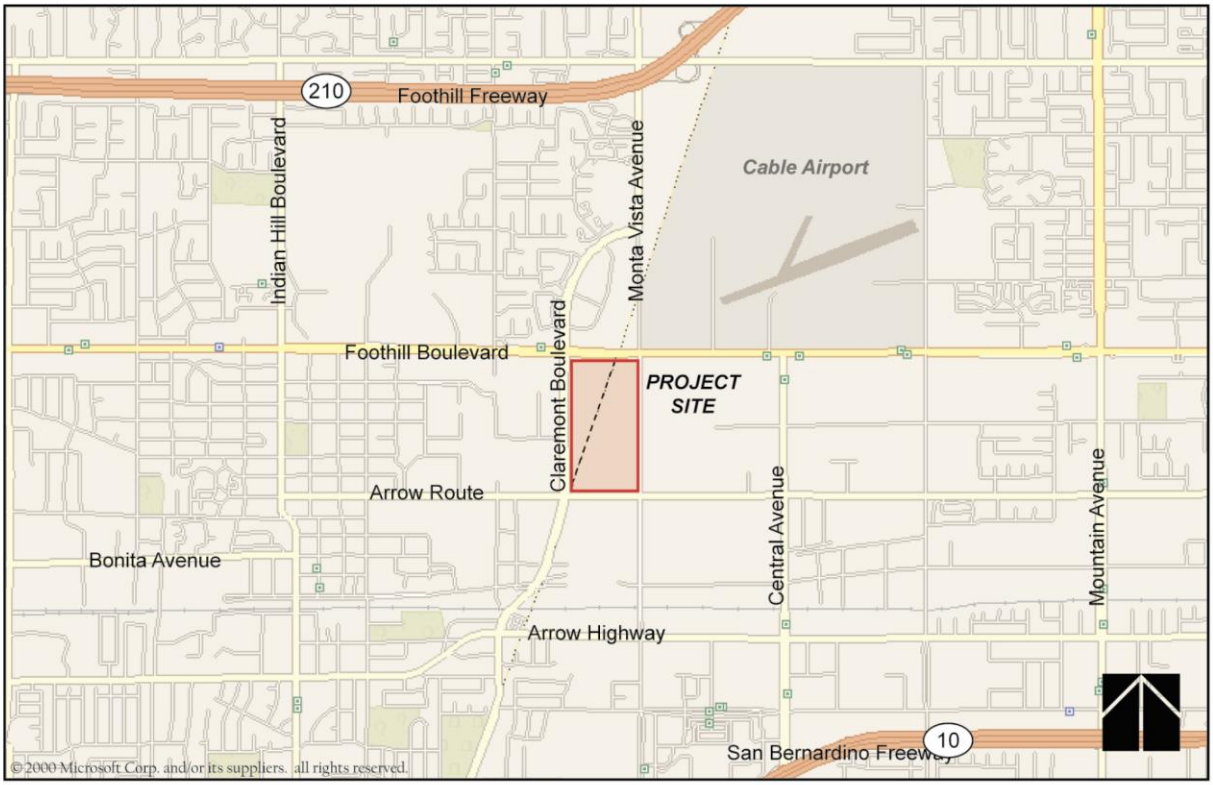





Regional Context Map



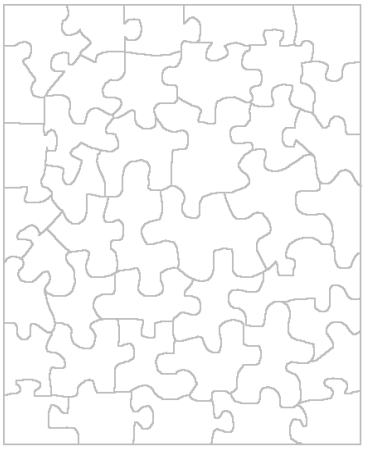

Vicinity Map

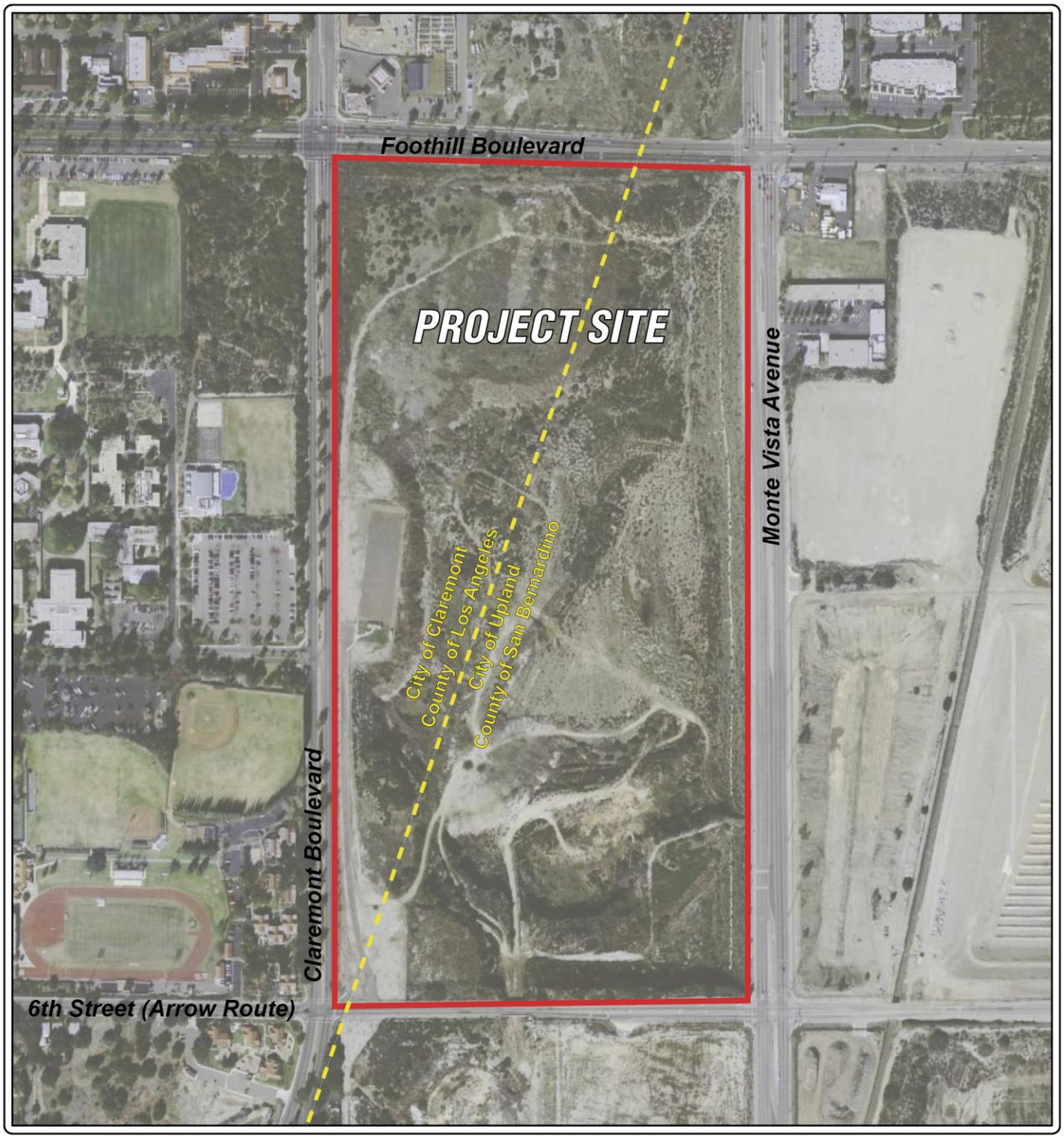
Source: Hogle-Ireland, 2011

## Exhibit 3.1 Regional Context and Vicinity Map

MIG | Hogle-Ireland

Claremont Colleges East Campus EIR
Upland/Claremont, CA





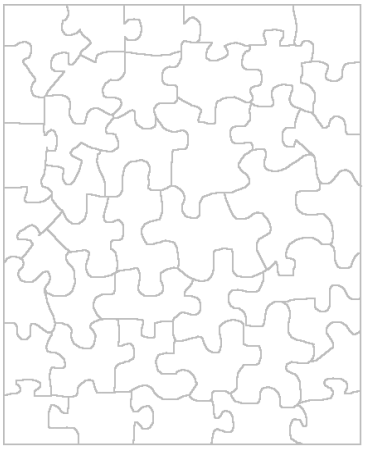

Not to Scale

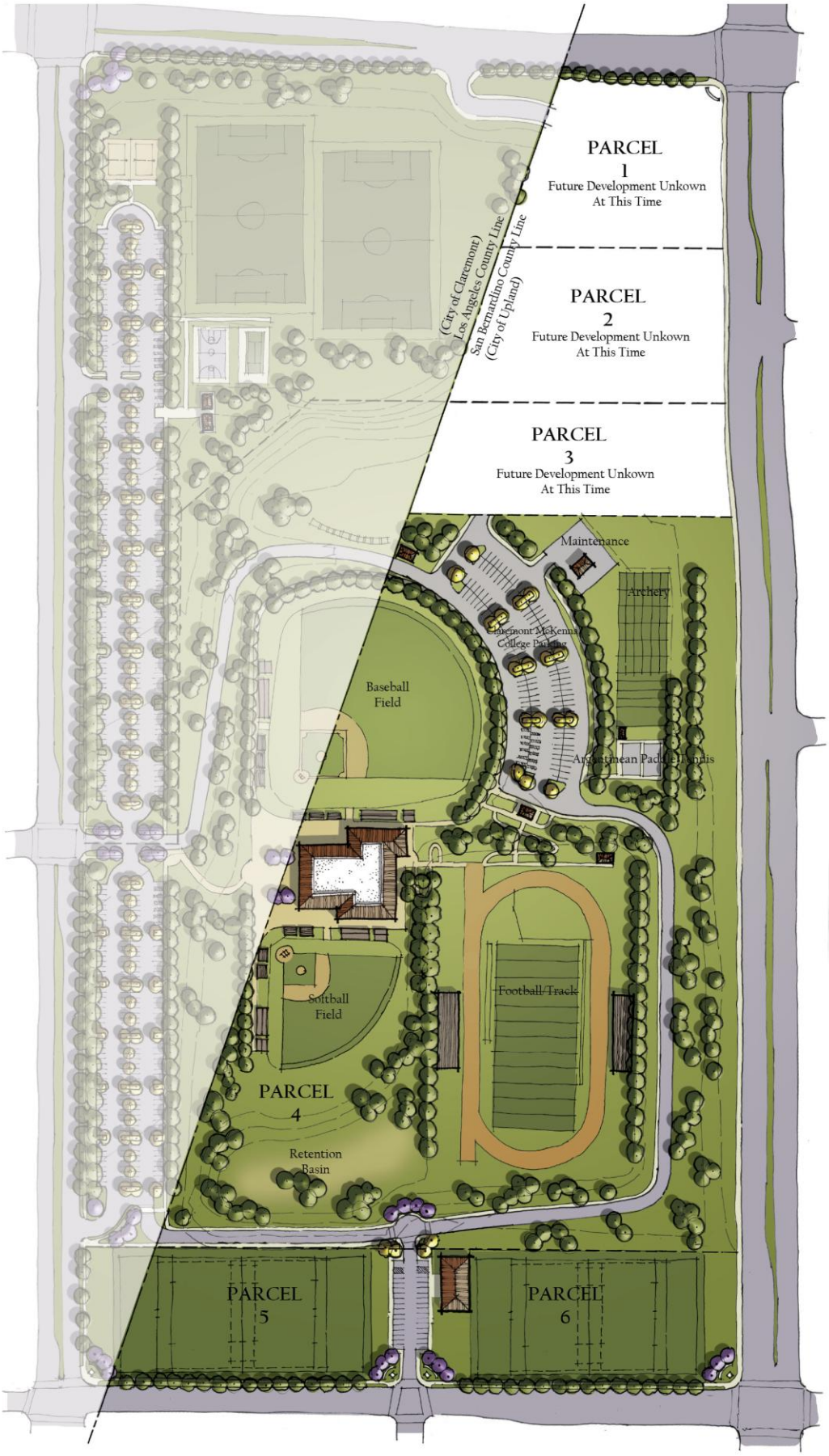
Source: Hogle-Ireland, 2011; Google Earth 2011

MIG | Hogle-Ireland

**Exhibit 3.2 Aerial**

Claremont Colleges East Campus EIR
Upland/Claremont, CA





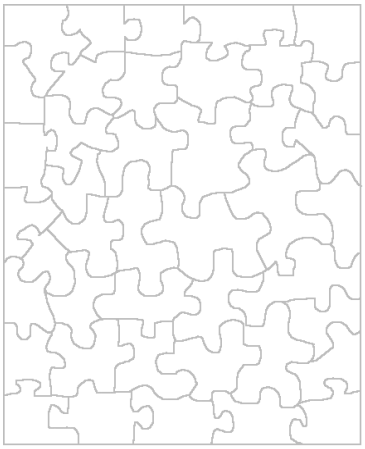

Not to Scale

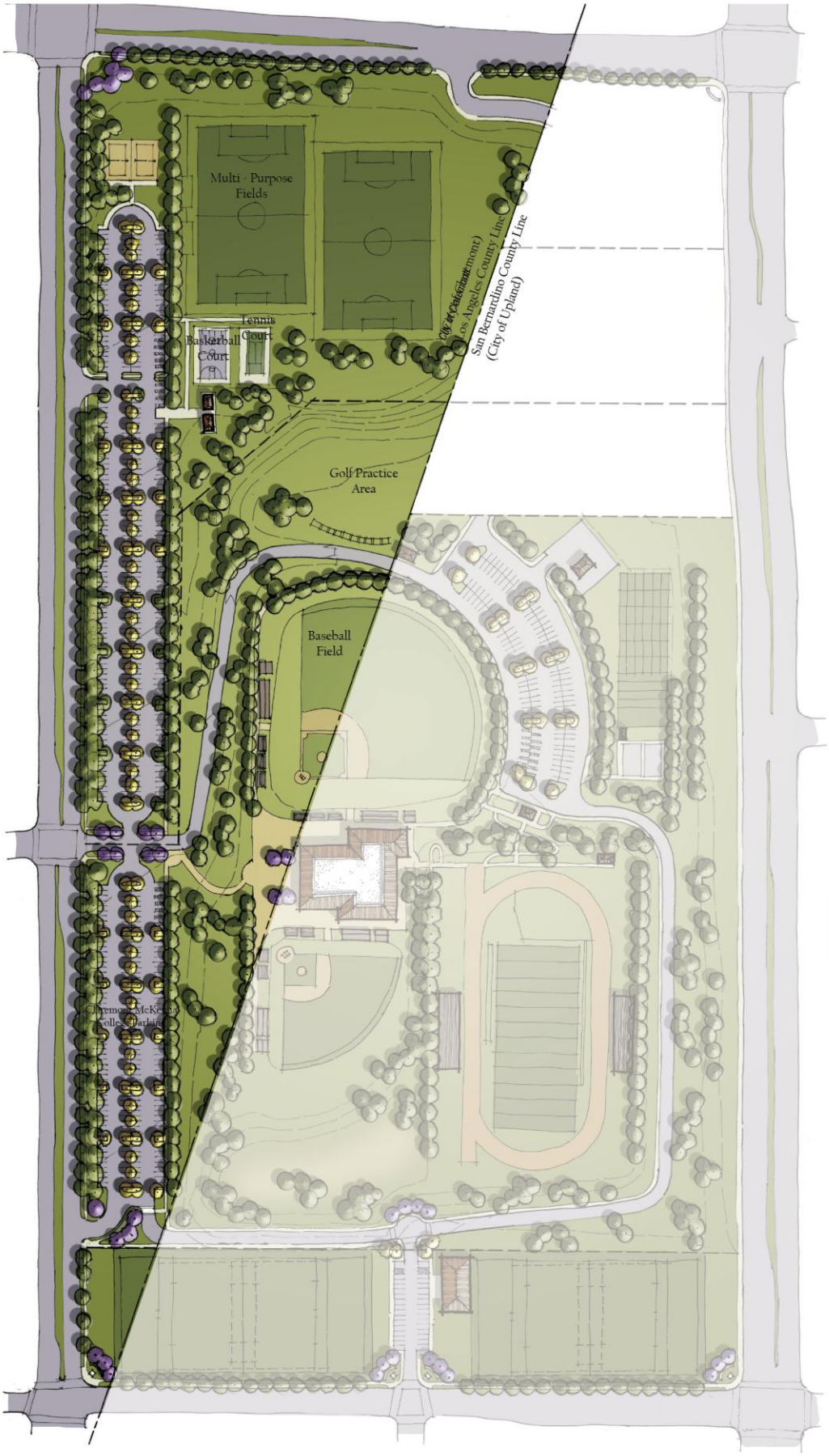
Source: MIG | Hogle-Ireland, 2014

MIG | Hogle-Ireland

# Exhibit 3.3 Master Site Plan

Claremont Colleges East Campus EIR
Upland/Claremont, CA






Not to Scale

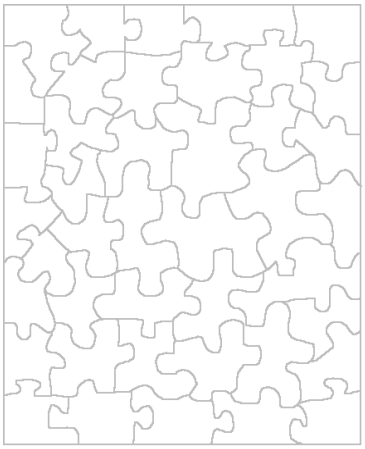
Source: MIG | Hogle-Ireland, 2014

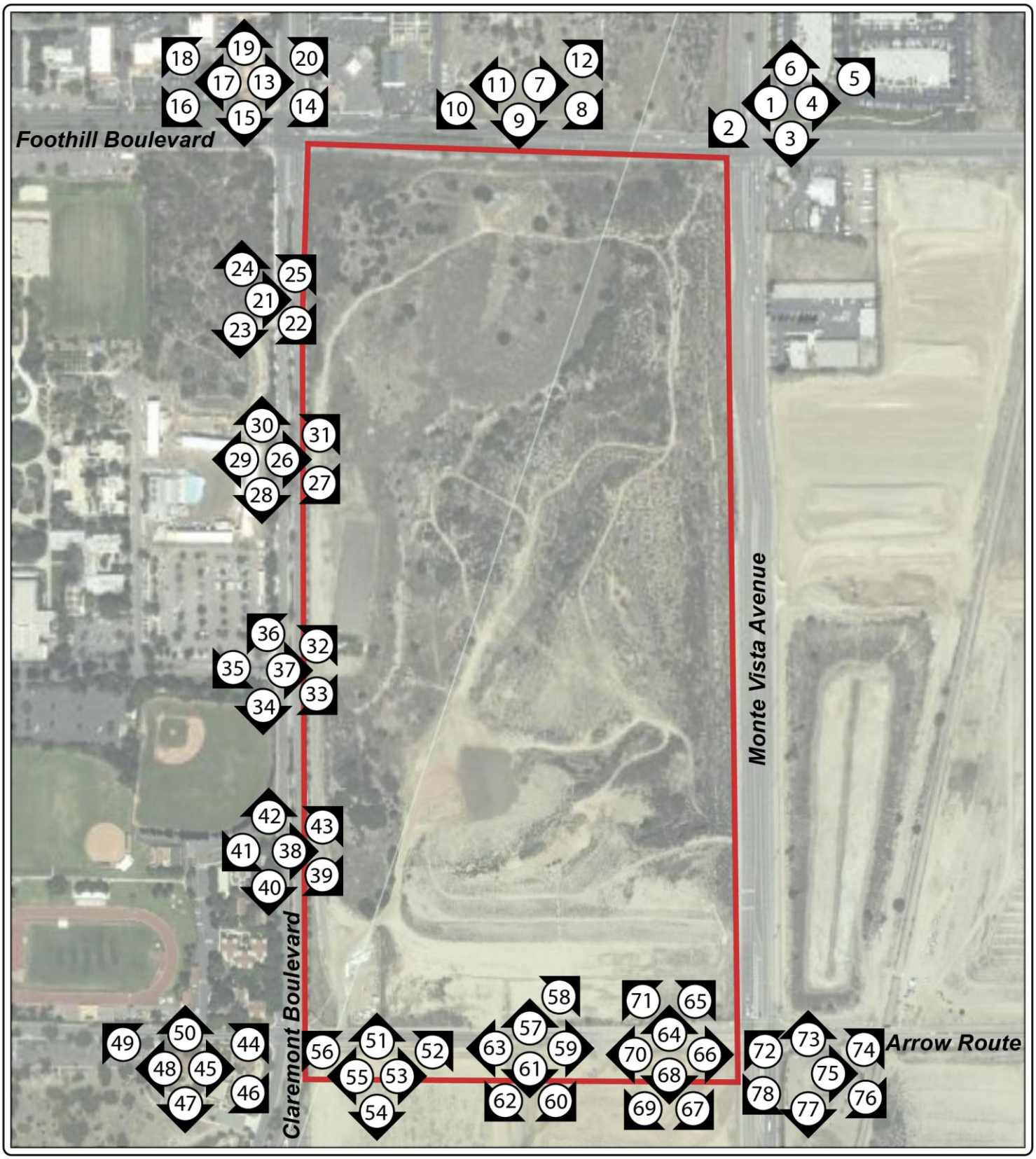
# Exhibit 3.4 Site Plan

Claremont Colleges East Campus EIR

Upland/Claremont, CA

MIG | Hogle-Ireland





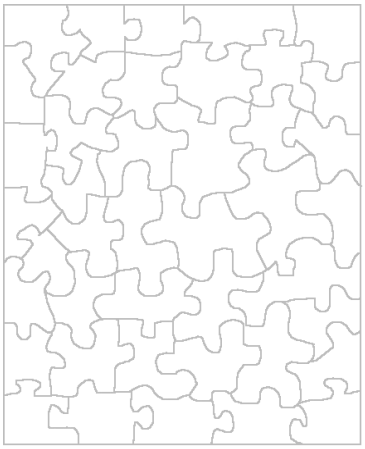

Not to Scale

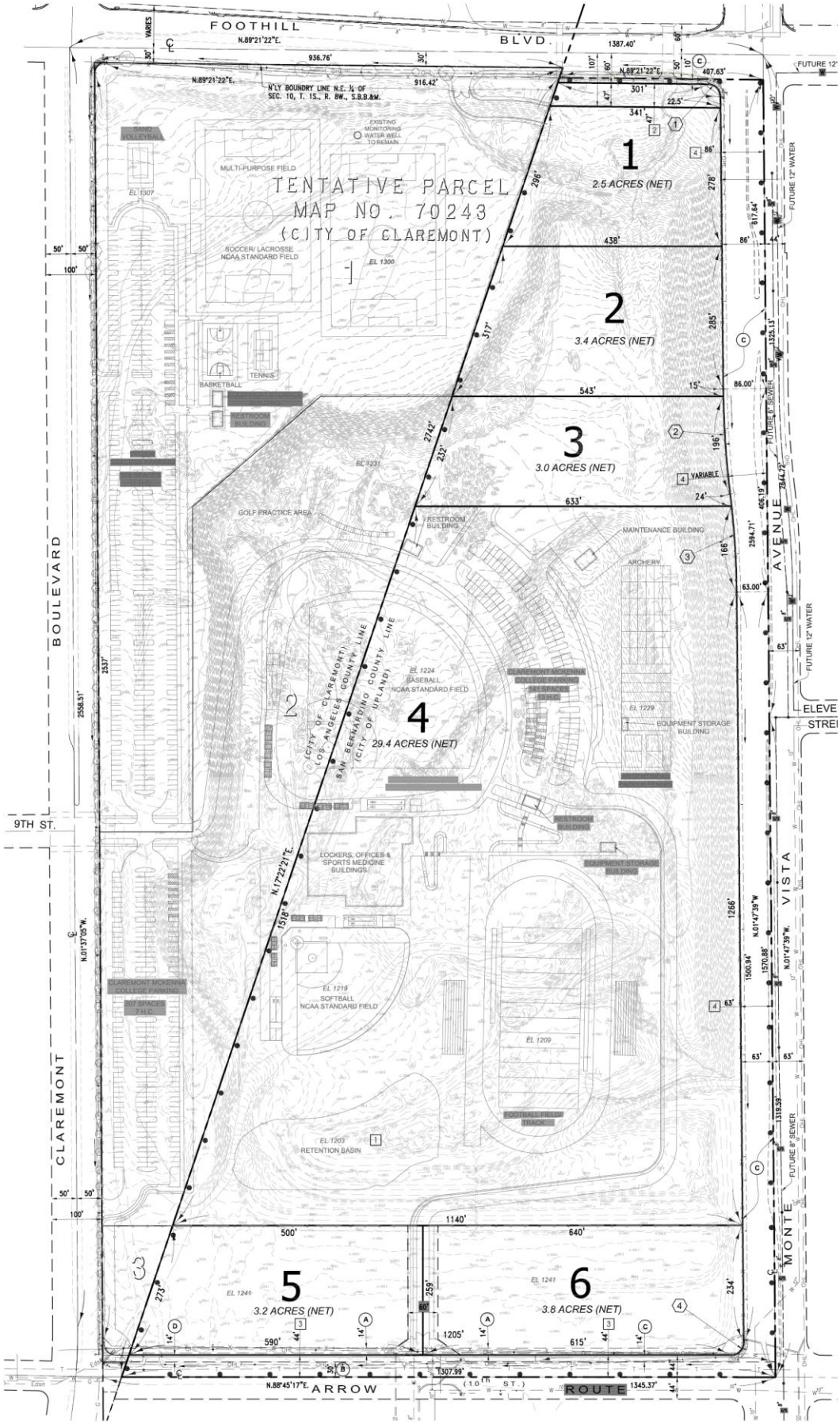
Source: Hogle-Ireland; Google Earth 2011

# Exhibit 3.5 Photographic Survey

Claremont Colleges East Campus EIR
Upland/Claremont, CA

MIG | Hogle-Ireland





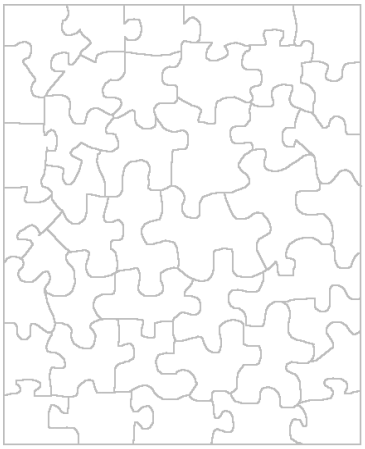

Not to Scale

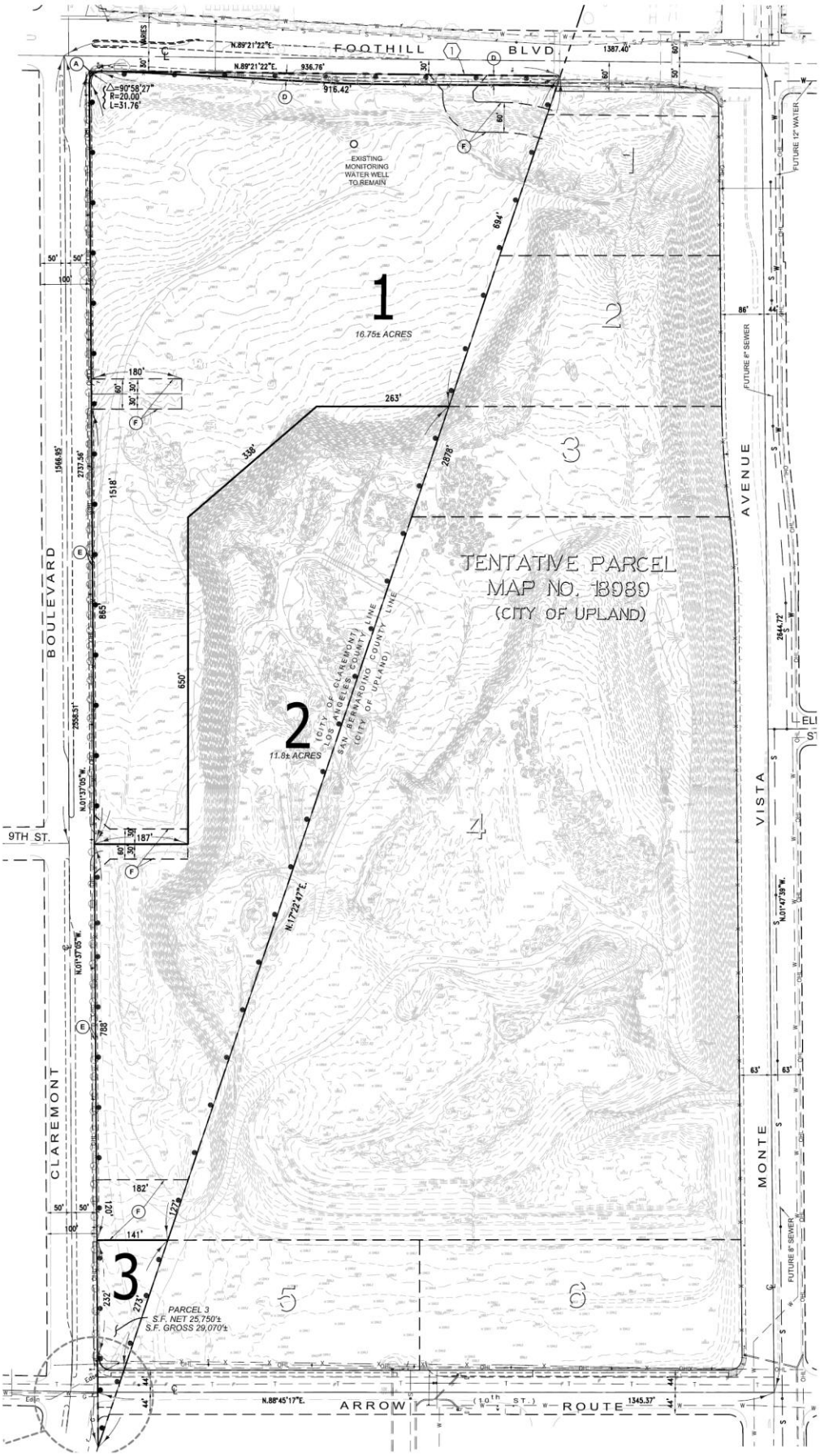
Source: Andreasen Engineering, Inc.

# Exhibit 3.6 Tentative Parcel Map No. 18989

MIG | Hogle-Ireland

Claremont Colleges East Campus EIR
Upland/Claremont, CA





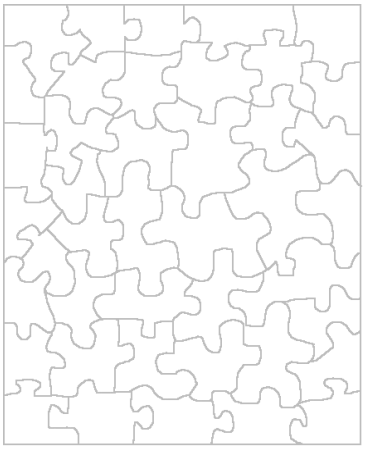

Not to Scale

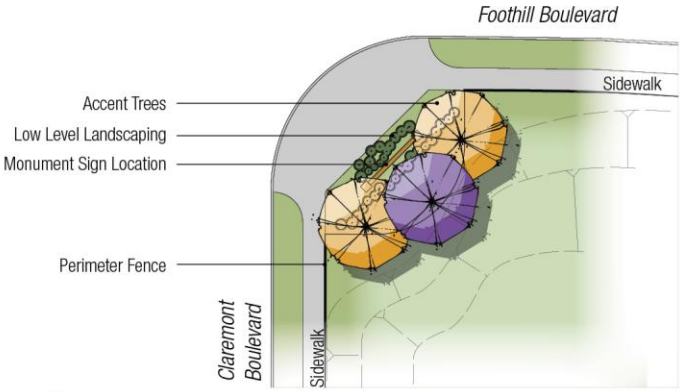
Source: Andreasen Engineering, Inc.

# Exhibit 3.7 Tentative Parcel Map No. 70243

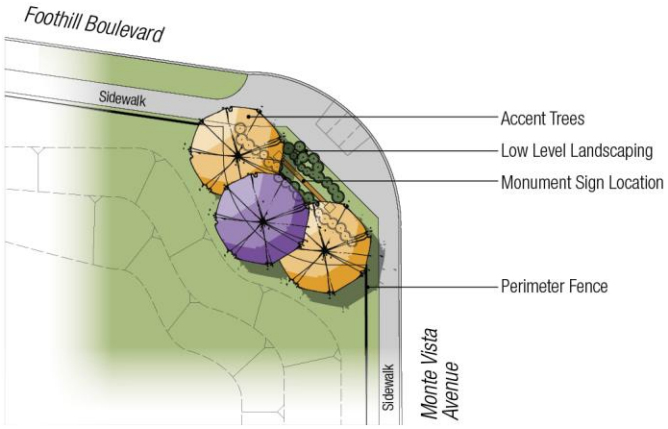
Claremont Colleges East Campus EIR
Upland/Claremont, CA

MIG | Hogle-Ireland

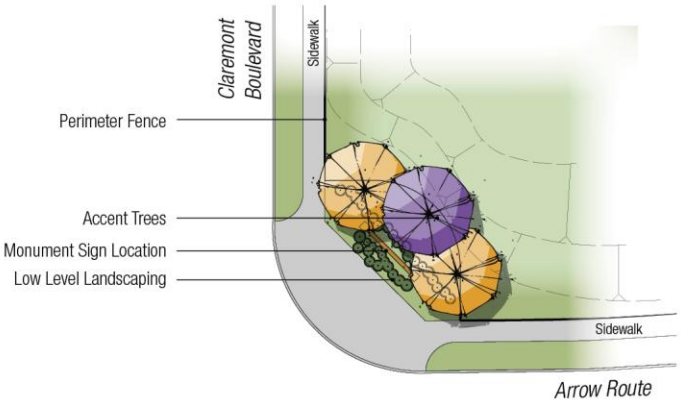




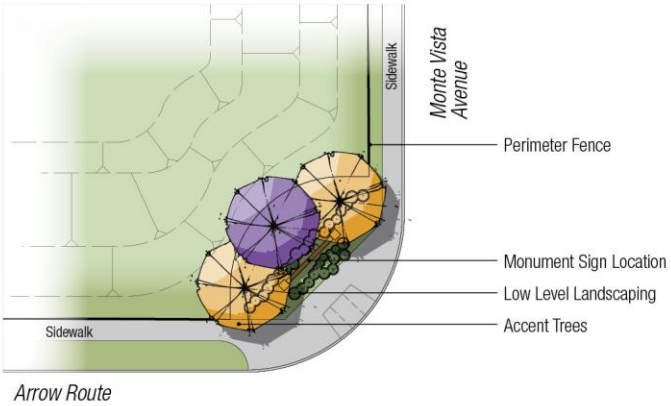

Corner and Monumentation Detail - Claremont Boulevard and Foothill Boulevard




Corner and Monumentation Detail - Monte Vista Avenue and Foothill Boulevard




Corner and Monumentation Detail - Claremont Boulevard and Arrow Route



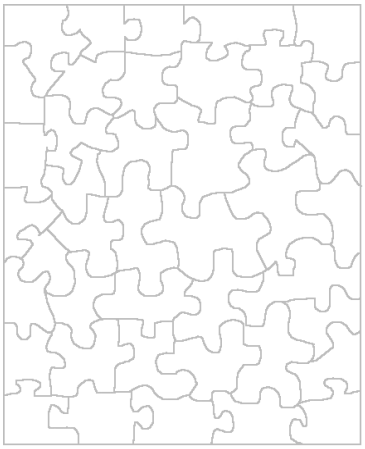

Corner and Monumentation Detail - Monte Vista Avenue and Arrow Route

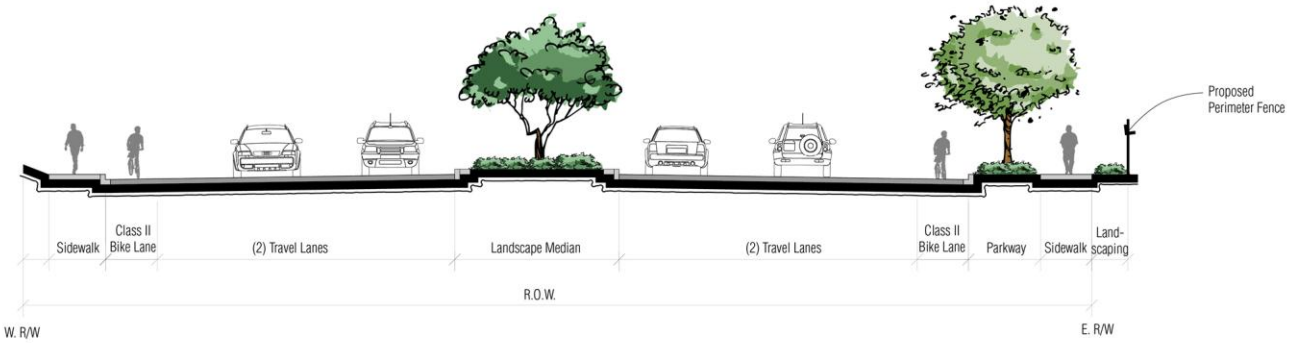
Source: MIG | Hogle-Ireland, 2011

## Exhibit 3.8 Corner and Monumentation Detail

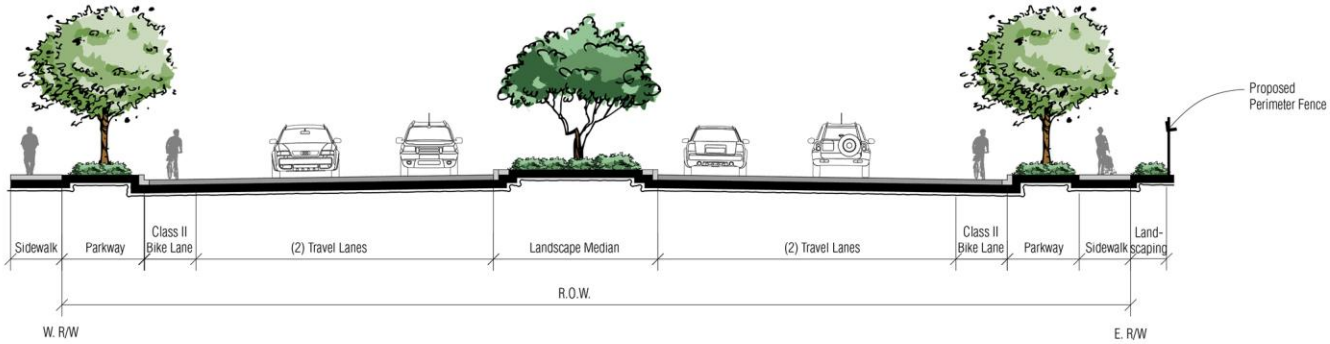
MIG | Hogle-Ireland

Claremont Colleges East Campus EIR
Upland/Claremont, CA

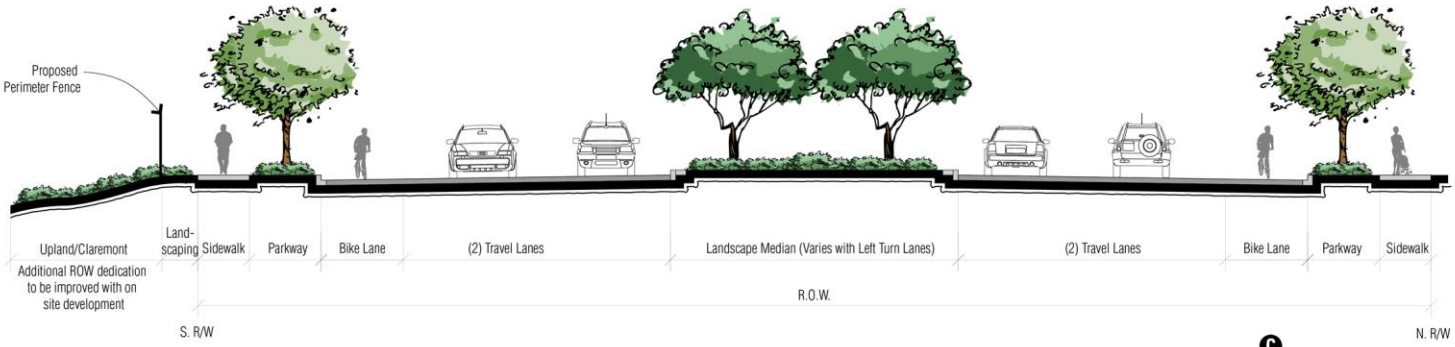




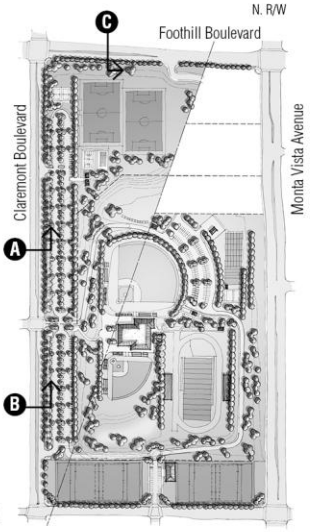

A: Street Section - Claremont Boulevard north of 9th Street




B: Street Section - Claremont Boulevard south of 9th Street




C: Street Section - Foothill Boulevard



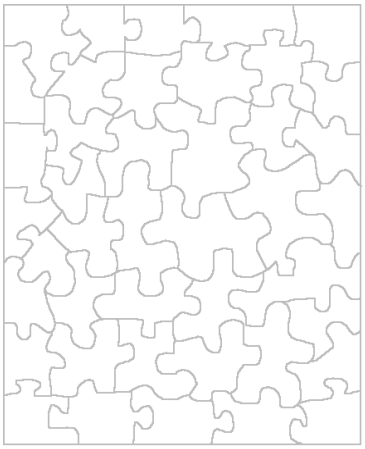

Key Map

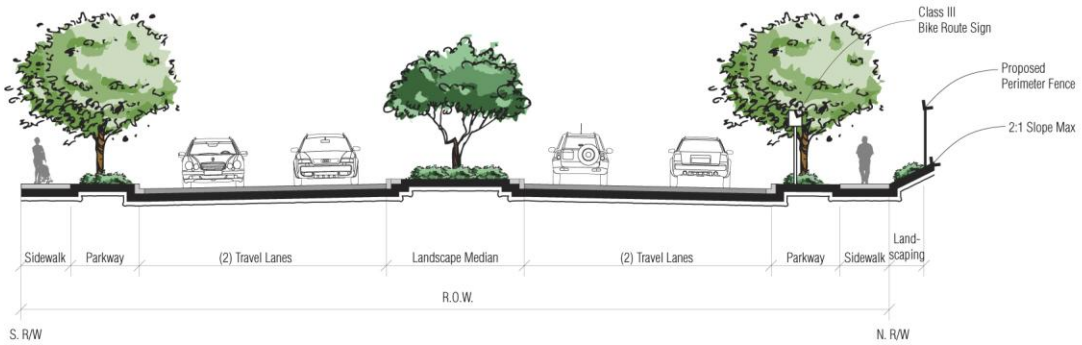
Source: MIG | Hogle-Ireland, 2011

# Exhibit 3.9A Proposed Street Sections

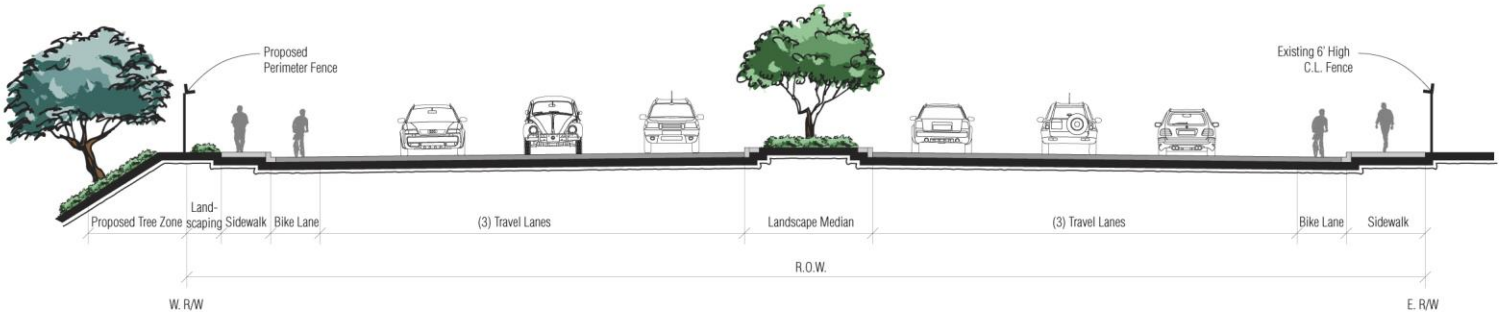
MIG | Hogle-Ireland

Claremont Colleges East Campus EIR
Upland/Claremont, CA

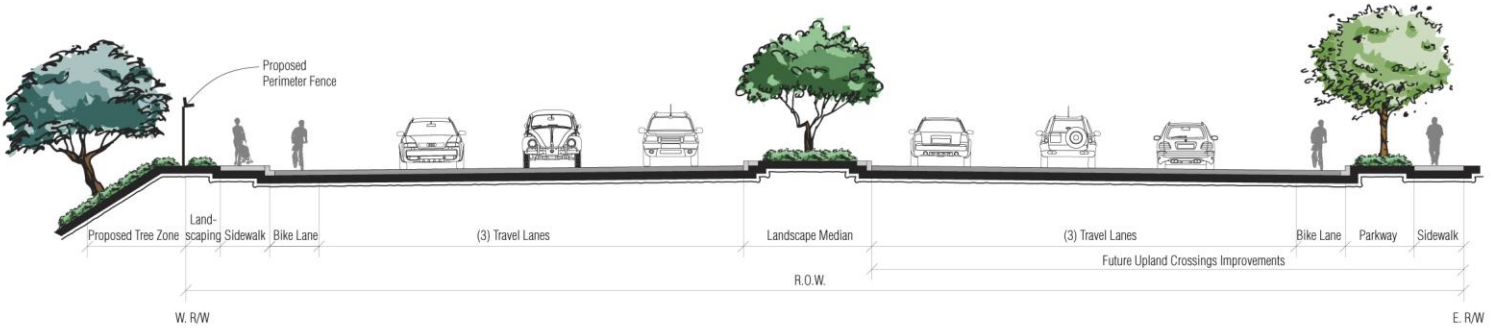




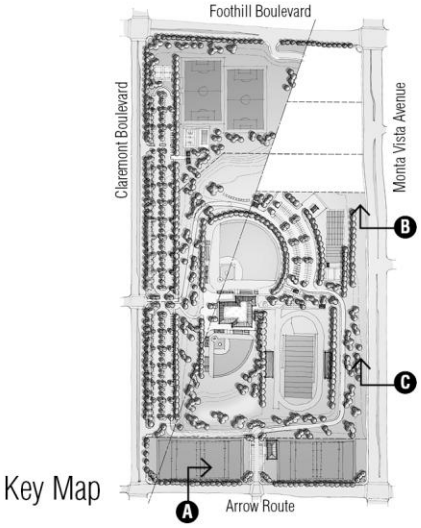

A: Street Section - Arrow Route




B: Street Section - Monte Vista north of 11th street




C: Street Section - Monte Vista south of 11th street



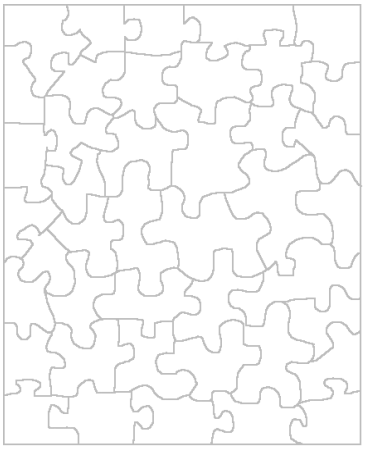

Key Map

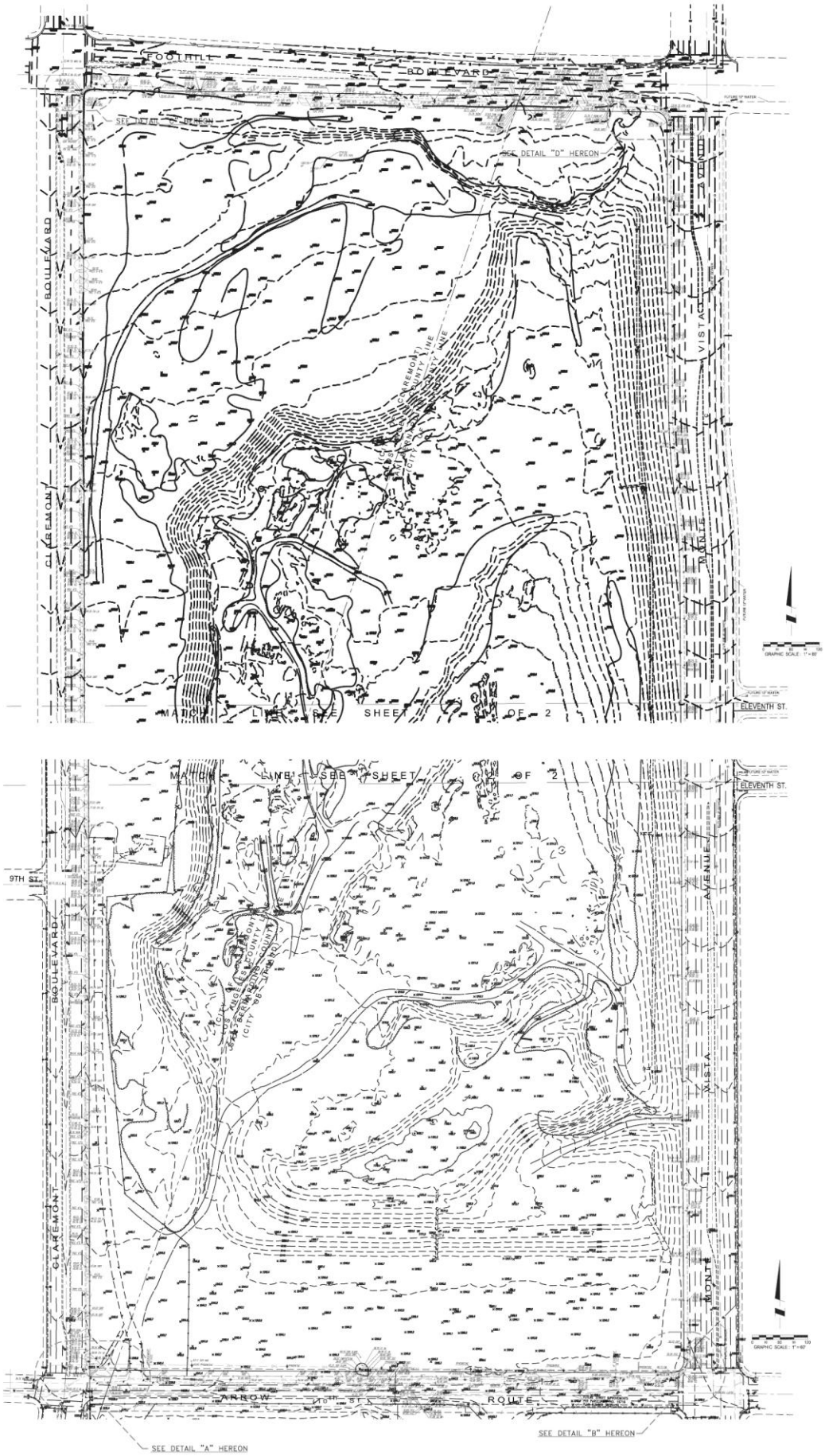
Source: MIG | Hogle-Ireland, 2011

# Exhibit 3.9B Proposed Street Sections

MIG | Hogle-Ireland

Claremont Colleges East Campus EIR
Upland/Claremont, CA





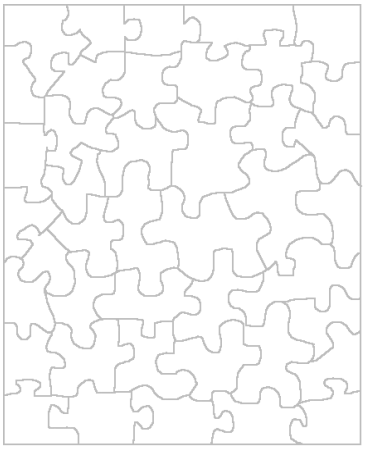

Source: Andreasen Engineering, Inc.

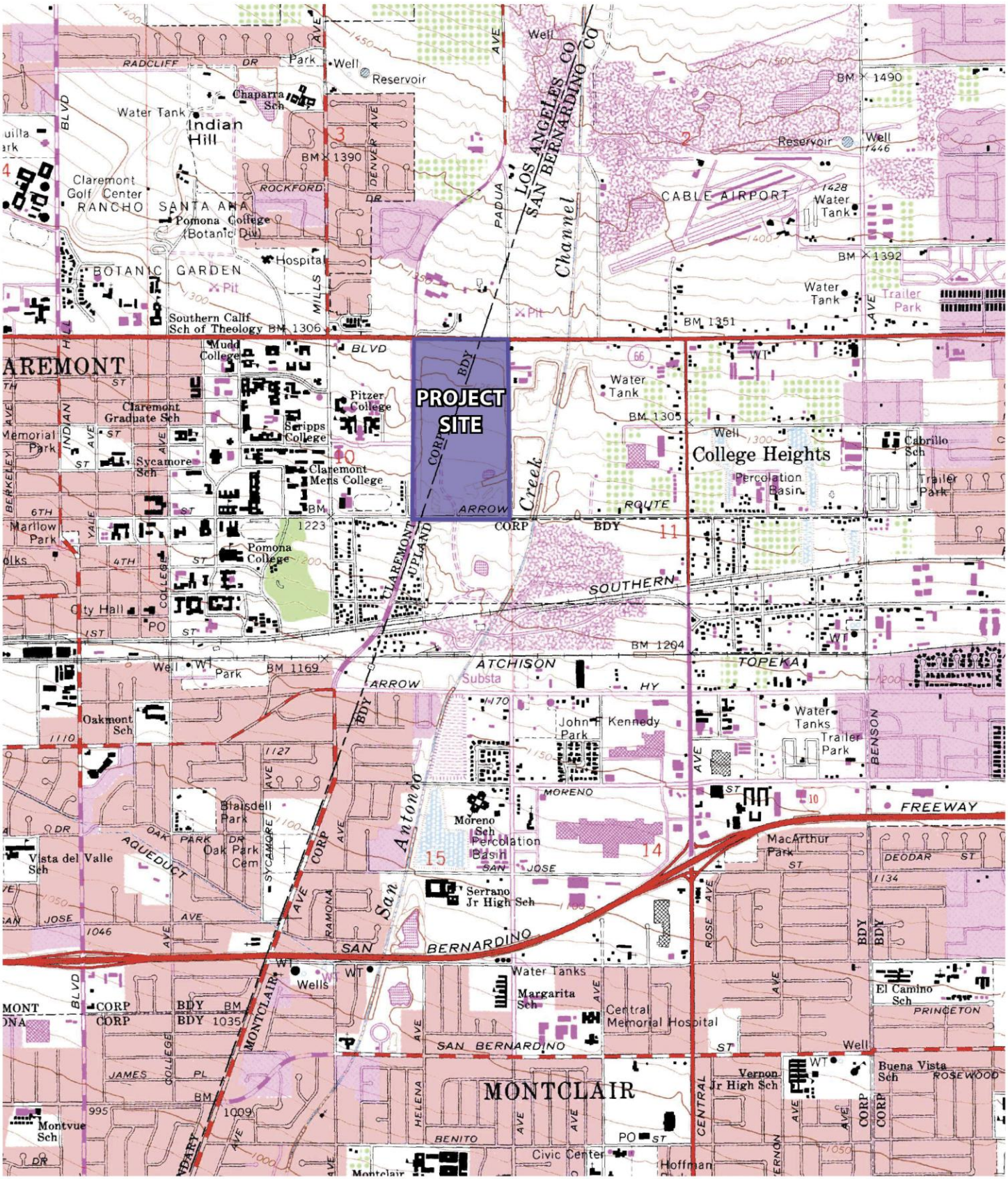
# Exhibit 3.10 Topographical Survey Map

Claremont Colleges East Campus EIR

Upland/Claremont, CA

MIG | Hogle-Ireland



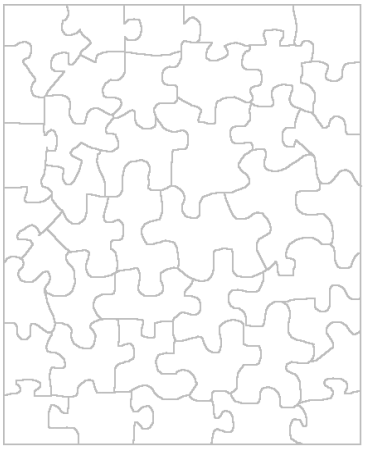


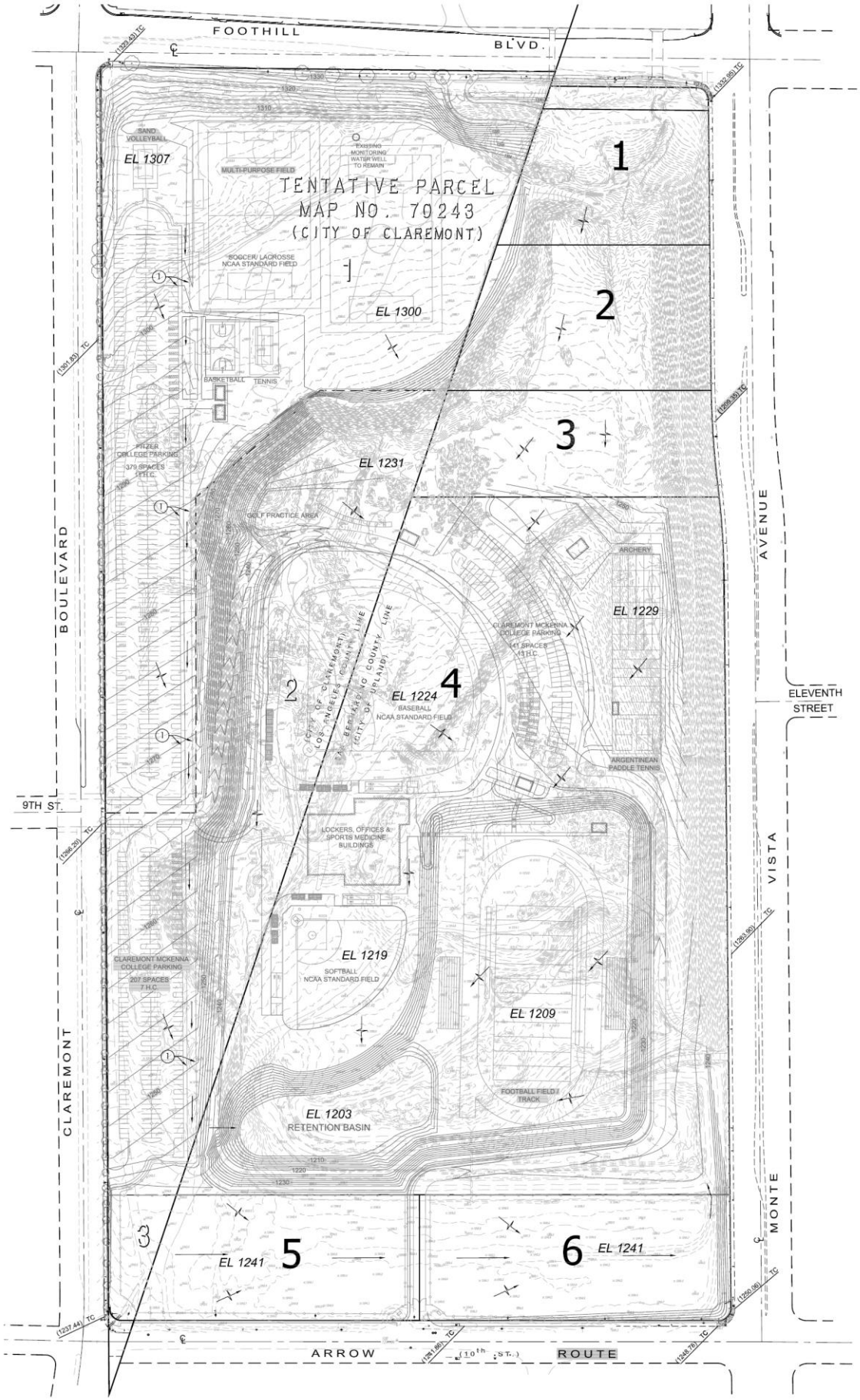

Source: USGS 2009

# Exhibit 3.11 USGS Quadrangle

Claremont Colleges East Campus EIR
Upland/Claremont, CA

MIG | Hogle-Ireland



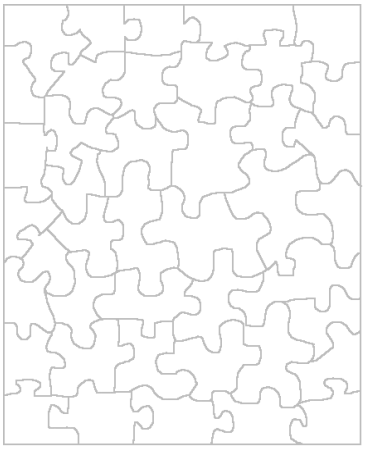



Source: Andreasen Engineering, Inc.

# Exhibit 3.12 Conceptual Grading Plan

Claremont Colleges East Campus EIR
Upland/Claremont, CA

MIG | Hogle-Ireland



# Aesthetics 4.1

The following discussion assesses new sources of light and glare within the project boundaries and the potential for disturbances from light and glare on adjacent land uses. No impacts related to scenic vistas, scenic resources, or visual character were identified in the project Initial Study and will not be discussed herein. No comments related to lighting were received during circulation of the Notice of Preparation or during the public scoping meeting.

## *Existing Conditions*

The site currently contains no man-made sources of light. All existing, on-site activities that include the Class III landfill and temporary construction parking occur during the day and are therefore not a significant source of light. Some light may be produced from the headlights of vehicles entering and leaving the project site during the early-morning and late-evening hours, depending on the time of year. This is not a substantial source of light and is consistent with the developed, urban character of the area. Approximately one-half mile southwest of the project site, Pomona Colleges operates the Frank P. Brackett Observatory that houses two computer controlled 14-inch telescopes and a horizontal solar telescope.

## *Regulatory Setting*

### Upland Zoning Code

Parking lot lighting in the City of Upland is regulated pursuant to 17.22.060.D (Design and Improvement of Parking Areas – General, Limitations on Lighting) of the Zoning Code. Lighting is required to be hooded or shielded and arranged and controlled in a manner so as to not create a nuisance to traffic or the environment. All lighting is required to be reviewed during the design review process pursuant to Section 17.16.210 (Design Review – Meetings and Review Procedures) of the Zoning Code. According to the City of Upland elements of design review, lighting systems should enhance safety while avoiding light and glare nuisances to surrounding properties. Lighting fixtures and mounts are also reviewed for compatibility with the overall design theme of the project.

### Claremont Zoning Code

The City of Claremont regulates general outdoor lighting pursuant to Section 16.154.030 (Outdoor Lighting and Glare) of the Zoning Code. The Zoning Code requires lighting to be designed, installed, and maintained in such a manner as to direct light only onto the property on which the light source is located. Parking lot lighting is specifically regulated pursuant to Section 16.136.050.G (Development Standards for Parking Areas with Six or More Spaces) of the Zoning Code, where minimum parking lot illumination levels and limitations on fixture types are established and lighting fixtures are limited to a maximum height of 15 feet above grade.

Chapter 16.300 (Architectural Review) establishes the responsibilities and procedures for review of new development and redevelopment by the City's Architectural Commission. Review responsibilities for the Commission include new parking lots, landscaping, and irrigation for non-residential uses and new non-single family structures. Criteria for review and approval are based on conformity with applicable regulations, compatibility of design with the surrounding neighborhood, architectural treatment, and other factors.

## Threshold of Significance

The proposed East Campus project would result in significant aesthetic impacts if it would:

A. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area.

## Environmental Impacts

**IMPACT 4.1.A**

***Impacts to day or nighttime views due to the installation of parking lot and sports field lighting and potential glare from building materials would be less than significant with incorporation of Mitigation Measures 4.1.A-1 through 4.1.A-3 and implementation of mandatory zoning regulations***

Lighting impacts are generally not a concern for daytime views because most sources of lighting are turned off during the day. Lighting is a concern at night because excessive or inappropriately mounted lighting can impact views of the night sky and create an annoyance on adjacent properties. Conversely, impacts from glare are generally considered during the day when reflective building and automobile materials (i.e. glass or polished metal) have sufficient sunlight to create glare. Impacts associated with such glare range from nuisance to potentially dangerous situations (i.e. if glare is directed into the eyes of motorists). Glare can also cause excessive heating of other buildings in the vicinity if the glare is directed towards a structure.

The Master Site Plan, Site Plan, and development agreements have been prepared to identify the location of future facilities and improvements. These plans do not include specifications or locations of any lighting except for height; however; lighting would be similar to that currently installed in other areas of the Claremont Colleges campuses. Common pole-mounted lighting would be utilized in parking areas. Pedestrian bollards may be installed along interior pathways to illuminate walkways at night. Security lighting is likely to be installed on accessory structures. An additional source of light and glare would come from automobiles entering and leaving the site. These are common sources of light/glare and typical for the urbanized character of the project site and surroundings.

The football/track field located in the southeastern portion of the site is anticipated to have field lighting. Field lighting is anticipated to include approximately four,

approximately 80 feet in height, metal poles with approximately 30 metal-halide fixtures each placed on the east and west sides of the field at approximately the home and away team ten yard lines. According to the Claremont McKenna College facilities department, field lighting is anticipated to consist of "green" light poles and fixtures. Green lighting offers up to a 50 percent reduction in energy consumption and a 50 percent reduction in spill light when compared to traditional field lighting due to the advanced reflector design.[1] Field lighting would likely operate at 30 foot-candles, 70 foot-candles, or a combination of these two, depending on the needs of the event. The football field is proposed within an existing depression on the site at an elevation (EL) of 1,209 feet above mean sea level (AMSL). This is approximately 90 feet below the northwest corner of the project site and 30 feet below the southeast corner of the site; therefore, the field lighting would be substantially reduced in height when viewed from the surrounding areas. Other field lighting includes four, 60 foot high poles and with approximately 30 fixtures each for the baseball and softball fields. Exhibit 4.1.1 (Conceptual Lighting Section) depicts the height of the anticipated lighting features in context of the topography of the project site. Field lighting will also be provided for the all-purpose athletic fields along Arrow Route. Six field lighting fixtures, approximately 60 feet in height, will line the all-purpose athletic fields, directed away from Arrow Route. Exhibit 4.1.2 (Conceptual Field Lighting Along Arrow Route) depicts the height of lighting fixtures and anticipated views from Arrow Route.

Field lighting and all other future potential lighting proposed as part of the Master Site Plan, Site Plan, and development agreements will be subject to the standards and regulations of the Cities of Upland and Claremont related to appropriate design and shielding of lighting to prevent spill-over onto other properties. Specifically, lighting identified for the Master Site Plan area is subject to the shielding requirements of the Upland Zoning Code to prevent off-site illumination of surrounding properties. Lighting would be subject to future design review to ensure that the provisions of the Upland Zoning Code are fulfilled. Similarly, facilities identified for the Site Plan area would be subject to the Claremont Zoning Code that prohibits off-site illumination of surrounding properties. Appropriate lighting design would be reviewed and approved by the Architectural Commission with compliance verified through preparation of a photometric plan and light level reviews. These existing regulations would ensure that any future proposed lighting would not create a nuisance to surrounding properties or contribute substantially to the deterioration of nighttime views in the area. The regulatory requirements of the City of Claremont have been included as mandatory standard conditions of the project and would be monitored with project-specific mitigation in the project Mitigation Monitoring Reporting Program. Mitigation Measures 4.1.A-2 through 4.1.A-3 have been incorporated to implement the lighting provisions in the City of Upland and to provide consistency of the lighting requirements. Impacts to nighttime views would be less than significant with mitigation incorporated and implementation of existing zoning regulations adopted by the Cities of Upland and Claremont.

Parking lots identified on the Site Plan would be utilized by automobiles and other vehicles that can create glare due to reflections from vehicle windows and bodies.

The project includes perimeter landscaping and/or berms at a height that would minimize any potential for glare to impact surrounding properties by substantially blocking parking areas from off-site view. The Master Site Plan and Site Plan identify ancillary and support structures throughout the project site. These structures are anticipated to be constructed in a similar manner as the adjacent campuses with wood and stucco frames in either a modern or Spanish design. These materials do not reflect light in a manner that causes glare. Although it is unlikely that future structures would be constructed of materials such as polished metals or glass, neither the City of Upland nor the City of Claremont specifically prohibit use of such materials; therefore, a potentially significant impact could occur if such materials are utilized so as to cause glare onto adjacent properties and roadways. Mitigation Measure 4.1.A-1 will be incorporated to ensure that any future structure proposed on the project site is not constructed of materials that could cause glare. Impacts related to glare would be less than significant with mitigation incorporated.

## *Standard Conditions*

**Section 16.154.030**

**City of Claremont.** Prior to issuance of building permits, the construction and installation of any future lighting shall comply with the provisions of Section 16.154.030 (Outdoor Lighting and Glare) of the Claremont Zoning Code that prohibits nuisance glare and lighting of surrounding properties. Compliance with Section 16.154.030 shall be confirmed through the preparation of a photometric plan prepared by a qualified professional demonstrating that proposed lighting does not exceed 0.5 foot-candles at the property line of neighboring residential properties.

**Section 16.136.050**

**City of Claremont.** The construction and installation of any future lighting shall comply with the provisions of Section 16.136.050 (Development Standards for Parking Areas with Six or More Spaces) of the Claremont Zoning Code that prohibits nuisance parking lot lighting. Compliance shall be confirmed through post-construction light level analysis performed by a qualified professional confirming that lighting is consistent with applicable regulations and approved lighting and photometric plans.

**Chapter 16.300**

**City of Claremont.** Prior to issuance of building permits, the construction and installation of any future lighting shall be reviewed and approved by the Claremont Architectural Commission pursuant to Chapter 16.300 (Architectural Review) to ensure that proposed lighting conforms with applicable development standards.

## *Mitigation Measures*

**MITIGATION 4.1.A-1**

Prior to issuance of building permits, any structure proposed on the project site shall be reviewed during the appropriate jurisdiction's standard review process to ensure that proposed building materials do not create glare in a manner that could endanger motorists on adjacent roadways, create a nuisance for surrounding properties, or otherwise impact the community. Use of reflective materials such as polished metal or glass shall be prohibited unless the applicant can provide substantial evidence prepared by a qualified professional to the appropriate jurisdiction's Development Services or Community Development Director that use of such materials shall not cause glare impacts on surrounding properties or roadways.

**Mitigation 4.1.A-2**

Prior to issuance of building permits, the project proponent shall submit photometric plans verifying that the construction and installation of any future lighting complies with the provisions of Section 17.16.210 (Design Review – Meetings and Review Procedures) of the Upland Zoning Code that prohibits nuisance glare and lighting of surrounding properties. Compliance with Section 17.16.210 shall be confirmed through the preparation of a photometric plan prepared by a qualified professional demonstrating that proposed lighting impacts have been minimized (e.g. through shielding or other methods) and does not exceed 0.5 foot-candles at the property line of neighboring properties.

**Mitigation 4.1.A-3**

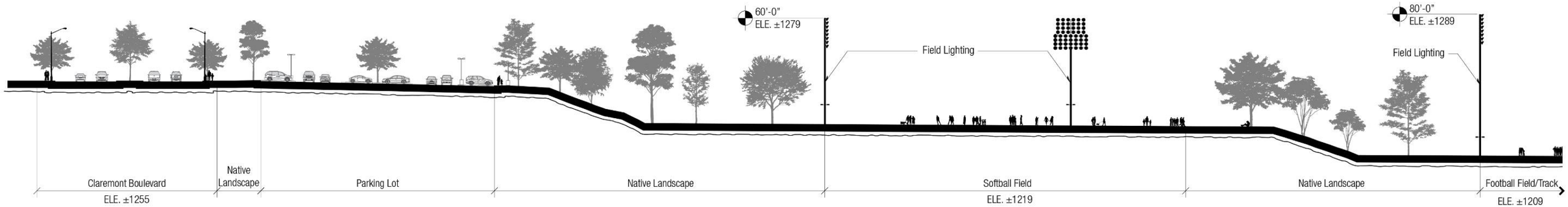
Prior to issuance of building permits, the project proponent shall submit photometric plans verifying that construction and installation of any future lighting complies with the provisions of Section 17.22.060.D (Design and Improvement of Parking Areas – General, Limitations on Lighting) of the Upland Zoning Code prohibiting nuisance parking lot lighting. Compliance shall be confirmed through post-construction light level analysis performed by a qualified professional confirming that lighting impacts have been minimized (e.g. through shielding or other methods) and does not exceed 0.5 foot-candles at the property line of neighboring properties and is consistent with applicable regulations and approved lighting and photometric plans.

## *Level of Significance with Mitigation Incorporated*

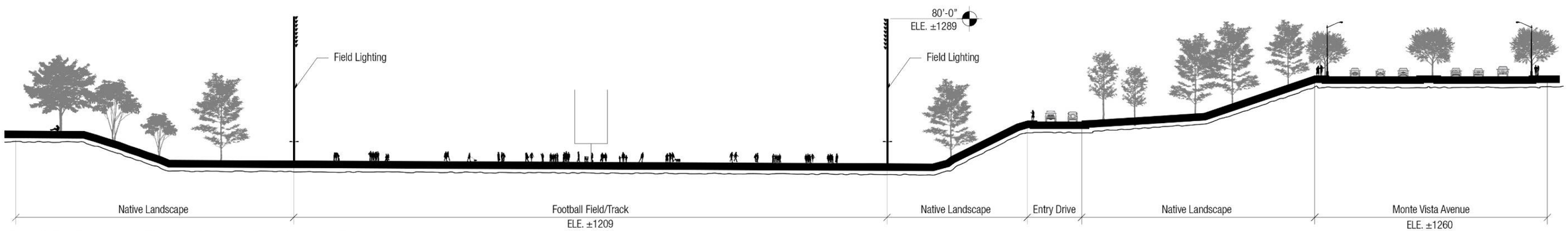
Impact 4.1.A would be less than significant with standard conditions and Mitigation Measures 4.1.A-1 through 4.1.A-3 incorporated.

[1] Worley, Brian. Claremont McKenna College. Personal Communication. May 25, 2010

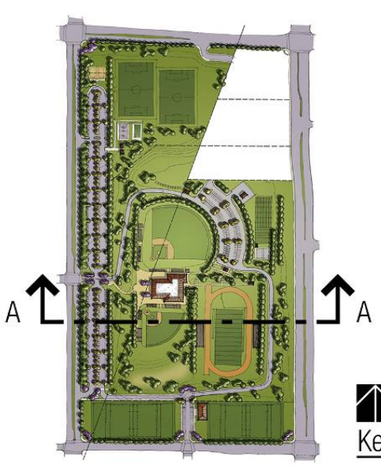
This document is designed for double-sided printing to conserve natural resources



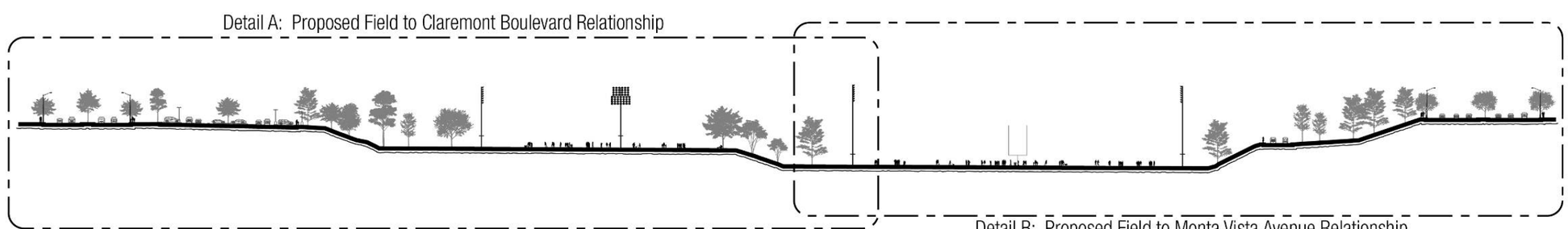

Detail A: Proposed Field to Claremont Boulevard Relationship




Detail B: Proposed Field to Monta Vista Avenue Relationship




Key Map

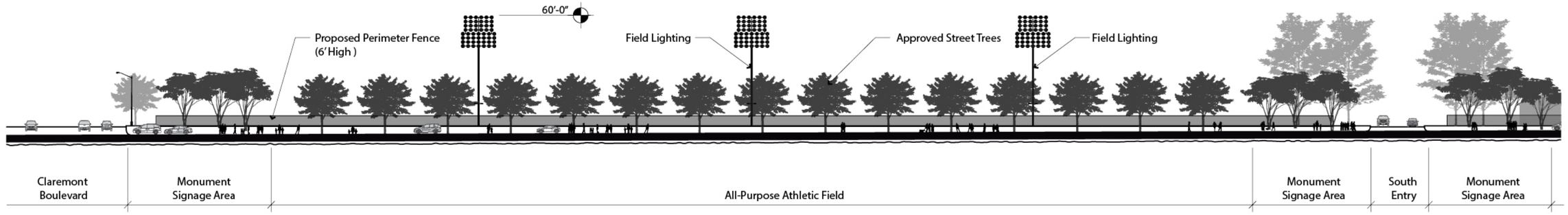



Section A-A

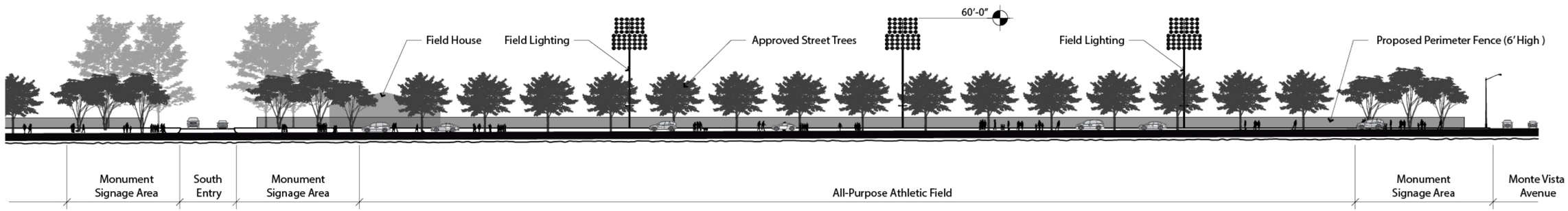


# Exhibit 4.1-1 - Conceptual Lighting Section

Claremont Colleges East Campus EIR
Upland/Claremont, CA

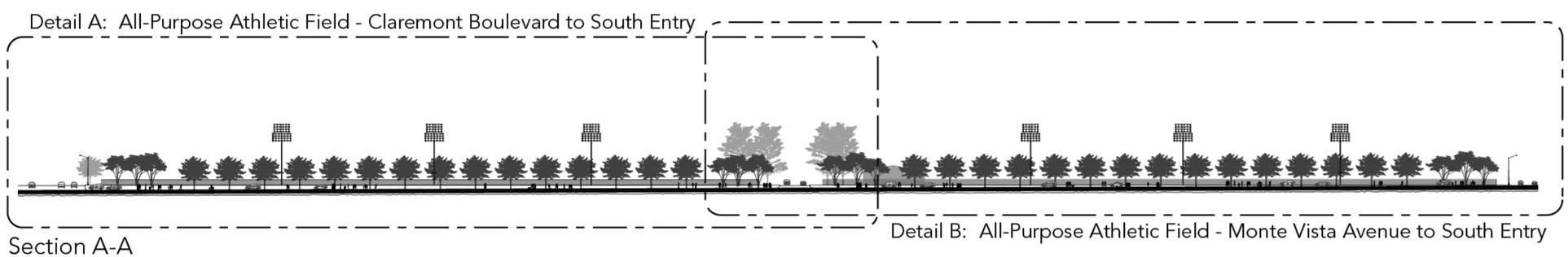



Detail A: All-Purpose Athletic Fields - Claremont Boulevard to South Entry




Detail B: All-Purpose Athletic Field - Monte Vista Avenue to South Entry

Key Map




Section A-A

# Exhibit 4.1-2 - Conceptual Field Lighting Along Arrow Route

# Air Quality 4.2

This section analyzes potential air quality impacts related to violation of air quality standards, cumulatively considerable increases in criteria pollutants, and sensitive receptors. The following discussion is based primarily on the project air quality analysis prepared by MIG | Hogle-Ireland (see Appendix C). As analyzed in the project Initial Study (see Appendix B), the project would not conflict with or obstruct implementation of the current South Coast Air Basin Air Quality Management Plan (AQMP) and would not create objectionable odors that could affect a substantial number of people; therefore, these topics are not discussed herein. The South Coast Air Quality Management District (SCAQMD) submitted comments during the circulation of the Notice of Preparation for this project. These comments are addressed herein.

## *Existing Conditions*

### Climate

Air quality in the planning area is affected not only by various emission sources (mobile, industry, etc.), but also by atmospheric conditions such as wind speed, wind direction, temperature, abundant sunshine, and rainfall. The combination of topography, low mixing height, and emissions from the second largest urban area in the United States gives the South Coast Air Basin the worst air pollution in the nation.

The Basin lies in the semi-permanent high-pressure zone of the eastern Pacific; the resulting climate is mild and tempered by cool ocean breezes. This climate pattern is rarely interrupted; however, periods of extremely hot weather, winter storms, and Santa Ana wind conditions do occur.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high-pressure zone. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid-afternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Winds in the vicinity of the project area blow predominantly from the east-southeast, with relatively low velocities. Wind speeds in the project area average about 4 miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produce the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly on shore into Riverside and San Bernardino Counties.

In the winter, the greatest pollution problems are from CO and oxides of nitrogen ($NO_X$) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and $NO_X$ to form photochemical smog.

## Regional Air Quality

The proposed project is located within the South Coast Air Basin (Basin).[1] The basin includes Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. The San Gabriel, San Bernardino, and San Jacinto Mountains bound the Basin to the north and east that trap ambient air and pollutants within the Los Angeles and Inland Empire valleys below. The South Coast Air Quality Management District (SCAQMD) manages the Basin. Pursuant to the California Clean Air Act (CCAA), SCAQMD is responsible for bringing air quality within the Basin into conformity with federal and State air quality standards by reducing existing emission levels and ensuring that future emission levels meet applicable air quality standards. SCAQMD works with federal, State, and local agencies to reduce pollutant sources through the development of rules and regulations.

Both California and the federal government have established health-based ambient air quality standards (AAQS) for seven air pollutants (known as *criteria pollutants*). These pollutants include ozone ($O_3$), carbon monoxide (CO), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), inhalable particulate matter with a diameter of 10 microns or less ($PM_{10}$), fine particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$), and lead (Pb). The State has also established AAQS for the additional pollutants of visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. The AAQS are designed to protect the health and welfare of the populace within a reasonable margin of safety. Where the State and federal standards differ, State AAQS are more stringent than federal AAQS. Federal and State standards are shown in Table 4.2.1 (Ambient Air Quality Standards). A brief description of each criteria pollutant is provided below.

**Table 4.2.1**
**Ambient Air Quality Standards**

| Pollutant | Averaging Time | California Standards[1] | | National Standards[2] | | |
|---|---|---|---|---|---|---|
| | | Concentration[3] | Method[4] | Primary[3,5] | Secontary[3,6] | Method[7] |
| Ozone ($O_3$) | 1 Hour | 0.09 ppm (180 µg/m$^3$) | Ultraviolet Photometry | - | Same as Primary Standard | Ultraviolet Photometry |
| | 8 Hour | 0.07 ppm (137 µg/m$^3$) | | 0.075 ppm (147 µg/m$^3$) | | |
| Respirable Particulate Matter ($PM_{10}$) [8] | 24 Hour | 50 µg/m$^3$ | Gravimetric or Beta Attenuation | 150 µg/m$^3$ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 20 µg/m$^3$ | | - | | |
| Fine Particulate Matter($PM_{2.5}$) [8] | 24 Hour | - | - | 35 µg/m$^3$ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 12 µg/m$^3$ | Gravimetric or Beta Attenuation | 12 µg/m$^3$ | 15 µg/m$^3$ | |
| Carbon Monoxide (CO) | 1 Hour | 20 ppm (23 mg/ m$^3$) | Non-Dispersive Infrared Photometry (NDIR) | 35 ppm (40 mg/m$^3$) | - | Non-Dispersive Infrared Photometry (NDIR) - |
| | 8 Hour | 9.0 ppm (10mg/m$^3$) | | 9 ppm (10 mg/m$^3$) | - | |
| | 8 Hour (Lake Tahoe) | 6 ppm (7 mg/ m$^3$) | | - | - | |
| Nitrogen Dioxide ($NO_2$) | Annual Arithmetic Mean | 0.03 ppm (57 µg/m$^3$) | Gas Phase Chemiluminescence | 0.053 ppm (100 µg/m$^3$) | Same as Primary Standard | Gas Phase Chemiluminescence |
| | 1 Hour | 0.18 ppm (339 µg/m$^3$) | | 100 ppb (188 µg/m$^3$) | - | |
| Sulfur Dioxide ($SO_2$) | 1 Hour | 0.25 ppm (655 µg/m$^3$) | Ultraviolet Fluorescence | 75 ppb (196 µg/m$^3$) | - | Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method) - |
| | 3 Hour | - | | - | 0.5 ppm (1,300 µg/m$^3$) | |
| | 24 Hour | 0.04 ppm (105 µg/m$^3$) | | 0.14 ppm (for certain areas)[10] | - | |
| | Annual Arithmetic Mean | - | | 0.030 ppm (for certain areas)[10] | - | |
| Lead[11,12] | 30 Day Average | 1.5 µg/m$^3$ | Atomic Absorption | - | - | High Volume Sampler and Atomic Absorption |
| | Calendar Quarter | - | | 1.5 µg/m$^3$ (for certain areas)[12] | Same as Primary Standard | |
| | Rolling 3-Month Average[10] | - | | 0.15 µg/m$^3$ | | |

| | | | | |
|---|---|---|---|---|
| Visibility Reducing Particles[13] | 8 Hour | See footnote 13 | Beta Attenuation and Transmittance through Filter Tape | No Federal Standards |
| Sulfates | 24 Hour | 25 μg/m$^3$ | Ion Chromatography | |
| Hydrogen Sulfide | 1 Hour | 0.03 ppm (42 μg/m$^3$) | Ultraviolet Fluorescence | |
| Vinyl Chloride[11] | 24 Hour | 0.01 ppm (26 μg/m$^3$) | Gas Chromatography | |

Source: ARB, June 2013

PPM, parts per million
μg/m3, micrograms per cubic meter

**1.** California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), and particulate matter ($PM_{10}$, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
**2.** National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For $PM_{10}$, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m$^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact U.S. EPA for further clarification and current national policies.
**3.** Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
**4.** Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
**5.** National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
**6.** National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
**7.** Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
**8.** On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 μg/m$^3$ to 12.0 μg/m$^3$. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 μg/m$^3$, as was the annual secondary standard of 15 μg/m$^3$. The existing 24-hour $PM_{10}$ standards (primary and secondary) of 150 μg/m$^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
**9.** To attain the 1-hour national standard, the 3-year average of the 98th percentile of the daily maximum 1-hour daily maximum concentrations at each site must not exceed 100ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standards of 100ppb is identical to 0.100ppm.
**10.** On June 2, 2010, a new 1-hour $SO_2$ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99$^{th}$ percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 $SO_2$ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
**11.** The ARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
**11.** The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 μg/m$^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
**12.** In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

**Ozone.** $O_3$ (smog) is formed by photochemical reactions between $NO_X$ and reactive organic compounds (ROCs) rather than being directly emitted. $O_3$ is a pungent, colorless gas typical of Southern California smog. Elevated $O_3$ concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly and young children. $O_3$ levels peak during the summer and early fall. The entire Basin is designated as a nonattainment area for the state 1-hour and 8-hour $O_3$ standards. The EPA has officially designated the status for most of the Basin regarding the 8-hour $O_3$ standard as "Severe 17", which means the Basin has until 2021 to attain the federal 8-hour $O_3$ standard. The SCAQMD has requested that the Basin's federal designation be changed from severe to extreme nonattainment. This change would extend the attainment deadline to 2023.

**Carbon Monoxide.** CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. The entire Basin is in attainment for the State standards for CO. The Basin is designated as a "Severe Maintenance" area under the federal CO standards.

**Nitrogen Oxides.** $NO_2$, a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as $NO_X$. $NO_X$ is a primary component of the photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter ($PM^{2.5}$), poor visibility, and acid deposition (i.e., acid rain). $NO_2$ decreases lung function and may reduce resistance to infection. The entire Basin has not exceeded both federal and State standards for $NO_2$ in the past five years with published monitoring data. It is designated as a maintenance area under the federal standards and an attainment area under the state standards.

**Sulfur Dioxide.** $SO_2$ is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous $SO_2$ levels. $SO_2$ irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in attainment for both federal and state $SO_2$ standards.

**Lead.** Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the bloodstream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The entire Basin is in attainment for the federal and state standards for lead.

**Particulate Matter.** Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles (particulate matter less than or equal to ten microns in diameter, or $PM_{10}$) derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and

resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particulate (less than 2.5 microns in diameter, or $PM_{2.5}$), levels. Fine particles can also be formed in the atmosphere through chemical reactions. $PM_{10}$ can accumulate in the respiratory system and aggravate health problems such as asthma. The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeper into the lungs, is more likely than $PM_{10}$ to contribute to the health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by the current $PM_{10}$ standards. These health effects include premature death and increased hospital admissions and emergency room visits (primarily among the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung function (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. Most of the Basin is designated nonattainment for the federal and State $PM_{10}$ and $PM_{2.5}$ standards.

**Reactive Organic Compounds.** ROCs (also known as reactive organic gases [ROGs] and volatile organic compounds [VOCs]) are formed from the combustion of fuels and the evaporation of organic solvents. ROCs are not defined as criteria pollutants, but are a prime component of the photochemical smog reaction. Consequently, ROCs accumulate in the atmosphere more quickly during the winter, when sunlight is limited and photochemical reactions are slower.

Table 4.2.2 (Summary of Air Pollutant Health Effect) lists the primary health effects and sources of common air pollutants, including Toxic Air Contaminants (TACs). Because the concentration standards were set at a level that protects public health with an adequate margin of safety (EPA), these health effects would not occur unless the standards are exceeded by a large margin or for a prolonged period of time. State AAQS are more stringent than federal AAQS. Among the pollutants, $O_3$ and particulate matter ($PM_{2.5}$ and $PM_{10}$) are considered regional pollutants, while the others have more localized effects.

**Table 4.2.2**
**Summary of Air Pollutant Health Effects**

| Pollutant | Health Effects | Example Sources |
|---|---|---|
| $PM_{10}$<br>$PM_{2.5}$ | • Increased respiratory disease<br>• Lung damage<br>• Premature death | • Cars and trucks, especially diesel<br>• Fireplaces, wood stoves<br>• Windblown dust from roads, agriculture, and construction |
| $O_3$ | • Breathing difficulties<br>• Lung damage | Formed by chemical reactions of air pollutants in the presence of sunlight, common sources include motor vehicles, industry, and consumer products |
| CO | • Chest pain in heart patients<br>• Headaches, nausea<br>• Reduced mental alertness<br>• Death at high levels | Any source the burns fuels such as cars, trucks, construction and farming equipment, and residential heaters and stoves |
| $NO_2$ | • Lung damage | Same as CO sources |
| TACs | • Cancer<br>• Chronic eye, lung, or skin irritation<br>• Neurological and reproductive disorders | • Cars and trucks, especially diesel<br>• Industrial sources such as chrome platers<br>• Neighborhood business such as dry cleaners and service stations<br>• Building materials and products |
| Source: ARB 2005 | | |

The California Clean Air Act (CCAA) provides the SCAQMD and other air districts with the authority to manage transportation activities at indirect sources. Indirect sources of pollution are generated when minor sources collectively emit a substantial amount of pollution. Examples of this would be motor vehicles at an intersection, at a mall, and on highways. The SCAQMD also regulates stationary sources of pollution throughout its jurisdictional area. Direct emissions from motor vehicles are regulated by ARB.

## *Non-Attainment Status*

Air pollution levels are measured at monitoring stations located throughout the Basin. Areas that are in nonattainment with respect to criteria pollutants are required to prepare plans and implement measures that will bring the region into attainment. Table 4.2.3 (South Coast Air Basin Attainment Status) summarizes the attainment status in the non-desert portion of the Basin for the criteria pollutants.[2] The non-desert portion of the Basin is currently in nonattainment status for ozone, inhalable and fine particulate matter, nitrogen dioxide, and lead.

Pollution problems in the Basin are caused by emissions within the area and the specific meteorology that promotes pollutant concentrations. Emissions sources vary widely from smaller sources such as individual residential water heaters and short-term grading activities to extensive operational sources including long-term

operation of electrical power plants and other intense industrial uses. Pollutants in the Basin are blown inward from coastal areas by sea breezes from the Pacific Ocean and are prevented from horizontally dispersing due to the surrounding mountains. This is further complicated by atmospheric temperature inversions that create inversion layers. The inversion layer in Southern California refers to the warm layer of air that lies over the cooler air from the Pacific Ocean. This is strongest in the summer and prevents ozone and other pollutants from dispersing upward. A ground-level surface inversion commonly occurs during winter nights and traps carbon monoxide emitted during the morning rush hour.

**Table 4.2.3**
**South Coast Air Basin Attainment Status**

| Pollutant | Federal | State |
|---|---|---|
| $O_3$ (1-hr) | -- | Nonattainment |
| $O_3$ (8-hr) | Nonattainment | Nonattainment |
| $PM_{10}$ | Attainment | Nonattainment |
| $PM_{2.5}$ | Nonattainment | Nonattainment |
| CO | Attainment | Attainment |
| $NO_2$ | Attainment | Nonattainment |
| $SO_2$ | Attainment | Attainment |
| Pb | Nonattainment | Nonattainment |
| VRP | -- | Unclassified |
| $SO_4$ | -- | Attainment |
| $H_2S$ | -- | Unclassified |
| Sources: ARB 2014 | | |

## Local Air Quality

The project site is located within the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The northwestern portion of the project site is located in the City of Claremont, the Pomona/Walnut Valley monitoring area (SRA 10), and the southeastern portion of the project site is located in the City of Upland, the Northwest San Bernardino Valley monitoring area (SRA 32). The air quality in SRA 10 is monitored at Station 75 and SRA 32 is monitored at Station 5175. Air monitoring results for SRA 10 and SRA 32 over the last three years of available data are summarized in Table 4.2.4 (2011-2013 Local Air Quality).[3 4 5] Note that $SO_2$, $PM_{10}$, $PM_{2.5}$, TSP, Pb, and $SO_4$ are not measured at Station 10 and $SO_2$, $PM_{10}$, and $PM_{2.5}$ are not measured at Station 32. In addition, CO 1-hour maximum concentration and $SO_4$ was not measured at Station 10 or Station 32 for all three years. The maximum quarterly average for Pb was not measured for Station 10. Table 4.2.5 (2011-2013 Air Quality Standards Exceedance) summarizes the number of days for each monitoring year that air quality standards were exceeded for each monitoring area. Based on the 2011-2013 air quality monitoring data, the Pomona/Walnut Valley area exceeds State 8-hour ozone standards for up to 28 day and the Northwest San Bernardino Valley area exceeds State 8-hour ozone standards for up to 66 days a year.

**Table 4.2.4**
**2011-2013 Local Air Quality**

| Year | CO (PPM) | | $O_3$ (PPM) | | $NO_2$ (ppb) | | $SO_2$ (ppb) | | $PM_{10}$ ($\mu g/m^3$) | | $PM_{2.5}$ ($\mu g/m^3$) | | TSP ($\mu g/m^3$) | | Pb ($\mu g/m^3$) | | $SO_4$ ($\mu g/m^3$) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Max 1-hr | Max 8-hr | Max 1-hr | Max 8-hr | Max 1-hr | AAM | Max 1-hr | Max 24-hr | Max 24-hr | AAM | Max 24-hr | AAM | Max 24-hr | AAM | Max Month | Max Qtr | Max 24-hr |
| **SRA 10 Pomona/Walnut Valley** | | | | | | | | | | | | | | | | | |
| 2013 | -- | 1.6 | 0.125 | 0.099 | 78.8 | 22.5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2012 | -- | 1.5 | 0.117 | 0.092 | 81.6 | 21.4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 2011 | -- | 1.6 | 0.119 | 0.096 | 87.3 | 24.6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| **SRA 32 Northwest San Bernardino Valley** | | | | | | | | | | | | | | | | | |
| 2013 | -- | 1.7 | 0.143 | 0.111 | 62.1 | 17.7 | -- | -- | -- | -- | -- | -- | -- | -- | 0.008 | 0.006 | -- |
| 2012 | -- | 1.1 | 0.136 | 0.111 | 66.7 | 19.5 | -- | -- | -- | -- | -- | -- | 106 | 43.4 | 0.007 | 0.006 | -- |
| 2011 | -- | 1.3 | 0.145 | 0.122 | 68.5 | 19.6 | -- | -- | -- | -- | -- | -- | 94 | 47.2 | 0.009 | 0.007 | -- |

*Source: SCAQMD 2011-2013*

*-- pollutant not monitored*
*ppm, parts per million*
*ppb, parts per billion*
*$\mu g/m^3$, micrograms per cubic meter*
*AAM, annual arithmetic mean*

**Table 4.2.5**
**2011-2013 Air Quality Standards Exceedance**

| Year | $O_3$ (PPM) | | | $PM_{10}$ ($\mu g/m^3$) | | $PM_{2.5}$ ($\mu g/m^3$) |
|---|---|---|---|---|---|---|
| | Fed* 8-hr | State 1-hr | State 8-hr | Fed 24-hr | State 24-hr | Fed^ 24-hr |
| **SRA 10 Pomona/Walnut Valley** | | | | | | |
| 2013 | 15 | 12 | 22 | -- | -- | -- |
| 2012 | 15 | 21 | 28 | -- | -- | -- |
| 2011 | 16 | 15 | 24 | -- | -- | -- |
| **SRA 32 Northwest San Bernardino Valley** | | | | | | |
| 2013 | 27 | 25 | 44 | -- | -- | -- |
| 2012 | 45 | 42 | 66 | -- | -- | -- |
| 2011 | 36 | 36 | 45 | -- | -- | -- |

Source: SCAQMD 2011-2013

-- pollutant not monitored
* 0.075 ppm
^35 $\mu g/m^3$

## Existing Emissions

Operational emissions associated with existing sports fields are summarized in Table 4.2.6 (Existing Long-Term Daily Emissions (lbs/day)).

**Table 4.2.6**
**Existing Long-Term Daily Emissions (lbs/day)**

| Source | ROG | $NO_X$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| **Weekday Practice Day** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | 62.48 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile Sources | 0.60 | 1.66 | 6.89 | 0.01 | 0.93 | 0.26 |
| *Summer Total* | *63.08* | *1.66* | *6.89* | *0.01* | *0.93* | *0.26* |
| *Winter* | | | | | | |
| Area Sources | 62.48 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile Sources | 0.63 | 1.74 | 6.77 | 0.01 | 0.93 | 0.26 |
| *Winter Total* | *63.11* | *1.74* | *6.78* | *0.01* | *0.93* | *0.26* |
| **Weekday Game Day** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | 62.88 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.71 | 6.44 | 5.41 | 0.04 | 0.49 | 0.49 |
| Mobile Sources | 1.32 | 3.63 | 15.09 | 0.03 | 2.03 | 0.58 |
| *Summer Total* | *64.91* | *10.07* | *20.51* | *0.07* | *2.52* | *1.07* |
| *Winter* | | | | | | |
| Area Sources | 62.88 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.71 | 6.44 | 5.41 | 0.04 | 0.49 | 0.49 |
| Mobile Sources | 1.38 | 3.82 | 14.83 | 0.03 | 2.03 | 0.58 |
| *Winter Total* | *64.96* | *10.26* | *20.25* | *0.07* | *2.52* | *1.07* |
| **Weekend Game Day (Fall)** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | 30.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.28 | 2.52 | 2.12 | 0.02 | 0.19 | 0.19 |
| Mobile Sources | 6.60 | 18.11 | 75.31 | 0.15 | 10.12 | 2.89 |
| *Summer Total* | *37.68* | *20.63* | *77.43* | *0.16* | *10.31* | *3.08* |
| *Winter* | | | | | | |
| Area Sources | 30.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.28 | 2.52 | 2.12 | 0.02 | 0.19 | 0.19 |
| Mobile Sources | 6.87 | 19.06 | 74.03 | 0.14 | 10.12 | 2.89 |
| *Winter Total* | *37.95* | *21.58* | *76.15* | *0.15* | *10.31* | *3.08* |
| **Weekend Game Day (Spring)** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | 50.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.71 | 6.44 | 5.41 | 0.04 | 0.49 | 0.49 |
| Mobile Sources | 2.67 | 7.32 | 30.46 | 0.06 | 4.09 | 1.17 |
| *Summer Total* | *53.44* | *13.76* | *35.87* | *0.10* | *4.58* | *1.66* |
| *Winter* | | | | | | |
| Area Sources | 50.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.71 | 6.44 | 5.41 | 0.04 | 0.49 | 0.49 |
| Mobile Sources | 2.78 | 7.71 | 29.94 | 0.06 | 4.09 | 1.17 |
| *Winter Total* | *53.55* | *14.15* | *35.35* | *0.09* | *4.28* | *1.66* |

*Source: MIG | Hogle-Ireland, November 2014*

## Regulatory Framework

### Clean Air Act

The Federal Clean Air Act (CAA) defines the Environmental Protection Agency's (EPA) responsibilities for protecting and improving the United States air quality and ozone layer.[6] Key components of the CAA include reducing ambient concentrations of air pollutants that cause health and aesthetic problems, reducing emission of toxic air pollutants, and stopping production and use of chemicals that destroy the ozone.

Federal clean air laws require areas with unhealthy levels of ozone, inhalable particulate matter, Carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop State Implementation Plans (SIPs); comprehensive documents that identify how an area will attain NAAQS. Deadlines for attainment were established in the 1990 amendments to the CAA based on the severity of an area's air pollution problem. Failure to meet air quality deadlines can result in sanctions against the State or the EPA taking over enforcement of the CAA in the affected area. SIPs are a compilation of new and previously submitted plans, programs, district rules, and State and Federal regulations. The SCAQMD implements the required provisions of an applicable SIP through its AQMP. Currently, SCAQMD implements the 8-hr Ozone and $PM_{2.5}$ SIP in the 2007 AQMP and the $PM_{10}$ SIP in the 2003 AQMP. The $PM_{2.5}$ SIP is currently being revised by SCAQMD in response to partial disapproval by the EPA. The 2012 Lead SIP for the Los Angeles County portion of SCAB was adopted by the SCAQMD Board on May 4, 2012 and approved by ARB on May 24, 2012 and forwarded to the EPA for approval as a revision to the California SIP.

### California Clean Air Act

The California Clean Air Act of 1988 was enacted to develop plans and strategies for attaining California Ambient Air Quality Standards (CAAQS). The California Air Resources Board (ARB), which is part of the California Environmental Protection Agency (Cal-EPA), develops statewide air quality regulations, including industry-specific limits on criteria, toxic, and nuisance pollutants. The CCAA is more stringent than Federal law in a number of ways including revised standards for $PM_{10}$ and ozone and State for visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

### Air Quality Management Plan

The purpose of an Air Quality Management Plan (AQMP) is to bring an air basin into compliance with federal and state air quality standards and is a multi-tiered document that builds on previously adopted AQMPs.[7] The 2003 AQMP was adopted in August 2003 and demonstrated $O_3$ and $PM_{10}$ for the Basin. It also provides the maintenance plans for CO and $NO_2$, which the Basin has been in attainment for since 1997 and 1992, respectively. The 2007 AQMP for the Basin was approved by the SCAQMD Board of Directors in June 2007. The 2007 AQMP builds on the 2003 AQMP and is designed to address the federal 8-hour ozone and $PM_{2.5}$ air quality standards. The AQMP identifies short- and long-term control measures designed to

reduce stationary, area, and mobile source emissions, organized into four primary components:

1. District Stationary and Mobile Source Control Measures
2. Air Resources Board (ARB) State Strategy
3. Supplement to ARB Control Strategy
4. SCAG Regional Transportation Strategy and Control Measures

The 2012 AQMP was adopted by the SCAQMD board on December 7, 2012. The 2012 AQMP incorporated the latest scientific and technological information and planning assumptions, including the 2012 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for various source categories. The 2012 AQMP includes the new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches. The SCAQMD is currently initiating an early development process for preparation of the 2016 AQMP.

### South Coast Air Quality Management District Rules

The project will be subject to Rule 403 (Fugitive Dust) as administered by SCAQMD. Rule 403 prohibits emissions of fugitive dust from any grading activity, storage pile, or other disturbed surface area if it crosses the project property line or if emissions caused by vehicle movement cause substantial impairment of visibility (defined as exceeding 20 percent opacity in the air). Rule 403 requires the implementation of Best Available Control Measures (BACM) and includes additional provisions for projects disturbing more than five acres and those disturbing more than fifty acres.

## *Thresholds of Significance*

The project could result in potentially significant impacts related to air quality if it:

A. Violates any air quality standard or contributes substantially to an existing or projected air quality violation.
B. Results in a cumulatively considerable net increase of any criteria pollutant that the region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
C. Exposes sensitive receptors to substantial pollutant concentrations.

To determine if maximum daily criteria pollutant emissions from construction and operation of the proposed project are significant, the SCAQMD significance thresholds are used. These thresholds are identified in Table 4.2.7 (SCAQMD Maximum Daily Emissions Thresholds).

**Table 4.2.7**
**SCAQMD Significance Thresholds**

| Pollutant | Construction (lbs/day) | Operation (lbs/day) |
|---|---|---|
| $NO_X$ | 100 | 55 |
| VOC/ROG | 75 | 55 |
| $PM_{10}$ | 150 | 150 |
| $PM_{2.5}$ | 55 | 55 |
| $SO_X$ | 150 | 150 |
| CO | 550 | 550 |
| Lead | 3 | 3 |
| Source: SCAQMD 2011 | | |

## Environmental Impacts

**IMPACT 4.2.A**

***Short-term construction related air quality impacts would be less than significant with implementation of mitigation; long-term operational impacts would be less than significant and no mitigation is required.***

### Construction Impacts

Short-term criteria pollutant emissions will occur during on-site grading, building construction, paving, and coating activities. Emissions will occur from use of equipment, worker, vendor, and hauling trips, and disturbance of on-site soils (fugitive dust). To determine if construction of the proposed project could result in a significant air quality impact, the California Emissions Estimator Model (CalEEMod) has been utilized. Specific information regarding construction phase lengths and construction equipment anticipated is not available; therefore, default CalEEMod assumptions for construction activities have been utilized. Default CalEEMod data is based on surveys of existing land uses and activities.[8] Utilization of default data is appropriate when site-specific information is not available. The proposed project is tentatively scheduled to be completed in five phases over a 10-15 year timeframe starting with approval of the tentative parcel maps. The phasing plan is based on costs associated with construction and operation of each phase. The phasing plan is summarized below.

| Phase | Start Year | On-Site Development | Off-Site Improvements |
|---|---|---|---|
| I | 0 | Obtain TPM Approvals | -- |
| | 1 | Record Maps<br>Sell Parcels | Record Dedications |
| II | 2 | Construct 2 Parking lots along Claremont Boulevard<br>Parcel 3 (Claremont)<br>Parcel 5 (Upland)<br>Parcel 6 (Upland) | Claremont Boulevard<br>Arrow Route |
| III | 4 | Parcel 1 (Claremont)<br>Parcel 2 (Claremont)<br>Parcel 4 (Upland) | Foothill Boulevard |
| IV | 7 | Parcel 2 (Claremont)<br>Parcel 4 (Upland) | Monte Vista Avenue |
| V | 10-15 | Complete on-site facilities* | |

** Completion of athletic fields to be determined upon availability of funding*

The results of the CalEEMod outputs for each construction phase are summarized in Table 4.2.8 (Maximum Daily Construction Emissions (lbs/day)). Based on the results of the model, maximum daily emissions from the construction of Phase V will result in excessive emissions of volatile organic chemicals (identified as reactive organic gases) associated with interior and exterior coating activities. Using the default assumption of 250 grams per liter (g/l) VOC content for non-residential interior and exterior surfaces, daily VOC emissions would reach 139.23 g/l in 2025. To compensate for excessive VOC emissions from coating activities for the proposed project, Mitigation Measure 4.2.A-1 requires a maximum of 100 g/l for non-residential interior and exterior surfaces. Use of low-VOC coatings during construction activities will reduce VOC emissions to 55.80 g/l.

**Table 4.2.8**
**Maximum Daily Construction Emissions (lbs/day)**

| Source | ROG | $NO_X$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| **Claremont Boulevard** | | | | | | |
| 2017 | 1.29 | 12.71 | 8.30 | 0.01 | 1.36 | 0.78 |
| **Threshold** | **75** | **100** | **550** | **150** | **150** | **55** |
| Substantial? | No | No | No | No | No | No |
| **Arrow Route** | | | | | | |
| 2017 | 1.29 | 12.71 | 8.30 | 0.01 | 1.36 | 0.78 |
| **Threshold** | **75** | **100** | **550** | **150** | **150** | **55** |
| Substantial? | No | No | No | No | No | No |
| **Phase II** | | | | | | |
| 2017 | 23.52 | 51.85 | 40.37 | 0.04 | 21.02 | 12.52 |
| **Threshold** | **75** | **100** | **550** | **150** | **150** | **55** |
| Substantial? | No | No | No | No | No | No |
| **Foothill Boulevard** | | | | | | |
| 2019 | 1.01 | 9.92 | 7.93 | 0.01 | 1.17 | 0.61 |
| **Threshold** | **75** | **100** | **550** | **150** | **150** | **55** |
| Substantial? | No | No | No | No | No | No |
| **Phase III** | | | | | | |
| 2019 | 4.08 | 51.58 | 35.69 | 0.04 | 20.42 | 11.96 |
| **Threshold** | **75** | **100** | **550** | **150** | **150** | **55** |
| Substantial? | No | No | No | No | No | No |
| **Monte Vista Avenue** | | | | | | |
| 2022 | 0.73 | 6.88 | 7.67 | 0.01 | 0.97 | 0.42 |
| **Threshold** | **75** | **100** | **550** | **150** | **150** | **55** |
| Substantial? | No | No | No | No | No | No |
| **Phase IV** | | | | | | |
| 2022 | 3.82 | 38.50 | 35.91 | 0.06 | 19.82 | 11.41 |
| 2023 | 26.27 | 14.65 | 28.51 | 0.06 | 2.02 | 0.91 |
| **Threshold** | **75** | **100** | **550** | **150** | **150** | **55** |
| Substantial? | No | No | No | No | No | No |
| **Phase V** | | | | | | |
| 2025 | 55.80 | 27.31 | 32.05 | 0.06 | 19.30 | 10.93 |
| **Threshold** | **75** | **100** | **550** | **150** | **150** | **55** |
| Substantial? | No | No | No | No | No | No |

*Source: MIG | Hogle-Ireland, November 2014*

## Operational and Area Sources

Long-term criteria air pollutant emissions will result from the operation of the proposed project. Long-term emissions are categorized as area source emissions, energy demand emissions, and operational emissions. Operational emissions will result from automobile and other vehicle sources associated with daily trips to and from the sports fields. The California Emissions Estimator Model (CalEEMod) was utilized to estimate mobile source emissions. Trips are based on project trip generation rates used in the project traffic study prepared by Linscott, Law & Greenspan Engineers based on the operations of the existing sports fields.[9] Area source emissions are the combination of many small emission sources that include use of outdoor landscape maintenance equipment, use of consumer products such as cleaning products, and periodic repainting of the proposed project. Energy demand is based on default CalEEMod electricity and natural gas demand assumptions. Proposed sports fields are currently operational at their existing locations. The proposed project includes the relocation of existing sports fields to the project site and the addition of an Argentinean paddle tennis field, all purpose athletic fields, and a golf practice area.

Operational source emissions for the proposed project including operation of relocated and new activities were modeled under year 2025. Year 2025 emissions were modeled for weekday practice days, weekday game days, fall weekend game days, and spring weekend days. The results of the CalEEMod model for summer and winter conditions are summarized in Table 4.2.9 (Proposed Long-Term Daily Emissions (lbs/day)). Operational emissions associated with existing sports fields to be relocated to the project site have been subtracted from the total proposed emissions to provide an accurate analysis of project impacts. See Table 4.2.6 for existing operational emissions. Net operational emissions for each scenario are summarized in Table 4.2.10 (Net Long-Term Daily Emissions (lbs/day)).

Based on the results of the model, the net daily operational emissions associated with the proposed project will not exceed the thresholds established by SCAQMD.

**Table 4.2.9**
**Proposed Long-Term Daily Emissions (lbs/day)**

| Source | ROG | $NO_X$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| **Weekday Practice Day** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | 74.65 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.01 | 0.09 | 0.07 | 0.00 | 0.01 | 0.01 |
| Mobile Sources | 0.81 | 1.99 | 8.91 | 0.03 | 1.80 | 0.51 |
| *Summer Total* | *75.47* | *2.08* | *9.00* | *0.03* | *1.81* | *0.51* |
| *Winter* | | | | | | |
| Area Sources | 74.65 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.01 | 0.09 | 0.07 | 0.00 | 0.01 | 0.01 |
| Mobile Sources | 0.84 | 2.09 | 8.82 | 0.03 | 1.80 | 0.51 |
| *Winter Total* | *75.50* | *2.18* | *8.90* | *0.03* | *1.81* | *0.51* |
| **Weekday Game Day** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | 74.65 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.68 | 6.21 | 5.22 | 0.04 | 0.47 | 0.47 |
| Mobile Sources | 1.19 | 2.64 | 12.74 | 0.05 | 3.33 | 0.93 |
| *Summer Total* | *76.52* | *8.85* | *17.96* | *0.09* | *3.81* | *1.41* |
| *Winter* | | | | | | |
| Area Sources | 74.65 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.68 | 6.21 | 5.22 | 0.04 | 0.53 | 0.47 |
| Mobile Sources | 1.22 | 2.77 | 12.67 | 0.05 | 3.33 | 0.93 |
| *Winter Total* | *67.83* | *8.76* | *16.89* | *0.08* | *3.54* | *1.33* |
| **Weekend Game Day (Fall)** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | 39.43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.26 | 2.40 | 2.01 | 0.01 | 0.18 | 0.18 |
| Mobile Sources | 3.67 | 8.17 | 39.37 | 0.15 | 10.31 | 2.89 |
| *Summer Total* | *43.37* | *10.57* | *41.39* | *0.17* | *10.49* | *3.07* |
| *Winter* | | | | | | |
| Area Sources | 39.43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.26 | 2.40 | 2.01 | 0.01 | 0.18 | 0.18 |
| Mobile Sources | 3.78 | 8.57 | 39.17 | 0.15 | 10.31 | 2.89 |
| *Winter Total* | *43.48* | *10.97* | *41.19* | *0.16* | *10.49* | *3.07* |
| **Weekend Game Day (Spring)** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | 58.70 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.67 | 6.12 | 5.14 | 0.04 | 0.47 | 0.47 |
| Mobile Sources | 1.79 | 3.98 | 19.20 | 0.08 | 5.03 | 1.41 |
| *Summer Total* | *61.16* | *10.10* | *24.35* | *0.11* | *5.49* | *1.87* |
| *Winter* | | | | | | |
| Area Sources | 58.70 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 0.67 | 6.12 | 5.14 | 0.04 | 0.47 | 0.47 |
| Mobile Sources | 1.84 | 4.18 | 19.11 | 0.07 | 5.03 | 1.41 |
| *Winter Total* | *61.21* | *10.30* | *24.25* | *0.11* | *5.49* | *1.87* |

*Source: MIG | Hogle-Ireland, November 2014*

**Table 4.2.10**
**Net Long-Term Daily Emissions (lbs/day)**

| Source | ROG | $NO_X$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| **Weekday Practice Day** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | +12.18 | -- | -- | -- | -- | -- |
| Energy Demand | +0.01 | +0.09 | +0.07 | -- | +0.01 | +0.01 |
| Mobile Sources | +0.20 | +0.33 | +2.03 | +0.01 | +0.88 | +0.24 |
| *Net Summer Total* | *+12.39* | *+0.42* | *+2.10* | *+0.01* | *+0.88* | *+0.25* |
| *Winter* | | | | | | |
| Area Sources | +12.18 | -- | -- | -- | -- | -- |
| Energy Demand | +0.01 | +0.09 | +0.07 | -- | +0.01 | +0.01 |
| Mobile Sources | +0.21 | +0.35 | +2.05 | +0.01 | +0.88 | +0.24 |
| *Net Winter Total* | *+12.39* | *+0.43* | *+2.13* | *+0.01* | *+0.88* | *+0.25* |
| **Threshold** | **55** | **55** | **550** | **150** | **150** | **55** |
| Significant? | No | No | No | No | No | No |
| **Weekday Game Day** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | +11.78 | -- | -- | -- | -- | -- |
| Energy Demand | -0.03 | -0.25 | -0.20 | -- | -0.02 | -0.02 |
| Mobile Sources | -0.14 | -0.98 | -2.35 | +0.02 | +1.31 | +0.35 |
| *Net Summer Total* | *+11.62* | *-1.22* | *-2.55* | *+0.02* | *+1.29* | *+0.34* |
| *Winter* | | | | | | |
| Area Sources | +11.78 | -- | -- | -- | -- | -- |
| Energy Demand | -0.03 | -0.23 | -0.20 | -- | +0.04 | -0.02 |
| Mobile Sources | -0.14 | -1.05 | -2.16 | +0.02 | +1.31 | +0.35 |
| *Net Winter Total* | *+2.87* | *-1.50* | *-3.36* | *+0.01* | *+1.02* | *+0.26* |
| **Threshold** | **55** | **55** | **550** | **150** | **150** | **55** |
| Significant? | No | No | No | No | No | No |
| **Weekend Game Day (Fall)** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | -10.63 | -- | -- | -- | -- | -- |
| Energy Demand | -0.44 | -4.04 | -3.40 | -0.02 | -0.31 | -0.31 |
| Mobile Sources | +1.00 | +0.85 | +8.97 | +0.09 | +6.22 | +1.72 |
| *Net Summer Total* | *-10.07* | *-3.20* | *+5.52* | *+0.07* | *+5.91* | *+1.41* |
| *Winter* | | | | | | |
| Area Sources | -10.63 | -- | -- | -- | -- | -- |
| Energy Demand | -0.44 | -4.04 | -3.40 | -0.02 | -0.31 | -0.31 |
| Mobile Sources | +1.00 | +0.86 | +9.24 | +0.09 | +6.22 | +1.72 |
| *Net Winter Total* | *-10.07* | *-3.18* | *+5.84* | *+0.07* | *+6.21* | *+1.41* |
| **Threshold** | **55** | **55** | **550** | **150** | **150** | **55** |
| Significant? | No | No | No | No | No | No |
| **Weekend Game Day (Spring)** | | | | | | |
| *Summer* | | | | | | |
| Area Sources | +8.63 | -- | -- | -- | -- | -- |
| Energy Demand | -0.04 | -0.32 | -0.27 | -- | -0.02 | -0.02 |
| Mobile Sources | -0.88 | -3.34 | -11.25 | +0.02 | +0.93 | +0.24 |
| *Net Summer Total* | *+7.72* | *-3.66* | *-11.52* | *+0.01* | *+0.91* | *+0.21* |
| *Winter* | | | | | | |
| Area Sources | +8.63 | -- | -- | -- | -- | -- |
| Energy Demand | -0.04 | -0.32 | -0.27 | -- | -0.02 | -0.02 |
| Mobile Sources | -0.93 | -3.53 | -10.83 | +0.02 | +1.93 | +0.24 |
| *Net Winter Total* | *+7.66* | *-3.85* | *-11.10* | *+0.01* | *+0.91* | *+0.21* |
| **Threshold** | **55** | **55** | **550** | **150** | **150** | **55** |
| Significant? | No | No | No | No | No | No |

*Source: MIG | Hogle-Ireland, November 2014*

**IMPACT 4.2.B**

***The proposed project would result in less than cumulatively considerable short- and long-term emissions of pollutants for which the Basin is in nonattainment.***

## Cumulative Construction Impacts

Cumulative short-term, construction-related emissions from the proposed project will not contribute considerably to any potential cumulative air quality impact because short-term project emissions will be less than significant and other concurrent construction projects in the region will be required to implement standard air quality regulations and mitigation pursuant to State CEQA requirements, just as this project has.

## Cumulative Operational Impacts

The proposed project is consistent with current land use designations and is consistent with the growth assumptions of the AQMP. Therefore, the proposed project will not contribute to any potential cumulative air quality impacts.

**IMPACT 4.2.C**

***Impacts to sensitive receptors related to toxic air contaminants, carbon monoxide hotspots, and localized emissions would be less than significant.***

Some populations are more susceptible to the effects of air pollution than the population at large. These susceptible populations are defined as sensitive receptors. Sensitive receptors include children, the elderly, the sick, and the athletic. Land uses associated with sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities (including hospitals), rehabilitation centers, convalescent centers, and retirement homes. Pollutants of particular concern to sensitive receptors include carbon monoxide, toxic air contaminants, and odors. Specific sensitive receptors within one-quarter mile of the project site include The Children's School at Claremont McKenna College located at the northwest corner of Claremont Boulevard and Arrow Route and residential use to the south and northwest of the project site.

## Toxic Air Contaminants

Demolition of existing structures built during the 1980s or earlier could expose demolition workers and surrounding uses to airborne asbestos emissions due to the potential presence of asbestos-containing materials (ACM). This is because that as portions of the building are removed and destroyed, asbestos has the potential to become agitated and become airborne. The project site is currently vacant; therefore, the project will not involve demolition activities and will not expose demolition workers to asbestos-containing materials (ACM). Operationally, the proposed project does not emit toxic air contaminants.

## Carbon Monoxide Hotspots

A carbon monoxide (CO) hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near intersections. CO hotspots have the potential to violate State and Federal CO standards at intersections, even if the broader Basin is in attainment for Federal and State levels. The California Department of Transportation Project-Level Carbon Monoxide Protocol (Protocol) screening procedures have been utilized to determine if the proposed project could potentially result in a CO hotspot.[10] According to Section 3.1.3 of the Protocol, the proposed project is not regionally significant and therefore is only required to examine local impacts.

Localized impacts are analyzed in Protocol Section 4. The local analysis procedures in Section 4.7.1 indicate that the proposed project has the potential to worsen air quality (as defined for Protocol purposes only) because it will result in an increase in the number of vehicles operating in *cold start* mode by more than two percent. *Cold Start* mode refers to a vehicle started after an hour or more being turned off. Existing trips from existing sports fields have not been considered to provide a worst case analysis. The proposed project will result in an average daily trip (ADT) increase of approximately 272 trips on weekday practice days, 504 trips on weekday game days, 1,558 Saturday trips on weekend game days in the fall, and 760 Saturday trips on weekend game days in the spring. The local analysis procedures then direct to Protocol Sections 4.7.3 and 4.7.4. These sections indicate that if the proposed project involves signalized intersections performing at Level of Service (LOS) E or worse then the proposed project will be subject to a screening analysis. The proposed project will involve one signalized intersection operating at LOS F during the PM peak hour as identified in the project traffic study under existing conditions; therefore, a screening analysis is performed to determine if a detailed analysis will be required. Section 4.4 references Appendix A of the Protocol for screening purposes; however, because of the age of the assumptions used in the screening procedures, they are no longer accepted. The Sacramento Metropolitan Air Quality Management District (SMAQMD) developed a screening threshold that states that any project involving an intersection experiencing 31,600 vehicles per hour or more will require detailed analysis.[11] The proposed project will not involve an intersection experiencing this level of traffic; therefore, the proposed project passes the screening analysis and impacts are deemed acceptable. Based on the local analysis procedures, the proposed project is satisfactory pursuant to the Protocol and will not result in a CO hotspot.

## Localized Significance Thresholds

As part of SCAQMD's environmental justice program, attention has recently been focusing more on the localized effects of air quality. Although the region may be in attainment for a particular criteria pollutant, localized emissions from construction activities coupled with ambient pollutant levels can cause localized increases in criteria pollutant that exceed national and/or State air quality standards.

Construction-related criteria pollutant emissions and potentially significant localized impacts were evaluated pursuant to the SCAQMD Final Localized Significant

Thresholds Methodology. This methodology provides screening tables for one- through five-acre project scenarios, depending on the amount of site disturbance during a day. The construction of Phase 2 will disturb approximately 0.5 acres per day (10 total acres of disturbance / 20 days of grading = 0.5 acres per day). The construction of Phase 3 will disturb approximately 0.5 acres per day (10 total acres of disturbance / 20 days of grading = 0.5 acres per day). The construction of Phase 4 will disturb approximately 2.5 acres per day (275 total acres of disturbance / 110 days of grading = 2.5 acres per day). The construction of Phase 5 will disturb approximately 2.5 acres per day (75 total acres of disturbance / 30 days of grading = 2.5 acres per day). Linear regression was used to determine screening thresholds for 0.5 acres for Phases 2 and 3 and 2.5 acres for Phases 4 and 5. Maximum daily emissions of oxides of nitrogen ($NO_X$), carbon monoxide (CO), and particulate matter ($PM_{10}$ and $PM_{2.5}$) will occur during construction of the proposed project, grading of the project site, and paving of parking acres and drive aisles. Table 4.2.11 (Construction Localized Significance Threshold Analysis) summarizes on-site emissions as compared to the local thresholds established for Source Receptor Area (SRA) 10 (Pomona/Walnut Valley) and SRA 32 (Northwest San Bernardino Valley). A 50 meter receptor distance was used to reflect the proximity of the residential uses to the south of the project site. This does not include reductions in fugitive dust in compliance with SCAQMD Rule 403 to provide a worst case analysis. As a standard condition, compliance with SCAQMD Rule 403 requiring the watering of exposed surfaces three times daily is required. Based on the results of the on-site emissions analysis, SCAQMD localized significance thresholds will not be exceeded.

Potentially significant localized impacts during operation of the proposed project were also evaluated. Linear regression was used to determine screening thresholds for the area and energy source emissions resulting from operation of the sports fields and ancillary structures on 65.54 acres. Table 4.2.12 (Operational Localized Significant Threshold Analysis summarizes area and energy source emissions as compared to the local thresholds established for SRA 10 and SRA 32 under the weekday practice day, weekday game day, fall weekend game day, and spring weekend game day scenarios. A 50 meter receptor distance was used to reflect the proximity of the residential uses to the south of the project site. Based on the results of the analysis, SCAQMD localized significance thresholds will not be exceeded. Note that emissions will also not exceed, and are well below, SCAQMD localized significance thresholds for one-, two-, or five-acre sites.

**Table 4.2.11**
**Construction Localized Significance Threshold Analysis**

| | $NO_2$ | CO | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|
| **Phase II** | | | | |
| Site Preparation | 51.75 | 39.40 | 20.82 | 12.46 |
| Grading | 35.98 | 25.38 | 8.59 | 5.24 |
| Building Construction | 12.67 | 8.04 | 0.86 | 0.79 |
| Architectural Coating | 2.19 | 1.87 | 0.17 | 0.17 |
| Paving | 9.83 | 7.24 | 0.60 | 0.56 |
| *SCAQMD Localized Significance Threshold (SRA 10)* | *117.99* | *822.76* | *8.25* | *3.75* |
| *SCAQMD Localized Significance Threshold (SRA 32)* | *135.25* | *1,190* | *7.5* | *5.50* |
| **Threshold Exceeded?** | **No** | **No** | **No** | **No** |
| **Phase III** | | | | |
| Site Preparation | 42.50 | 34.81 | 20.22 | 11.91 |
| Grading | 28.38 | 23.39 | 8.09 | 4.78 |
| Paving | 14.94 | 14.37 | 0.81 | 0.74 |
| *SCAQMD Localized Significance Threshold (SRA 10)* | *117.99* | *822.76* | *8.25* | *3.75* |
| *SCAQMD Localized Significance Threshold (SRA 32)* | *135.25* | *1,190* | *7.5* | *5.50* |
| **Threshold Exceeded?** | **No** | **No** | **No** | **No** |
| **Phase IV** | | | | |
| Site Preparation | 32.65 | 29.97 | 19.61 | 11.35 |
| Grading | 38.43 | 35.10 | 10.40 | 5.19 |
| Building Construction | 6.98 | 7.13 | 0.37 | 0.34 |
| Architectural Coating | 1.30 | 1.81 | 0.07 | 0.07 |
| Paving | 6.15 | 8.67 | 0.30 | 0.28 |
| *SCAQMD Localized Significance Threshold (SRA 10)* | *184.15* | *1,425.46* | *20.63* | *6.13* |
| *SCAQMD Localized Significance Threshold (SRA 32)* | *210.71* | *1,994* | *26.12* | *8.42* |
| **Threshold Exceeded?** | **No** | **No** | **No** | **No** |
| **Phase V** | | | | |
| Site Preparation | 23.53 | 24.89 | 19.10 | 10.88 |
| Grading | 27.26 | 31.35 | 9.86 | 4.69 |
| Building Construction | 12.41 | 16.05 | 0.53 | 0.49 |
| Paving | 6.01 | 8.74 | 0.27 | 0.25 |
| Architectural Coating | 1.15 | 1.81 | 0.05 | 0.05 |
| *SCAQMD Localized Significance Threshold (SRA 10)* | *184.15* | *1,425.46* | *20.63* | *6.13* |
| *SCAQMD Localized Significance Threshold (SRA 32)* | *210.71* | *1,994* | *26.12* | *8.42* |
| **Threshold Exceeded?** | **No** | **No** | **No** | **No** |
| *Source: MIG \| Hogle-Ireland, November 2014* | | | | |

**Table 4.2.12**
**Operational Localized Significance Threshold Analysis**

| | $NO_2$ | CO | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|
| Weekday Practice Day | 0.09 | 0.01 | 0.01 | 0.01 |
| Weekday Game Day | 6.21 | 5.23 | 0.53 | 0.47 |
| Weekend Game Day (Fall) | 2.40 | 2.01 | 0.18 | 0.18 |
| Weekend Game Day (Spring) | 6.12 | 5.15 | 0.47 | 0.47 |
| *SCAQMD Localized Significance Threshold (SRA 10)* | *2,269.33* | *20,422.56* | *97.56* | *31.02* |
| *SCAQMD Localized Significance Threshold (SRA 32)* | *2,589.27* | *27,336.08* | *137.58* | *19.26* |
| **Threshold Exceeded?** | **No** | **No** | **No** | **No** |
| *Source: MIG \| Hogle-Ireland, November 2014* | | | | |

## *Odors*

According to the CEQA Air Quality Handbook, land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). The proposed project is sited on a previous quarry with residential uses to the south, commercial uses to the north, and Pitzer College and Claremont McKenna College campuses to the west. The proposed project would not produce odors that would affect a substantial number of people considering that the proposed project will not result in the manufacturing of any products or conduct other heavy industrial operations.

### Scoping Comments, South Coast Air Quality Management District

A.1 SCAQMD commented that the 1993 CEQA Air Quality Handbook is available as a resource in preparing an air quality analysis. This handbook has been used throughout this analysis and the air quality technical report.

A.2 This comment relates to analyzing the "whole" of the project, including construction and operational components. This section analyzes construction and operational impacts related to both the subdivision, the proposed Master Site Plan, and the proposed Site Plan.

A.3 This comment requests that $PM_{2.5}$ emissions be analyzed. This section includes analysis of $PM_{2.5}$ emissions for construction and operation of the project.

A.4 This comment recommends that local air quality impacts be analyzed in comparison to LSTs. This section includes analysis of local air quality impacts.

A.5 This comment recommends preparation of a mobile toxics health risk assessment when a project would generate or attract vehicular trips, particularly from heavy-duty diesel-fueled vehicles. A mobile toxics health risk assessment is generally only prepared in conjunction with projects such as distribution centers or truck stops because these types of uses include idling, heavy-duty trucks that can produce substantial amounts of diesel particulate emissions. This proposed sports facilities would not attract a substantial amount of diesel-fueled vehicles or result in any heavy-duty vehicle idling; therefore, a mobile toxics health risk assessment was not prepared for this project.

A.7 This comment provides guidance on mitigation. Mitigation has been incorporated to reduce potentially significant emissions criteria pollutants. Rule 403 control measures would be implemented as required. SCAQMD Rule 403 fugitive dust requirements are assumed to be implemented during construction activities and have been included as standard project conditions.

A.8 This comment provides guidance on data sources for air quality analysis. SCAQMD data sources, among others, were utilized throughout the preparation of this section and the air quality technical report.

## *Standard Conditions*

**Rule 403**

Fugitive dust emissions from grading and other construction activities shall be controlled in accordance with the provisions of South Coast Air Quality Management District Rule 403. Applicable Best Available Control Measures and large operation contingency control measures would include the following:

- All exposed surfaces would be watered at a minimum of three times a day, including haul and other unpaved roads (Measures 19-2, 4a)
- Establishing a maximum 15 miles per hour speed limit for all vehicles traveling on unpaved roads (Measure 19-1)

## *Mitigation Measures*

**MITIGATION 4.2.A-1**

Before issuance of building permits, the permittee must submit, to the satisfaction of the Community Development or Community and Economic Development Director, or designee of the approving jurisdiction, a Coating Restriction Plan (CRP), consistent with South Coast Air Quality Management District (SCAQMD) guidelines and a letter agreeing to include in any construction contracts and/or subcontracts a requirement that the contractors adhere to the requirements of the CRP. The CRP measures must be implemented to the satisfaction of the Community Development or Community and Economic Development Director, or designee. These measures shall include the following:

- The volatile organic compounds (VOC) of proposed architectural coatings cannot exceed 100 grams per liter (g/l) for non residential interior and exterior applications.

Pursuant to SCAQMD Rule 1113 (Architectural Coatings), this measure shall conform to the performance standard that emissions of volatile organic compounds from application of interior or exterior coatings shall not exceed the daily emissions thresholds established by the South Coast Air Quality Management District.

## Level of Significance with Mitigation Incorporated

Impact 4.2.A would be less than significant with incorporation of Mitigation Measure 4.2.A-1. All other impacts would be less than significant and do not require mitigation.

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[1] South Coast Air Quality Management District. CEQA Air Quality Handbook. 1993
[2] California Air Resources Board. Area Designations Maps – State and National. http://www.epa.gov/airquality/sulfurdioxide/ [October 2014]
[3] South Coast Air Quality Management District. Historical Data by Year. 2011
[4] South Coast Air Quality Management District. Historical Data by Year. 2012
[5] South Coast Air Quality Management District. Historical Data by Year. 2013
[6] United States Environmental Protection Agency. Clean Air Act. www.epa.gov/air/caa/ [July 2014]
[7] South Coast Air Quality Management District. Air Quality Management Plan. June 2007
[8] CalEEMod Users Guide. Version 2013.2. July 2013
[9] Linscott, Law & Greenspan, Engineers. *Traffic Impact Analysis Report Claremont Colleges East Campus.* September 5, 2014
[10] California Department of Transportation. Transportation Project-Level Carbon Monoxide Protocol. 1997
[11] Sacramento Metropolitan Air Quality Management District. CEQA Guide. May 2011

# Biological Resources 4.3

This section analyzes potential impacts to special status plant and animal species and consistency with the Claremont Sustainable City Plan. This section is primarily based on biological surveys prepared by Impact Sciences in 2007, 2010, and 2014 and a protocol survey for coastal California gnatcatcher prepared by Cooper Ecological Monitoring (see Appendices D, E, and F). Please note that the 2007 survey is a comprehensive study that includes information from observations made in 2003. Also note that the 2010 biological survey and 2011 addendum are further updates to the 2007 biological survey. A Biological Assessment was prepared by Impact Sciences in August 2014 that summarizes the results of the literature search, field surveys, focused rare plant surveys, and focused California gnatcatcher surveys conducted in 2014. As analyzed in the Initial Study (see Appendix B), impacts related to sensitive natural communities were found to be less than significant. Furthermore, no impacts related to wetlands, wildlife migration, or conflicts with Habitat Conservation Plans or Natural Community Conservation Plans were identified. However, due to interest in biological resources issues among some members of the community, impacts related to sensitive plant communities, wetlands, and migratory movement will be discussed herein. The California Department of Fish and Game and Dr. Susan Schenk submitted comments related to biological resources during the circulation of the Notice of Preparation. These comments are addressed herein.

## *Existing Conditions*

### Vegetation

Over 50 percent of the project site is disturbed due to on-going landfill activities; the remainder of the site generally supports native vegetation. The project site supports four plant communities: approximately 34.2 acres (AC) of alluvial fan scrub, a willow scrub population (0.7 AC), an area of seasonal ponding (0.36 AC), and ruderal/disturbed vegetation (37.7 AC).[1 2] Plant communities observed on the project site in 2007 are mapped on Exhibit 4.3-1 (2007 Vegetation Communities). Alluvial fan scrub is the predominant native vegetation type on the project site and vicinity. Various scrub types occur on the project site and are here collectively discussed as subtypes of alluvial fan scrub as they indicate recovery towards a predominant composition. The dominant canopy of this vegetation type is composed of a variety of shrub and sub-shrub species commonly found in scrub and chaparral communities throughout the region that share characteristics of establishment on frequently abraded substrates, make up the base of the southern slope of the San Gabriel Mountains. On the project site these species include California sagebrush, California buckwheat, scalebroom, California yerba santa, and laurel sumac. Subdominants in this community on site include deerweed, California brickellbush, Camissonia species, and the non-native sweet alyssum. This community is present in various stages of growth from past disturbances associated with quarrying and dumping activities throughout the site.

The most fully recovered areas of alluvial fan scrub are in the northern portion of the site and along slopes where artificial fill has not recently accumulated. Flatter,

low-lying areas of the site that appear to be poorly drained, lack the diversity of slope areas and are covered nearly exclusively by California buckwheat with scattered intrusions of mulefat and an understory of split grass. These areas have accumulated on compact topsoil with high silt content. This degree of compaction is not representative of natural areas in the region and it is doubtful that they would achieve recovery to the levels shown on better-drained, less-compacted slope areas of the site. There are various native and non-native species of vegetation present on the project site. Because of the site's previous use as an aggregate quarry and existing use as an inert landfill, none of the vegetation is undisturbed. Because many non-native species are present throughout the scrub habitat, a generic description of scrub vegetation on the project site has been used. Fine distinctions between the various scrub sub-types would have produced an unnecessarily complex vegetation map that would have offered little in the way of explaining how the project site may support wildlife. It should be noted that, despite the differences between on-site scrub vegetation and undisturbed examples of Riversidean alluvial fan sage scrub (RAFSS) in the region, the characteristics of on-site scrub communities provide most of the physical attributes of natural RAFSS. RAFSS is the local variant of coastal sage scrub that occupies alluvial fans along the southern base of the San Gabriel Mountains. RAFSS is a declining vegetation type in the region.

An area of occasional seasonal ponding is located in the southern portion of the site and is vegetated with annual herbaceous species including horseweed, curvepod yellowcress, and salt heliotrope. An area of willow scrub is present immediately adjacent to the seasonal ponding area and possesses a mix of common riparian species, chiefly Gooding's willow and mulefat. A small patch of riparian vegetation dominated by a single western sycamore tree is also associated with the same seasonal ponding area. This small vegetation formation has been mapped as part of the willow scrub vegetation due to its small size and immediate proximity to the willow scrub community. This ponding area is not a vernal pool due to the lack of vernal pool species, its depth, the lack of soils associated with vernal pools, and the fact that the occasional seasonal pond is a non-natural artifact caused by existing landfill activities.

Most of the southern and much of the western portion of the site supports ruderal vegetation and continues to receive frequent disturbances. Ruderal species in these disturbed areas include black mustard, tocalote, yellow sweet clover, slender wild oat, smooth brome, and other non-native species among a few scattered native shrubs including California buckwheat, coyote bush, and broom baccharis. Much of the area mapped as ruderal in the southern portion of the property lacks the non-native annual component of other ruderal areas on site and supports a moderate diversity of widely scattered native and non-native perennials, including mulefat, showy penstemon, and tree tobacco (Nicotiana glauca), particularly on the north-facing slopes. These areas have been mapped as ruderal since they are in the early stages of succession and are surrounded by other areas more typically considered ruderal and dominated by annual plants; however, the current floral character of these areas indicates a strong likelihood that, in the absence of

disturbance, they would recover to a state similar to that of the alluvial scrub currently present on the sloped areas of the quarry.

Vegetation communities observed on the project site in the 2014 survey are mapped on Exhibit 4.3-2 (2014 Vegetation Communities). The current vegetation classification system for California is used where applicable, which is based on species dominance. Extensive disturbance of the site over many years and apparent attempt at revegetation have resulted in several transitional vegetation types that are not explicitly recognized in the California classification system. In these cases, the classification system's species dominance method was used to create a new name for the vegetative type. Six categories of vegetative were identified in the 2014 survey. Five can be described under the current California classification. Table 4.3-1 (Vegetation Community Acreages) lists observed vegetation types and acreages. Each of the vegetation associations, or "alliances" present are discussed below

**Table 4.3-1**
**Vegetation Community Acreages**

| Category | Acres |
|---|---|
| **Native-Dominated** | |
| Buckwheat Alliance | 11.97 |
| Buckwheat-Mulefat Alliance | 5.12 |
| Laurel Sumac Alliance | 5.89 |
| Scalebroom Alliance | 2.76 |
| Willow-Mulefat Alliance | 1.75 |
| *Subtotal – Native Dominated* | *27.49* |
| **Transitional** | |
| Non-Native/Native Transition | 21.07 |
| Non-Native/Native Transition (Mulefat) | 1.83 |
| *Subtotal – Transitional* | *22.90* |
| **Non-Native Dominated** | |
| Tree Tobacco Stand | 0.60 |
| Ornamental Landscaping | 0.16 |
| *Subtotal – Non-Native Dominated* | *0.76* |
| Graded | 23.81 |
| Total – All categories | 74.96 |
| *Source: Impact Sciences, Inc. Biological Assessment Claremont University Consortium Sports Park Project, Claremont, California. August 2014* | |

## Buckwheat and Buckwheat – Mulefat Alliances

California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*) dominates an engineered west-facing slope below Monte Vista Avenue, and co-occurs with other native species elsewhere, especially mulefat (*Baccharis salicifolia*) on an engineered slope above the south side of the former gravel pit. Buckwheat is commonly used for revegetation and erosion control. Shrub cover in these alliances ranges from 50 to 100 percent.

Laurel Sumac Alliance

Laurel sumac (Malosma laurina) is the most common evergreen shrub on the site, occurring in all vegetation types as scattered individuals but forming concentrated stands on the north and south sides of the site. Shrub cover ranges from 80 to 100 percent in these areas.

Scalebroom Alliance

Scalebroom (*Lepidospartum squamatum*) co-occurs with California sagebrush (*Artemisia californica)* and laurel sumac on rubble piles and brush clearance zones on the north side of the site. Shrub cover ranges from 50 to 100 percent.

Willow-Mulefat Alliance

Gooding's (black) willow (*Satix goodingii*) and mulefat co-occur in the former gravel put, at the lowest elevations on site. A western sycamore (*Platanus racemosa*) occurs adjacent to this vegetation. Plant cover is 100 percent in most of the area. Gooding's willow and mulefat also occur as individuals along a gully in the northeast part of the site.

Non-Native and transition Vegetation Types

Non-native species dominate about one-third of the site area, with native shrub species such as laurel sumac present as scattered individuals. Examples of common non-native species include tree tobacco (*Nicotiana glauca*), summer mustard (*Hirschfeldia incana*), red-stemmed filaree (*Erodium cicutarium*), and red brome (*Bromus madritensis* ssp. *rubens*).

## Special Status Species

Special status wildlife species are those listed under federal or state Endangered Species Acts, listed as Species of Special Concern by the state, protected under official conservation programs (e.g., Multi-Species Conservation Programs), and/or those designated by local legislation as requiring protection. Special status plants are those listed under federal or state endangered species acts, protected under official conservation programs (e.g., Multi-Species Conservation Programs), and/or considered "sensitive", such as those listed by the California Native Plant Society (CNPS). The CNPS utilizes a ranking system to define the status of sensitive plant species, as follows:

1A: Plants presumed extinct in California
1B: Plants that are rare, threatened, or endangered in California and elsewhere
2: Plants that are rare, threatened, or endangered in California but more common elsewhere
3: Plants about which the CNPS needs more information. This is a review list.
4: Plants of limited distribution. This is a watch list.

The California Natural Diversity Database (CNDDB) inventories occurrences of rare, threatened, endangered, and sensitive animals, plants, and natural communities in California. The CNDDB inventories both aquatic and terrestrial natural communities that are of extremely high quality, very limited distribution, or threatened. The

CNDDB inventory was consulted to determine special status species that are known in the project area. According to the CNDDB in 2007, 35 plant species and natural communities and 44 wildlife species are known to occur in the project area. Of these species, five plants and eleven species have the potential to occur on the project site. These species are summarized in Table 4.3.1 (Special Status Species) and discussed in further detail below. A new query of the CNDDB was performed in 2010 and identified 39 plant species but none of these special status species occur on the project site. An addition query of the CNDDB was performed in 2014 and identified 38 special status plant and 53 wildlife species in the project area. Based on the habitat conditions, vegetation types present, and quarry activities on site, only one special status wildlife species recorded from the region is expected to have more than a low potential for occurrence on the project site. Three special status plant species have a more than low potential to occur on the project site: Mesa horkelia, Salt spring checkerbloom, and San Bernardino aster. None of the three species have been observed at the project site. The site currently has no suitable habitat for San Bernardino aster or Salt spring checkerbloom and previous gravel mining activities likely extirpated the population if present on site.[3]

The special status wildlife species observed on the site is Allen's hummingbird, a CDFW "Special Animal." This classification is not intended to afford any protection; rather CDFW is interested in tracking occurrences (particularly nesting occurrences) for data collection and further evaluation of the species in the future.

### Nevin's barberry

Nevin's barberry is found on steep north-facing slopes and low-grade sandy washes in chaparral, cismontane woodland, coastal, and riparian scrub between 295 and 825 meters above mean sea level (MMSL). This species was not observed on the project site during the 2007, 2010, or 2014 surveys.

### Robinson's pepper-grass

This plant is found in dry soils in chaparral and coastal scrub habitats between 1 to 835 MMSL. This species was not observed on the project site during the 2007, 2010, or 2014 surveys. According to the 2014 CNDDB inquiry, Robinson's pepper-grass was not recorded in the project vicinity..

### Parry's spineflower

Parry's spineflower is found in sandy or rocky openings in chaparral and coastal scrub communities between 40 and 1,704 MMSL. This species was not observed on the project site during the 2007, 2010, or 2014 surveys.

**Table 4.3.1**
**Special Status Species**

| Species | Status | | |
|---|---|---|---|
| | USFWS | CDFG | CNPS Other |
| Nevin's barberry | E | E | 1B.1 |
| Robinson's pepper-grass | -- | -- | 1B.2 |
| Parry's spineflower | -- | -- | 3.3 |
| Plummer's mariposa lily | -- | -- | 1B.2 |
| Intermediate mariposa lily | -- | -- | 1B.2 |
| Coastal western whiptail | -- | -- | SA |
| Coast patch-nosed snake | -- | CSC | -- |
| Cooper's hawk | -- | CSC | -- |
| Costa's hummingbird | -- | -- | ABC<br>AWL<br>USBC |
| Southern willow flycatcher | E<br>FSS | E | ABC<br>AWL<br>USBC |
| Horned lark | -- | CSC | -- |
| Southern California rufous-crowned sparrow | -- | CSC | -- |
| Lawrence goldfinch | FSS | -- | ABC<br>AWL<br>USBC |
| Pallid bat | FSS<br>BLMS | CSC | WBWG |
| Western mastiff bat | BLMS | CSC | WBWG |
| San Diego black-tailed jack rabbit | -- | CSC | -- |
| Northwestern San Diego pocket mouse | -- | CSC | -- |
| Los Angeles pocket mouse | FSS | CSC | -- |
| San Diego desert woodrat | -- | CSC | -- |

Source: Impact Sciences 2007, CNDDB 2010

USFWS
E Endangered
T Threatened
C Candidate Species
BLMS Bureau of Land Management Sensitive
FSS Forest Service Sensitive

CDFG
E Endangered
T Threatened
SA Special (non-official designation)
CSC California Species of Concern

CNPS Categories
1A Plants presumed extinct in California
1B Plants that are rare, threatened, or endangered in California and elsewhere
2 Plants that are rare, threatened, or endangered in California but more common elsewhere
3 Plants about which the CNPS needs more information. This is a review list.
4 Plants of limited distribution. This is a watch list.

CNPS Threat Code Extensions
None Plant is lacking threat information
.1 Seriously endangered in California
.2 Fairly endangered in California
.3 Not very endangered in California

Other
ABC American Bird Conservancy Watch List
AWL Audubon Watch List
USBC United States Bird Conservation Watch List
WBWG Western Bat Working Group (High Priority)

Plummer's mariposa

This plant is found on rocky and sandy sites, usually of granitic alluvial material in coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, and lower montane coniferous forest communities between 90 and 1,610 MMSL. This species was not observed on the project site during the 2007, 2010, or 2014 surveys. According to the 2014 CNDDB inquiry, Plummer's mariposa was not recorded in the project vicinity.

Intermediate mariposa lily

The intermediate mariposa lily is found in rocky areas in chaparral, coastal scrub, and valley and foothill grassland communities between 105 and 855 MMSL. This species was not observed on the project site during the 2007, 2010, or 2014 surveys.

Coastal western whiptail

This reptile is found in a variety of habitats with firm, sandy, or rocky soils within sparse vegetation, open areas, woodlands, and riparian communities of desert and semi-desert areas. This species was observed on the project site during the 2007 survey and during the 2010 survey. This species is common in alluvial wash habitats in the Los Angeles Basin such as is present on the project site. This species was not observed during the 2014 survey.

Coast patch-nosed snake

The Coast patch-nosed snake is found in low shrub structures within minimum density. It is presumed to take refuge and overwinter in burrows or woodrat nests. It preys on whiptail lizards. This species was not observed on the project site during the 2007 and 2010 surveys but has a high potential to occur due to the presence of woodrat nests and whiptail lizards on the project site. This species was not observed during the 2014 surveys. According to the 2014 Biological Assessment, there is low potential for this species to occur due to very limited suitable habitat. In addition, the site is likely too disturbed and isolated to support sustainable population.

Coastal California gnatcatcher

The California gnatcatcher is a permanent resident of coastal sage scrub and is located below 80 MMSL through Southern California. The 2007 survey determined that there was little potential for this species to occur on the site due to the sparseness of adequate habitat and the lack of extant populations along the San Gabriel Mountains in the project vicinity. Regardless, to ensure that this species is not present on the project site, a protocol-level survey in accordance with the requirements of the United States Fish and Wildlife Service (USFWS) was performed between May 2010 and June 2010.[4] The survey included six surveys at one-week intervals covering the entire site. A total of 37 birds were detected during this survey, but no California gnatcatchers were detected. The 2014 surveys were conducted following USFWS protocol, and no California gnatcatchers were detected.

Cooper's hawk

This bird nests in open forests, groves, or trees along rivers or the low scrub of treeless areas. Wooded areas are often near the edge of a field or water opening. This species was also observed displaying courtship behavior over the project site in 2007. This species was observed during the 2010 survey but was not displaying breeding behavior; therefore, it is not likely that this species was nesting on the site at the time of the survey. According to the 2014 CNDDB inquiry, Cooper's hawk was not recorded in the project vicinity. In addition, this species was not observed during the 2014 survey.

Costa's hummingbird

This bird is found in a variety of herbaceous and woody plants that provide flower nectar. Costa's hummingbirds will also eat small insects and spiders. Shrubs provide primary cover for this species but also may use trees. Exotic plants such as bottlebrush are important during the winter. This species nests in a wide variety of trees, cacti, shrubs, woody forbs, and sometimes vines. They are generally not found close to water. This species was observed on the project site during the 2007 survey but based on the observations of the surveying biologist, was not breeding. This species was not observed in 2010 or 2014. According to the 2014 CNDDB inquiry, Costa's hummingbird was not recorded in the project vicinity.

Southwestern willow flycatcher

This federal and state endangered species makes short sallies for flying insects from exposed perches in willow thickets or from low perches in adjacent meadows. These birds will also eat berries and seeds. Dense willow thickets are required for nesting and roosting. Low, exposed branches are used for singing posts and hunting perches. Nesting sites are usually located near a languid stream, standing water, or seep. This species thrives where extensive thickets of low, dense willows edge on wet meadows, ponds, or backwaters. Non-vocal, migrant occurrences of this species were identified during the 2007 and 2010 surveys. Migrant individuals are common in many habitats throughout the state and are not protected as nesting individuals are. The 2014 survey determined that this species is not expected to occur due to the lack of suitable habitat on site.

Horned lark

This bird primarily eats insects, snails, and spiders during the breeding season and adds grass seeds, forb seeds, and other plant matter during non-breeding seasons. This species frequents grasslands and other open habitats with low, sparse vegetation where it hunts by walking on the ground. Grasses, shrubs, forbs, rocks, litter, clods of soil, and other surface irregularities provide cover for this species. This species builds grass-lined nests in cup-shaped depressions on the ground in the open. This species was observed nesting on the project site during the 2007 survey. A vocal individual was identified during the 2010 survey but the individual was not identified as nesting because no nest was detected. According to the 2014 CNDDB inquiry, this species was not recorded in the project vicinity and were not observed during the 2014 survey.

Southern California rufous-crowned sparrow

The Southern California rufous-crowned sparrow is found in costal sage scrub and mixed chaparral. This bird frequents steep, often rocky hillsides with grass and forb patches. This species was not observed during the 2007, 2010, or 2014 surveys.

Lawrence's goldfinch

This species nests in open oak or other woodland and chaparral near water. It uses nearby herbaceous habitats for feeding. A pair was observed during the 2007 survey but in the opinion of the surveying biologist, they were collecting material for an off-site nest. This species was not observed during the 2010 or 2014 surveys. According to the 2014 CNDDB inquiry, this species was not recorded in the project vicinity.

Pallid bat

This mammal is found in deserts, grasslands, shrublands, woodlands, and forests. This species is most common in open, dry habitats with rocky areas for roosting. It roosts in colonies of twelve to 100 bats within rock crevices, caves, mineshafts, under bridges, in buildings, and in tree hollows. This species is very sensitive to disturbances to roosting sites and must find a roost that protects it from high temperatures. This species was not observed on the project site during the 2007, 2010, or 2014 surveys. The project site may provide foraging area for the pallid bat but does not provide adequate roosting sites.

Western mastiff bat

This bat roosts in crevices in cliff faces, high buildings, trees, and tunnels within a variety of open, semi-arid to arid habitats including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. This species was not observed on the project site during the 2007, 2010, or 2014 surveys. The project site may provide foraging area for the western mastiff bat but does not provide adequate roosting sites.

San Diego black-tailed jackrabbit

The San Diego black-tailed jackrabbit is found in shrub habitats and intermediate canopy stages of shrub habitats and in open shrub/herbaceous and tree/herbaceous edges. This species was observed on the project site in 2003 but was not identified during the 2007, 2010, or 2014 surveys.

Northwestern San Diego pocket mouse

This mouse is found in sandy, herbaceous areas usually associated with rocks or coarse gravel in coastal scrub, chaparral, grassland, and sagebrush communities in southwestern California. This species was not observed on the project site during the 2007, 2010, or 2014 surveys; however, the 2007 survey notes that suitable habitat was present on the site and that this species has been identified in Claremont and Upland along the Interstate 210 corridor.

Los Angeles pocket mouse

This species is located in the lower elevation grasslands and coastal sage associates in the Los Angeles Basin from approximately Burbank and San Fernando on the northwest to San Bernardino on the northeast to Cabazon, Hemet, and Aguanga on the east and southeast. The Hollywood Hills likely bound this specie's geographic limit to the southwest. It is found in open ground with soils composed of fine sands. They may not always dig a burrow but hide under weeds and dead leaves instead. This species was not observed during the 2007, 2010, or 2014 surveys.

San Diego desert woodrat

The San Diego woodrat is located in moderate to dense canopies in the coastal scrub areas of Southern California from San Diego County to San Luis Obispo. This species is particularly abundant in rock outcrops, rocky cliffs, and slopes. This species was identified on the project site in 2003 but could not positively be identified in 2007. This species was not detected during the 2010 or 2014 surveys.

Allen's Hummingbird

Allen's hummingbirds locate their nest in shrubs and trees with dense vegetation (such as vines and thickets) anywhere from 0.5 to 15 meters off the ground. Nests are composed of grasses and leaves woven together with spider webs. On average, two eggs are laid and incubated for 12 to 22 days. This species is a CDFW "Special Animal". This classification does not afford the Allen's Hummingbird special protection; however, CDFW is interested in tracking occurrences for data collection and further evaluation of the species in the future. This species was not observed during the 2007 survey. Allen's hummingbird was observed on the site during the 2010 survey; however, during that survey, this species was not considered a special-status or "Special Animal". This species was observed in each of the six surveys that were conducted in 2014. It is, therefore, assumed to be a resident and nesting on site.

## Wildlife Nurseries

A native wildlife nursery includes facilities and protected habitat for the rehabilitation of injured or rare species for eventual release into the wild. The project site is not a wildlife nursery.

## Wetlands

Wetlands are areas of soil that are saturated with moisture such as a swamp, marsh, or bog. A wetland is subject to Section 404 of the Federal Clean Water Act (CWA) with the legal definition of a wetland defined under Title 33, Part 328.3(a) of the Code of Federal Regulations (CFR). Delineating a wetland is implemented through the US Army Corps of Engineers' (ACOE) Wetland Delineation Manual that includes identification of such things as the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.[5] Wetlands serve not only as nodes on avian and aquatic migratory routes but also provide a unique habitat for various species. The USFWS maintains the National Wetlands Inventory and Mapping System and according to the most recent data the project site does not contain any federally protected wetlands.[6]

## *Regulatory Framework*

### Endangered Species Act

The Federal Endangered Species Act (FESA) is administered by the United States Fish and Wildlife Service (FWS) and was established to protect wildlife species and habitats from extinction and diminishment. FESA applies to federally listed species and habitat occupied by federally listed species. FESA Section 9 forbids acts that directly or indirectly harm listed species. Section 9 also prohibits "taking" of any species of wildlife or fish listed as endangered. These restrictions apply to all federal agencies and all persons subject to US jurisdiction. Specifically, Section 9 identifies prohibited acts related to endangered species and prohibits all persons, including federal, State and local governments, from "taking" listed species of fish and wildlife except as specified under the provisions for exemptions. The term "take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

Critical habitats are specific geographic areas, whether occupied by a species under FESA or not, that are essential for its conservation and that have been formally designated by rule published in the Federal Register. Critical habitat receives protection under Section 7 of FESA through prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal Agency. *According to the FWS Critical Habitat Portal, the project site does not encompass any critical habitat.*[7]

An incidental take permit is issued under Section 10(a)(1)(B) of the FESA to a non-Federal party undertaking an otherwise lawful project that might result in the take of an endangered or threatened species. Application for an incidental take permit is subject to certain requirements including preparation by the permit applicant of a Habitat Conservation Plan (HCP). An HCP outlines ways of maintaining, enhancing, and protecting a given habitat type needed to protect species. The HCP usually includes measures to minimize impacts and may include provisions for permanently protecting land, restoring habitat, and relocating plants or animals to another area. According to the FWS, *the project site is not located within a HCP area.*[8]

### California Endangered Species Act

The California Endangered Species Act (CESA) (Fish and Game Code, Section 2050 et seq.) generally parallels the main provisions of FESA and is administered by the California Department of Fish and Game (CDFG). Under CESA the term "endangered species" is defined as a species of plant, fish, or wildlife that is "in serious danger of becoming extinct throughout all, or a significant portion of its range" and is limited to species or subspecies native to California. CESA prohibits the taking of listed species, except as provided in State law. Specifically, Section 2053 of CESA prohibits projects that would jeopardize the continued existence of any endangered species or threatened species or that would result in the destruction or adverse modification of habitat essential to the continued existence of those species if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat that would prevent jeopardy.

## Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act (MBTA) (16 USC 703) implements various treaties and conventions between the US, Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the MBTA, the taking, killing or possessing of migratory birds is unlawful, unless expressly permitted by other federal regulations. The MBTA provides that it is unlawful to pursue, hunt, take, capture, or kill any migratory bird, part, nest, egg or product. The MBTA requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (1 February to 31 August, annually). Migratory bird species protected by this act are defined in Title 50, CFR Section 10.13.

## Clean Water Act

Section 401 of the CWA requires an applicant to obtain certification for any activity that may result in a discharge of a pollutant into waters of the United States. As a result, proposed fill in waters and wetlands requires coordination with the appropriate State Regional Water Quality Control Board (RWQCB) that administers Section 401 and provides certification. The RWQCB also plays a role in review of water quality and wetland issues, including avoidance and minimization of impacts. Section 401 certification is required prior to the issuance of a Section 404 permit.

Under Section 404 of the CWA the U.S. Army Corps of Engineers (ACOE) has jurisdiction over "Wetlands" and "Waters of the United States". Permitting of activities that could discharge fill or dredge materials or otherwise adversely modify wetlands or other waters of the United State and associated habitat is required. Permits authorized by ACOE under the Act typically involve mitigation to offset unavoidable impacts on wetlands and other waters of the United States in a manner that achieves no net loss of wetland acres or values. The USFWS maintains the National Wetlands Inventory and Mapping System and according to the most recent data the project site does not contain any federally protected wetlands.

## Claremont Sustainable City Plan

The City of Claremont adopted the Sustainable City Plan in October 2008 and amended in October 2013.[9] The purpose of the plan is to establish a framework to promote the City of Claremont's vision of balancing social needs, environmental health, and economic prosperity while preserving natural resources, avoiding social inequities, and continuing economic opportunity. The plan addresses seven goal areas, one of which is the "Open Space and Land Use (Ecology)" goal area. This area includes five goals, as follows:

5.1 **Protect Natural Open Space.** Maintain, improve, and protect natural open space resources throughout Claremont.

5.2 **Expand and Improve Our Network of Constructed Open Spaces.** Develop and maintain a constructed open space system diverse in services, uses, and opportunities which conserve natural resources, provide passive

and active recreation, offer a fair distribution of parks, treed pathways, and public gathering places throughout the community, and increase the aesthetic quality of the community and provides for urban agriculture.

5.3 **Maintain Diversity of Land Native Organisms.** Maintain natural areas, increase local native organisms in constructed landscapes.

5.4 **Protect the Urban Forest.** Protect, improve, and expand our urban forest.

5.5 **Inform the Public.** Instill the importance of open space and smart land use in our community along with an understanding of how to manage our resources for a more sustainable Claremont and planet.

## *Thresholds of Significance*

The project could result in a potentially significant impact if it would:

A. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service.
B. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
C. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
D. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or the City of Claremont's Sustainable City Plan.

## *Environmental Impacts*

**IMPACT 4.3.A**

***Direct impacts to special status plant and wildlife species and indirect impacts to special status species due to habitat loss would be less than significant with mitigation incorporated***

### 2007 and 2010 Surveys

The project site was surveyed in 2007 and 2010 and found to contain suitable habitat for four special status plant species and twelve special status wildlife species. Over 50 percent of the project site has been disturbed by previous quarry activities and ongoing landfill, temporary parking, and archery facilities. The remaining native alluvial fan scrub habitat on the project site was in varying stages of recovery from previous quarry operations and existing landfill operations as of 2010. This habitat included many non-native species, was fragmented from similar habitat types, and lacked natural biological processes due to continual disturbance

resulting from existing, onsite landfill activities; therefore, this habitat served no utility for long-term conservation. While native scrub habitat on the project site was not pristine and precluded utility for conservation, it had the potential to support a variety of sensitive species; therefore, its loss could result in a potentially significant indirect impact to sensitive species due loss of habitat. It is assumed that all native onsite habitat will be removed as a result of construction of the East Campus sports facilities. To minimize impacts related to the loss of alluvial scrub habitat, Mitigation Measure 4.3.A-1 will be incorporated. Mitigation Measure 4.3.A-1 requires incorporation of locally native alluvial fan scrub to be incorporated into the landscape design to provide continued benefit to sensitive species and native wildlife as foraging and migration area. This would include approximately 2.13 AC within the proposed retention basin, the slopes along Monte Vista Avenue, the slopes along Foothill Boulevard, and the slopes along the east side of the proposed parking lots. This would ensure that existing on-site alluvial fan scrub habitat options currently provided to sensitive species would continue through the life of the project. With Mitigation Measure 4.3.A-1 incorporated, indirect impacts to sensitive species due to loss of habitat would be minimized and impacts would be less than significant.

The project and the surrounding areas are not designated "Critical Habitat" for any sensitive species. The nearest "Critical Habitat" is located approximately five miles to the west of the project site. Development of the proposed sports facilities identified in the Master Site Plan, Site Plan, and development agreements would result in the incremental removal of all native and non-native habitats and plant species on proposed Parcels 1 and 2 of TPM 70243 in Claremont and Parcel 4 of TPM 18989 in Upland. Both the 2007 and 2010 surveys did not find any special plant species on the project site and presume that they do not occur on the project site; however, the potential for sensitive plant species could occur on the project site in the future due to the presence of suitable habitat.

Six special status wildlife species were identified on the project site or in the near vicinity in the 2007 survey. The coastal western whiptail was observed on the site. Cooper's hawk was observed displaying courtship behavior over the site. Costa's hummingbird, the southwestern willow flycatcher, and Lawrence's goldfinch were observed on the project but presumed not to be nesting. The horned lark was observed nesting on the project site. Additionally, numerous woodrat nests were observed on the site that could belong to residing sensitive mammals. During the 2010 update survey, the horned lark was detected singing east of the project site but was not identified on the project site. The coastal whiptail was observed again in 2010. A vocal Cooper's hawk was identified on three occasions but was not displaying breeding behavior or other evidence of nesting; therefore, it is presumed this species may have only been foraging in the area. A non-vocal willow flycatcher was identified on the project site but was considered to be migrant and non-nesting.

## 2014 Survey

A new survey was conducted in 2014. Extensive disturbance of the site over many years and apparent attempts at revegetation have resulted in several transitional vegetation types that are not explicitly recognized in the California vegetation classification system. The vegetation observed on site consists of secondary growth and colonization, including intentional revegetation. Approximately one third of the site is dominated by non-native species, with native shrub species such as laurel sumac present as scattered individuals.

During the 2014 survey, a CDFW "Special Animal" was observed on the project site. This classification does not afford the Allen's Hummingbird special protection; however, CDFW is interested in tracking occurrences for data collection and further evaluation of the species in the future. Allen's hummingbird was observed each of the six surveys that were conducted and has been assumed to be a resident and nesting on site. Additionally, although not a protected species, an active red-tailed hawk nest was observed in the southeastern portion of the site.

While the project will not result in any substantial impacts to sensitive species or their habitat and the existing vegetation on site is of low quality, the project site may support nesting of some native bird species. Generally, all birds (as listed) are protected under the Federal Migratory Bird Treaty of 1918 and/or California Fish and Game Code Sections 3503, 3503.5, and 3513. If removal of vegetation occurs during the avian breeding season, CDFW recommends that nest surveys be conducted and active nests avoided and provided with a minimum buffer as determined by a biological monitor (CDFW generally recommends a minimum 300 foot nest avoidance buffer or 500 feet for all active raptor nests) in order to be compliant with federal and/or state law. In addition to federal and state regulations, the project is subject to CEQA filing fees upon certification of an EIR. The filing fee helps defray the costs of managing and protecting California's fish and wildlife resources, thus, payment of fees would help offset any incremental effects on wildlife, including nesting birds and other resources.

In the future, if any of the previously observed sensitive species are harmed during site development activities, particularly in terms of nesting birds, then a significant impact could occur because breeding and perpetuation of these species would be interrupted, further exacerbating efforts to recover the species.

To ensure that no special status species are harmed during future development activities, Mitigation Measures 4.3.A-2 through 4.3.A-4 will be incorporated into any future proposal for site development. Mitigation Measure 4.3.A-2 requires pre-construction surveys prior to commencement of any site clearing activities for development of the facilities identified in the Master Site Plan, Site Plan, and development agreements to determine if special status plant or wildlife species are present on the project site. This mitigation establishes performance standards to ensure that the species is not injured or otherwise harmed either through avoidance, capture and relocation, or other methods as recommended by the qualified surveying biologist. In some cases, impacts can be minimized through

contribution to a conservation bank. Mitigation Measure 4.3.A-3 requires a qualified biologist to monitor site preparation and grading to identify and ensure that any species that may be found on the site during earthmoving activities is appropriately relocated. Mitigation Measure 4.3.A-4 requires that a qualified biologist or arborist perform a site specific tree survey to minimize impacts to trees. A nesting bird survey is also required if any phase of the project would require the removal of mature trees and/or any native/natural habitat during the bird breeding season (February 15 – September 15). With mitigation incorporated, future potential impacts to special status plant and animal species due to the development of facilities identified in the Master Site Plan, Site Plan, and development agreements would be less than significant.

## Scoping Comments, Department of Fish and Game

G.1 This comment requests that a recent assessment of flora and fauna within and adjacent to the project area with emphasis on special status species be included in the DEIR. In June 2010, the project biological study was updated with additional surveys to assess the current site conditions; it has been utilized in the analysis of impacts to biological resources and has been included as Appendix E in conjunction with other biological surveys attached as Appendices D and F.

G.2 This comment requests a discussion of direct, indirect, and cumulative impacts to biological resources and implementation of mitigation to avoid or minimize such impacts. Impact 4.3.A identifies and analyzes potential impacts to special status species and sensitive habitats and includes program level mitigation requiring pre-construction surveys to avoid impacts to any special status species. Cumulative impacts are discussed in Section 6.1.

G.3 This comment recommends that a range of alternatives to the project be considered and evaluated. Alternatives are discussed in Section 5.0.

G.4 This comment indicates that a permit would be required pursuant to CESA if a "take" of any species would occur. The project is not anticipated to "take" any species and has included mitigation to ensure that special status species are not harmed during future development activities.

G.5 This comment provides guidance on water course alterations and permitting. Preliminary project review found that it would not substantially alter or otherwise impact the function of any watercourse as discussed in the project Initial Study (Appendix B) and a less than significant impact determination was made. The Initial Study notes that groundwater does rise to the surface occasionally and that the site receives stormwater runoff from areas to the north; these water sources were not identified as "waters of the United States" or wetlands and a no impact determination was made. The project biological studies note that the occasional seasonal ponding area will not require a streambed alteration agreement from the California Department of Fish and Wildlife (DFW).

**IMPACT 4.3.B**

***Impacts to federally protected wetlands could not occur***

As discussed in the "Existing Conditions" of this section, there are no federally protected wetlands on the project site; therefore, development of the proposed sports facilities could not impact any federally protected wetlands. No impact would occur.

**IMPACT 4.3.C**

***Impacts related to wildlife migration would be less than significant with mitigation incorporated***

The project site is currently undeveloped and is utilized as a landfill for inert construction debris. Property to the east and south, as well as most of the western neighboring property is disturbed or developed. Remnant patches of good-quality vegetation are located in the northern portion of the Pitzer College arboretum west of the project site and at the Rancho Santa Ana Botanic Garden, north of the project site.

Reptile and amphibian communities on-site are represented by at least five species which were observed during the biological survey of the project site. It is likely that additional reptile species are present but the likelihood of additional amphibian species is low due to the ephemeral and disturbed nature of on-site seasonal ponding area. Bobcat tracks were observed on the project site during the 2007 survey and coyotes during the 2010 survey, indicating that relatively large wildlife species are able to access the site, generally to predate rabbits and other small mammal prey. Bobcat individuals would obtain access to the site from the west and north, by utilizing a culvert under Foothill Boulevard near the northeastern corner of the project site or else through gaps in the chain link fence that surrounds the entire project site.

## Wildlife Corridors

Wildlife movement "corridors" link areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. In the absence of habitat linkages allowing movement to adjoining open space areas, larger and more mobile mammal species would not likely persist over time in fragmented or isolated habitat areas. Apart from birds, any movement of wildlife onto the project site would originate from the neighboring parcels to the west and north and any movement off of the site would return wildlife to those same areas. Terrestrial wildlife cannot continue to forage to the east or south due to development or infrastructure improvements. The project site is the terminus of sparse open space within an otherwise developed and disturbed urban area. This indicates that regular wildlife movement onto the site would be part of daily home-range activities such as foraging and would not involve migratory movement onto

neighboring properties to the south and east; therefore, the project site is not considered to be part of a wildlife movement corridor.

## Migratory Routes

Migration behavior is the regularly occurring, seasonally oriented movement of a species. Migration may consist of short- or long-distance dispersal and one-and two-way migratory trips over time cycles consisting of hours to years. A migratory route is the geographic path a species takes as it acts on its migratory behavior. Aquatic species typically migrate along streams and rivers. Avian species utilize wetlands and other open space areas as resting and feeding nodes as they migrate. Groundborne species generally require wildlife corridors to migrate. Southern California forms a portion of the Pacific Flyway, a generic term used to categorize the numerous and complex migratory routes utilized by bird species migrating from Alaska to Mexico. Essentially, any waterbody or open space within the Pacific Flyway can serve as a travel node on a migratory path.

A total of over 60 bird species were observed during the 2007, 2010, and 2014 biological surveys and these were determined to comprise resident, migrant, and transient individuals (see Impact 4.3.A for further discussion). On-site natural communities provide habitat for a variety of scrub-obligate birds including the lesser nighthawk and California horned lark. Additionally, seasonal ponding and associated riparian vegetation offers resting and foraging habitat for migratory waterfowl and riparian obligate birds. On-site habitat elements may therefore serve as migratory nodes in long-range migration and local dispersal patterns for regional bird populations. Disruption of seasonal ponding and other on-site habitat, therefore, could interfere with movement of avian species.

The proposed project site includes a retention basin that would collect all project site stormwater and other runoff. The proposed retention basin would be located in the same area where seasonal ponding occurs. Based on this project design feature, the project biologist indicates that the seasonally wet conditions currently experienced on the site would continue at its current level, subsequent to project development. As wetland and riparian vegetation colonizes the retention basin, the contribution of the site to migratory waterfowl would be maintained. The proposed retention basin is approximately 3.5 acres in area, over three times the size of the existing seasonal ponding area and associated willow scrub. Additionally, the re-vegetation of the project edges with alluvial fan scrub, as required by Mitigation Measure 4.3.A-1, would provide continued habitat value for resident and transient scrub-obligate bird species. To ensure that native riparian vegetation is allowed to persist in the retention basin (including the slopes), Mitigation Measure 4.3.C-1 will be incorporated. This would ensure that future landscaping plans identify and treat the retention basin as a native riparian area. Impacts to the migration of resident and transient waterfowl would be less than significant with mitigation incorporated.

**IMPACT 4.3.D**

***The proposed subdivision, Master Site Plan, Site Plan, and development agreements do not conflict with the open space and land use goals of the Claremont Sustainable City Plan; impacts would be less than significant***

The Claremont Sustainable City Open Space and Land Use Goal Area define two types of open space:

- **Natural Open Space** that is "any parcel or area of land or water essentially unimproved, with native habitat", and
- **Constructed Open Space** defined as "parks, private yards, public plazas, parkways, tree-lined streets, school fields, and any other form of open space that is no longer in a natural state".

The project site is not defined as "Natural Open Space" because the site has been improved or otherwise altered from a natural state for over 70 years as a quarry, landfill, parking facility, and sports facility; therefore, the proposed subdivision, Master Site Plan, Site Plan, or development agreements could not remove any "Natural Open Space" and would not conflict with Goal 5.1 of the Plan. Future development of sports fields identified in the proposed Master Site Plan, Site Plan, and development agreements would increase the amount of "Constructed Open Space" in the City of Claremont. This is a benefit for Claremont and supports Goal 5.2 that seeks to expand Claremont's network of constructed open space. The proposed subdivision of the property further supports the expansion of "Constructed Open Space" within Claremont because additional trees would be planted along Foothill Boulevard where few currently exist. The proposed subdivision, Master Site Plan, Site Plan, and development agreements would not conflict with Goal 5.1 of the Sustainable City Plan and would help achieve Goal 5.2 of the Plan.

The Sustainable City Plan is also designed to protect the "Urban Forest" as stated in Goal 5.4. The "Urban Forest" includes all privately- and publically-owned trees within the City of Claremont. The proposed subdivision, Master Site Plan, Site Plan, and development agreements would not require the removal of most existing off-site trees; however, approximately nine trees would need to be removed on Claremont Boulevard in order to provide driveway access to the project site. Although these trees would need to be removed, seven other trees are proposed to be planted along Claremont Boulevard and approximately twenty trees are proposed on Foothill Boulevard; therefore, there would be a net increase in publically-owned urban forest. A variety of mature trees also exist on the project site, including sycamore and blue elderberry. All existing on-site trees are anticipated to be removed in order to construct the sports fields and facilities identified in the Master Site Plan, Site Plan, and development agreements. Although these trees would be removed, over 100 new trees are anticipated to be planted around the sports fields and over sixty are anticipated to be planted in the proposed parking lots. This includes a tree zone on the slopes along Monte Vista

Avenue. This would result in a substantial number of privately-owned trees that would contribute to the "Urban Forest". The proposed subdivision, Master Site Plan, Site Plan, and development agreements support Goal 5.4 of the Sustainable City Plan and would result in less than significant impacts related to the protection of the "Urban Forest".

Goal 5.3 promotes the increase of local native organisms in constructed landscapes and is applicable to the proposed project. The project supports Goal 5.3 as the retention basin and manufactured slopes on the site would be allowed to grow with native vegetation. Mitigation Measures 4.3.A-1 and 4.3.C-1 require on-going inspections and maintenance as needed to achieve cover.

Goal 5.5 of the Open Space and Land use Goal Area are not applicable to the project. Goal 5.5 supports public communication on the importance of preserving open space and smart land use decisions within the City of Claremont. While these goals are not applicable to the project, the project does not conflict with or otherwise impede these goals.

Based on the discussion above, the proposed subdivision and implementation of the Master Site Plan, Site Plan, and development agreements would not conflict with the Claremont Sustainable City Plan. In fact, the project supports and helps promote the goals of the Sustainable City Plan. Impacts would be less than significant.

## Scoping Comment, Dr. Susan Schenk

F.1 This comment requested that Section IV.f of the Initial Study related to Habitat Conservation Plans (HCP) and Natural Community Conservation Plans (NCCP) be identified as a "Potentially Significant Impact" in order to analyze the project in light of Goal 5.1 of the Claremont Sustainable City Plan. The Sustainable City Plan is not an HCP or a NCCP; it is a local policy. A HCP is a plan developed for federally listed species pursuant to the national Endangered Species Act. HCPs must be developed where the "taking" of any federally listed species occurs. An NCCP is developed pursuant to the 1991 California Natural Community Conservation Planning Act to conserve natural communities at the ecosystem level while accommodating compatible land uses. Claremont's Sustainable City Plan is a local policy developed voluntarily by the City of Claremont to provide a vision for balancing social needs, environmental health, and economic prosperity while preserving natural resources, avoiding social inequities, and continuing economic opportunity. Although the Sustainable City Plan does support special status species conservation, it was not prepared pursuant to federal or state requirements for conservation planning; therefore to address Dr. Schenk's comment, Impact 4.3.D has been included above that analyzes any potential conflicts with Goal Area 5 of the Sustainable City Plan as a local policy document.

## *Mitigation Measures*

**MITIGATION 4.3.A-1**

Prior to issuance of on- or off-site landscape permits, the approving jurisdiction's Development Services or Community Development Director shall verify that landscaping plans reflect planting of locally-indigenous native plant species, to include alluvial fan scrub, on all disturbed slopes on the project site, selected from the list of plants occurring on the project site as identified in the project 2007 biological report prepared by Impact Sciences. The plans shall also include a maintenance protocol for the native landscaping areas. College landscape maintenance staff shall perform maintenance activities in accordance with the following maintenance standards: (1) the native landscaping restoration areas shall be inspected for invasive plants and adequate irrigation shall be provided monthly during the first year and quarterly during the second and third years; (2) once installed, inspections of vegetation health, density, and diversity shall be performed at least twice annually; (3) the native vegetative cover (including AFSS) within the disturbed slopes shall be maintained at 75 percent within three years of initial planting. If the vegetation on the disturbed slopes has more than 50 percent mortality, the area shall be immediately replanted to achieve 75 percent cover; and (4) vegetation shall be established without the use of fertilizers. Use of herbicides and pesticides shall be minimized to the extent feasible.

**MITIGATION 4.3.A-2**

Prior to commencement of any site clearing or grading activities related to construction of any facilities identified in the Master Site Plan, Site Plan, or development agreements that would disturb existing native scrub habitat, the project proponent shall submit a focused survey to determine the presence or absence of any special-status plants determined to have the potential to occur on the site. The focused survey shall follow the Department of Fish and Wildlife's Protocols for Survey and Evaluating Impacts to Special Status Species, Native Plant Populations, and Natural Communities. Upon completion of the focused survey by a qualified biologist, the report results, including survey dates, exact species observed and location of species onsite, shall be submitted to the approving jurisdiction's Community Development Director or Development Services Director for review and approval.

In addition, a pre-construction survey performed by a qualified biologist to the approving jurisdiction's Development Services or Community Development Director to determine if any special status plant or animal species is nesting, foraging, or otherwise present on the project site shall be submitted prior to commencement of any site clearing or grading activities related to construction of any facilities identified in the Master Site Plan, Site Plan, or development agreements that would disturb existing native scrub habitat. The pre-construction survey shall be conducted weekly during the prior flowering season and within 30 days prior to the commencement of any site clearing activities related to construction of any facilities. The final survey shall be conducted no more than three days prior to commencement of site clearing activities related to construction of any facilities Should any special status species be found, avoidance shall be the primary

measure. If avoidance is not feasible, then a mitigation plan shall be prepared and submitted for review and approval by the approving jurisdiction's Development Services or Community Development Director. The mitigation plan shall use the following measures and protocols to avoid or mitigate any impacts to special status species, as applicable:

- Avoidance of the species
- Capture or salvage and relocate the species
- Compensation through payment into a conservation bank

For special status plants, the mitigation plan shall identify: (1) the number of plants to be replanted; and (2) the measures necessary for the establishment of self-sustaining populations in a suitable open space relocation area(s) as identified in the mitigation plan that is discussed above, to ensure the long-term survivability of the impacted species. Salvage and relocation activities will include: seed and/or topsoil collection, germination of seed by a qualified horticulturist in a nursery setting, transplanting seedlings, and hand broadcasting seed into an open space habitat deemed acceptable by the approving jurisdiction. Annual monitoring for at least two years will also be required to assist in the establishment of any special status species.

For special status wildlife, surveys shall include examination of trees, shrubs, and the ground, as several bird species known to the area are shrub or ground nesters, including mourning doves. In the event that nesting birds are observed within 250 feet of a construction area, species-specific exclusion buffers determined by a City-approved biologist and the adjustment of the construction area is required. Protected bird nests that are found within the construction zone shall be protected by a buffer of 300 feet for most species or 500 feet or raptors, unless the buffer distance is modified by the California Fish and Wildlife Department, demarcated by construction fencing or other means that shall allow avoidance of the nests until young birds have fledged, and no continued use of the nest is observed, as determined by a qualified biologist. If ground-disturbing activities are delayed, additional pre-construction surveys shall be conducted so that no more than three days shall have elapsed between the survey and ground-disturbing activities.

**MITIGATION 4.3.A-3**

Prior to commencement of construction activities, a qualified biologist shall be retained by the project proponent as the biological monitor subject to the approval of the approving jurisdiction's Development Services or Community Development Director. The biological monitor shall be present during earthmoving activities and will be authorized to stop specific grading activities if special status species are identified. If any special status wildlife species are observed during construction activities, the contractor shall allow the animal to escape or a qualified biologist shall relocate the animal to a preserved/undeveloped area with similar required habitat. If a special-status wildlife species is observed onsite, the biological monitor and appropriate regulatory agency shall be notified to implement all measures necessary to protect the sensitive species. The equipment operators

shall be informed of the species' presence and/or be provided with pictures in order to help avoid impacts to this species to the maximum extent possible. The biological monitor is authorized to stop specific grading activities if special status species are identified, if violations to mitigation measures are observed, or if violations to any local, state, or federal laws are observed.

**MITIGATION 4.3.A-4**

Prior to commencement of construction activities, a qualified biologist or arborist shall determine the exact number, type, and size of trees to be impacted via thinning, removal and/or encroachment, by the proposed project development phase. The biologist or arborist shall document each tree's location, trunk, diameter, health, height, canopy width, and the type and extent of impact anticipated as part of the site specific tree survey. For those trees expected to be impacted, the biologist or arborist shall determine if the activity will endanger the life of the tree. The report shall also make recommendations concerning the avoidance and minimization measures to protect trees. If possible, avoidance shall be the primary mitigation measure utilized during the project design phase and during construction. Impact minimization and tree protection recommendations shall include:

- A pre-construction meeting shall be held with contractors, prior to commencement of work, to discuss tree protection measures.
- Install six-foot protection fencing around tree to establish a tree protection zone prior to the start of construction.
- Storage of construction equipment or materials shall occur outside of the tree protection zone.
- All attempts shall be made to avoid damage to tree roots during grading and construction.
- Any roots encountered during grading that are half-inch and greater shall be cleanly cut.

If any phase of the proposed project would require the removal of mature trees and/or any native/natural habitat during the bird-breeding season (February 15 – September 15), nesting bird surveys shall be conducted prior to tree/habitat removal by a City approved biologist (a person with a biology degree and/or established skills in bird recognition). Surveys shall occur at least two weeks prior to initial tree or habitat removal. A copy of the contracts for these services and the results of the on-site survey shall be submitted for review and approval by the approving jurisdiction's Planning Division or Development Services Department prior to issuance of project permits.

- Trees located within the public right of way – the City of Claremont shall be consulted prior to commencement of any project development phase to determine the extent of impacts on any trees located within the public right-of-way. Compensatory mitigation may be required for tree removals and/or if the biologist or arborist determines that activities will endanger or shorten the life of the tree. Replacement mitigation ratios shall be 1:1 for non-native trees and

2:1 for native trees. Any removal or relocation of trees located within the public right of way shall be reviewed and approved by the City of Upland Development Services Director prior to their removal or location.

**MITIGATION 4.3.C-1**

Prior to issuance of landscape permits, the approving jurisdiction's Development Services or Community Development Director shall verify that landscaping plans identify the proposed retention basin as a native riparian habitat area to be populated naturally by native species. Installation of such landscaping shall be verified during final inspection. A maintenance plan shall be provided identifying landscape practices that will ensure the continuation of riparian habitat. The plans shall also include a maintenance protocol for the native landscaping areas. College landscape maintenance staff shall perform maintenance activities in accordance with the following maintenance standards: (1) the native landscaping restoration areas shall be inspected for invasive and adequate irrigation monthly during the first year and quarterly during the second and third years; (2) once installed, inspections of vegetation health, density, and diversity shall be performed at least twice annually; (3) the native vegetative cover within the retention basin shall be maintained at 75 percent within three years of the initial planting. If the vegetation within the retention basin has more than 50 percent mortality, the area shall be immediately replanted to achieve 75 percent cover; and (4) vegetation shall be established without the use of fertilizers. Use of herbicides and pesticides shall be minimized to the extent feasible.

## *Level of Significance with Mitigation Incorporated*

Impact 4.3.A will be reduced to less than significant levels with incorporation of Mitigation Measures 4.3.A-1 and 4.3.A-3. Impact 4.3.C will be reduced to less than significant levels with incorporation of Mitigation Measure 4.3.C-1.

[1] Impact Sciences. Updated Biological Inventory and Analysis, Claremont University Consortium Quarry Site. July 2007

[2] Impact Sciences. Special Status Species Information Update, Claremont University Consortium Quarry Site. June 2010/March 2011

[3] Impact Sciences. Claremont University Consortium Sports park Project. August 2014

[4] Cooper Ecological Monitoring. Protocol Survey for California Gnatcatcher *Polioptila californica* at the "Pit", a Former Quarry Site Adjacent to the Claremont Colleges. July 2010

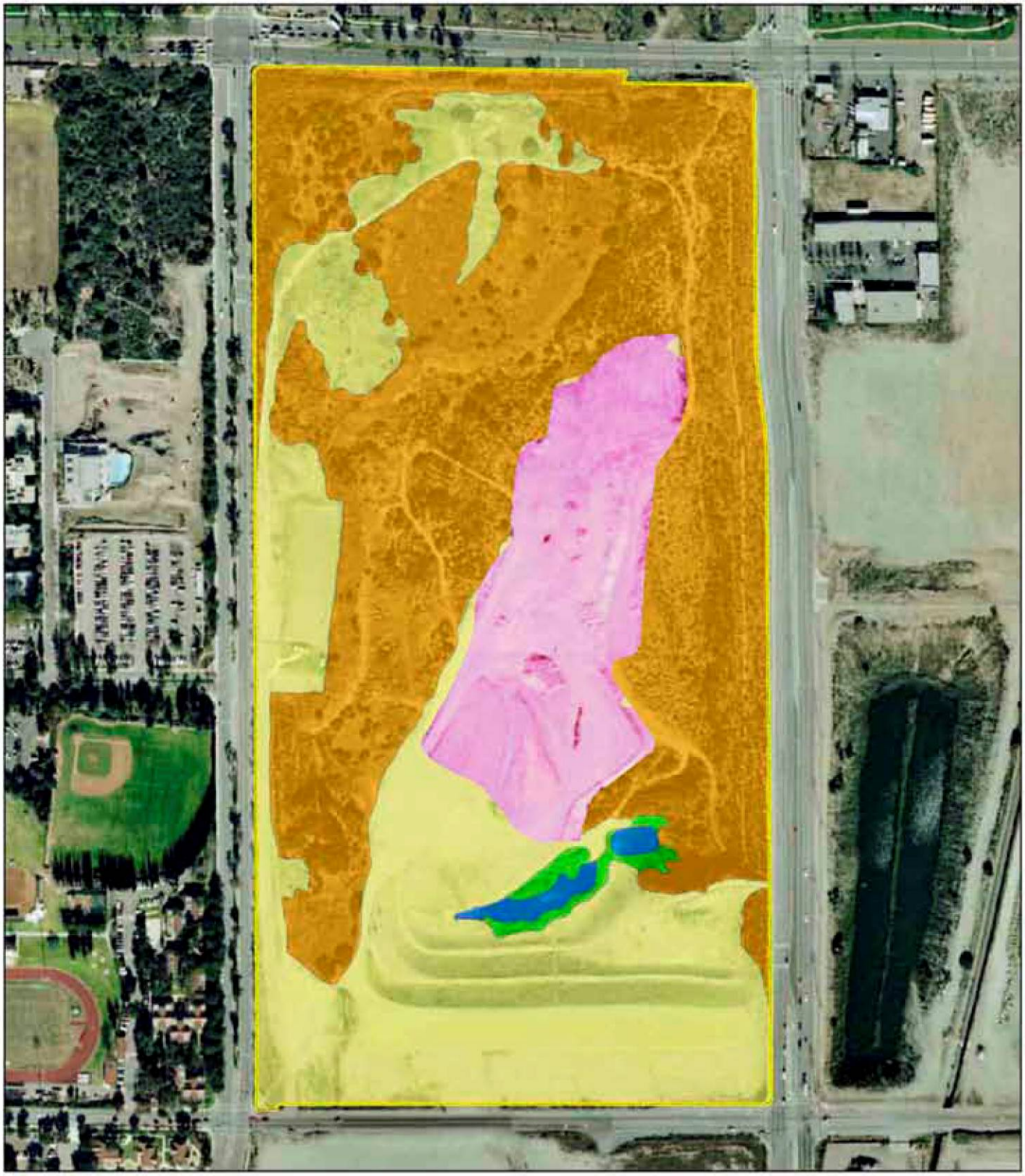
[5] United States Army Corps of Engineers. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region. Version 2.0. September 2008

[6] United States Fish and Wildlife Service. National Wetlands Inventory. Wetlands Online Mapper. wetlandsfws.er.usgs.gov/wtlnds/launch.html [February 10, 2011]

[7] United States Fish and Wildlife Service. Critical Habitat Portal. criticalhabitat.fws.gov [August 2, 2010]

[8] United States Fish and Wildlife Service. Region 8 Habitat Conservation Plans. hecos.fws.gov/conserv_plans/public.jsp [September 21, 2010]

[9] City of Claremont. Updated Sustainable City Plan. October 2013



Parcel Boundary
Alluvial Scrub
Ruderal
Seasonal Pond
Willow Scrub
Disturbed Area (Since 2007)

Not to Scale

Source: Impact Sciences 2007

# Exhibit 4.3-1 2007 Vegetation Communities

MIG | Hogle-Ireland

Claremont Colleges East Campus EIR
Upland/Claremont, CA

Source: Impact Sciences 2014

# Exhibit 4.3-2 2014 Vegetation Communities

MIG | Hogle-Ireland

Claremont Colleges East Campus EIR
Upland/Claremont, CA

# Geology and Soils 4.4

This section of the EIR describes the natural soil conditions onsite and conditions that have been created due to landfill activities. The subsurface geological environment as it applies to earthquake faults and the potential for ground shaking will also be discussed. Existing onsite slopes were evaluated for landslide potential. As discussed in Appendix B (Initial Study), the project would not result in substantial impacts related to fault rupture, soil erosion/loss of topsoil, expansive soils, or support of septic tanks; therefore, these topics are not analyzed in this EIR.

Information presented in this chapter is based on the "Preliminary Geotechnical Assessment" prepared by RMA Group in August of 2007 (see Appendix G) as updated in March 2011.[1] The assessment includes information on land use history, geology, faulting, ground water, slopes, and provides recommendations for future design and construction of facilities on the project site.

## *Existing Conditions*

The East Campus project site was originally used as an aggregate quarry from the 1920's until approximately 1972. Extraction of sand and gravel began on the south end of the project site and progressed steadily to the north. The site originally had a gradual slope from northeast to southwest due to its location on an alluvial fan emanating from the San Gabriel Mountains located approximately three miles north of the site. Due to past extraction activities, the project site is now characterized by sheer slopes and an undulating surface. Extraction activities occurred between 50 feet and 80 feet below the ground surface.

After 1972, the project site ownership was transferred to a new entity that subsequently ended quarrying activities and obtained a permit to use the site as a Class III landfill. Landfill operations at the site commenced from 1972 until the present day at varying levels of intensity. Today, the site accepts uncontaminated soils and inert construction debris such as brick, block, and plaster board from Claremont Colleges' construction projects.

### Geologic Setting

The 75-acre quarry/landfill is located on a broad, coalescing alluvial fan that originates from San Antonio Canyon and the San Gabriel Mountains to the north. The alluvial deposits filled the western portion of a deep structural depression known as the Upper Santa Ana River Valley. According to a 1970 California Department of Water Resources report, alluvial deposits beneath the site are more than 500 feet thick and rest on a basement of crystalline bedrock.

The Upper Santa Ana River Valley is bordered by the San Gabriel Mountains and the active Cucamonga Fault to the north and the Puente Hills and potentially active Chino Fault to the west. Located to the south are the Jurupa Mountains and other resistant granitic and metamorphic hills. The eastern boundary of the valley is the San Bernardino Mountains and the active San Andreas Fault. Several faults exist

within the Upper Santa Ana River Valley. Based on historic earthquake activity, the most notable fault is the San Jacinto Fault located approximately 20 miles east of the site. The most significant fault within the localized area is the San Jose Fault that is believed to pass directly through the site.

## Geologic Units

The project site is underlain by five identified and mapped geologic units. These units consist of alluvium, landfill deposits, road fill, compacted fill and dumped fill. The geologic units are detailed below. Geologic units are mapped in Exhibit 4.4.1 (Geologic Map).

### Alluvium

Alluvial deposits consist of coarse-grained materials derived from outwash from the San Antonio Canyon and the San Gabriel Mountains approximately three miles north of the site. The upper layer of the deposits contains younger alluvium composed of light gray, sandy gravel, and gravelly sand with cobble and some boulders. The lower layer of the alluvium consists of older deposits composed of orange brown and reddish brown soils of similar composition. The alluvial soils are exposed by remnants of past aggregate extraction along the northern and eastern sides of the project site and on the quarry floor on the eastern side of the site. Alluvium underlies the fill materials located on-site. Over much of the quarry floor the alluvium is covered by a thin veneer of fill estimated to be a few feet or less in thickness.

### Landfill Deposits

Landfill soils and construction debris were placed in the western part of the site upon completion of mining. Surface exposures of the landfill deposits are composed mostly of course grained soils containing gravel, cobbles, boulders, and construction materials containing concrete and asphalt. The California Geological Survey has identified the eastward facing slope of the landfill as a potential earthquake induced landslide zone on the Seismic Hazard Map of the Ontario Quadrangle.

### Road Fill

Slopes on the eastern and southern borders of the project site were previously graded and stabilized during the construction of Monte Visa Avenue. Road fill was placed along the eastern side of the site during construction and widening of Monte Vista Avenue in the mid 1990's. Road fill is expected to have been placed in a controlled manner and compacted given the age of construction.

### Compacted Fill

Compacted fill was placed in the southern part of the site north of Arrow Route in 2004 and 2005. Placement and compaction of the fill was observed and tested by the RMA Group in 2005. Preparation of the ground for fill placement consisted of removal of fills and other loose soils to firm alluvium, except along its eastern side where it was benched into road fill and along the western edge where it was benched into landfill deposits. A keyway was excavated along the toe of slope on

the northern side of the fill prior to placement. Compacted fill is composed of granular soils consisting of gravelly sands with cobble and some boulders.

Dumped Fill

Loose, unconsolidated fills have been spread and dumped over the quarry floor. The southwest portion of the site contains dumped soil fill estimated to be approximately 20-25 feet thick. Also in the southwestern portion of the site is a former quarry access road with fill in the area estimated to be about 10-30 feet thick. In other portions of the site, fill typically consists of piles that are about 4 to 5 feet high. Surface observations concluded that dumped soils consist of sandy, gravelly, and silty sand soils with varying amounts of cobbles, some inert construction debris, and some boulders. Some locations on-site contain dumped fill with pieces of asphalt, large pieces of concrete, tree trunks, tree branches, and large boulders.

## Ground Shaking

Ground shaking is a hazard experienced by all properties within Southern California and the State, in general. Many areas are underlain by local and regional faults. When faults slip, they can produce seismic waves over a large area. Authorities in geology and construction have gained experience and collected extensive data regarding faulting and associated ground shaking. The San Jose fault is believed to cross the project site. Local faults within proximity to the project site include the Cucamonga Fault, Chino Fault, Puente Hills Fault and San Jacinto Fault. These faults, in addition to the possibility of large seismic events on regional faults like the San Andreas could be expected to produce ground shaking at the project site.

## Liquefaction

Liquefaction is a phenomenon that can occur in saturated, cohesionless soils. During earthquake-induced ground motion, saturated fine sands tend to compact and decrease in volume. If groundwater is present, an increase in pore water pressure may occur. As a consequence, if the pore water pressure becomes equivalent to the overburden pressure, the effective stress becomes zero, the sand loses its bearing strength and is considered to be in a liquefied state. The types of soils that are most susceptible to liquefaction are loose, water-saturated, fine-grained sands and silty sands that lie within 50 feet of the ground surface. In terms of the project site, static ground water levels remain significantly below the quarry floor at 140 feet below ground surface; therefore, liquefaction does not pose a hazard to the project site.

## Subsidence and Uplift

The United States Geological Survey (USGS) defines land subsidence as, "the loss of surface elevation due to removal of subsurface support". Furthermore, the USGS continues that subsidence is one of the most diverse forms of ground failure, ranging from small or local collapses to broad regional lowering of the earth's surface. In California subsidence usually occurs when groundwater extraction rates exceed replenishment rates and the surface overlying an aquifer caves in due to

this lack of support. Wildermuth Environmental prepared a map of the relative change in land surface altitude in the project area on behalf of the Chino Basin Watermaster in 2002. The map showed that the site has not experienced land subsidence and actually has incurred a relative uplift of about 1 and 3 centimeters as measured between October 1993 and January 1999 based on satellite radar imaging prepared for the Chino Basin Watermaster; therefore, the project site is not subject to subsidence hazards.

In addition to uplift occurring under the project site, the majority of the area between the San Gabriel Mountains (north of the project site) to Interstate 10 (south of the project site) between the City of La Verne (west of the project site) and the City of Rancho Cucamonga (east of the project site) has experienced similar uplift during the study period. The exact cause of the uplift is unknown; however, it may be due to tectonic activity. The uplift occurs over a horizontal distance of at least 15 miles and has caused no perceptible or substantial land movement at the site or the nearby area; therefore, substantial uplift in the future is not anticipated based on these past observances.

### Landslides

Landslides are flows of rock, earth, or debris down slopes due to gravity. Landslides can occur on any terrain given the right conditions of soil, moisture, and the angle of the slope. Landslides can be caused by rains, floods, and earthquakes, as well as by human activities. Past operations on-site included mining and landfill activities that have left the site with slopes along all four sides. Quarrying occurred to depths of 50 feet to 80 feet on the project site. Landfill operations have filled in some areas, but have not diminished sidewall slopes. Most slopes appear to have a current inclination of 1:1 or greater. The majority of the site is subject to landslide hazards due to the widespread presence of sheer slopes. The slopes created as part of the landfill on the western portions of the site are most susceptible to landslides.

## *Regulatory Framework*

### California Building Code

The California Building Standards Law states that every local agency enforcing building regulations must adopt the provisions of the California Building Code (CBC) within 180 days of its publication; however, each jurisdiction can require more stringent regulations issued as amendments to the CBC. The publication date of the CBC is established by the California Building Standards Commission and the code is known as Title 24 of the California Code of Regulations. The 2013 CBC bases its seismic design criteria on "maximum considered ground motion" through maps prepared by the USGS for the National Seismic Hazard Mapping Program (see Section 1613). Seismic design pursuant to the CBC is not meant to completely prevent damage to structures but is meant to prevent structural collapse, thereby minimizing injury or death to persons inside the structure.

Soils and foundation analysis and design requirements are identified in Chapter 18 of the CBC. Preliminary soils reports are required for new subdivisions based on adequate test borings and excavations where adequate soils information doesn't exist, pursuant to Section 1803.1.1.1 (Preliminary Soil Report). Additional investigations may be necessary if critically expansive soils or other soil problems are identified in the preliminary report that could result in structural damage, pursuant to Section 1803.1.1.2. Soils reports are required to include (as determined by a jurisdiction's building official) recommendations for foundation type and design criteria including provisions to mitigate the effects of expansive soils, liquefaction, differential settlement, and varying soil strength.

### City of Upland Municipal Code

Chapter 15.08 (California Building Code) of the City of Upland adopts the 2013 CBC. Chapter 15.08 does not include any amendments that modify the seismic design criteria or soils and foundation requirements of the CBC.[2]

### City of Claremont Municipal Code

Chapter 15.04 (Building Code) of the City of Claremont adopts the 2013 CBC. Chapter 15.04 does not include any amendments that modify seismic design criteria or soils and foundation requirements of the CBC.[3]

## *Thresholds of Significance*

A significant impact could occur if the project would:

A. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
   1. Strong seismic ground shaking
   2. Seismic-related ground failure, including liquefaction
   3. Landslides

B. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, later spreading, subsidence, liquefaction or collapse.

## *Environmental Impacts*

**IMPACT 4.4.A.1**

***Impacts to people and future structures due to strong seismic groundshaking would be less than significant with implementation of existing regulations***

Strong seismic groundshaking caused by earthquakes can cause widespread property damage, injury, and loss of life. Secondary impacts from groundshaking include fires and disruption of utilities and service systems. Future construction of sports facilities would be subject to strong seismic groundshaking as would all future development in Southern California. Future construction of maintenance buildings, storage facilities, ancillary structures, offices, and other structures would be evaluated by the applicable jurisdiction pursuant to the earthquake loading and

seismic design criteria of the CBC. Construction of future structures pursuant to the seismic design criteria of the CBC would ensure that future structures do not collapse when exposed to the "maximum considered ground motion" for the project site. This would ensure that the potential for death or injury related to damage of future potential sports facility structures would be minimized under the strongest earthquake anticipated to impact the site. Impacts related to strong seismic groundshaking would be less than significant with implementation of the regulations of the CBC.

**IMPACT 4.4.A.2 4.4.B**

***Impacts to future structures due to settlement and other forms of potential ground deformation would be less than significant with incorporation of mitigation and implementation of existing regulations***

Ground failure can result in damage to structures by cracking foundations and walls caused by the differential movement of supporting soils. Ground failure can also impact infrastructure improvements by buckling roadways and severing subsurface wet utilities. According to the project's preliminary geotechnical report (Appendix G), portions of the site underlain by landfill and dumped fill are subject to settlement due to the loose quality and uncontrolled methods of deposition. Landfill deposits encompass the northwest and western edge of the project site. Dumped fill is concentrated in the southwestern portion of the site with other scattered fill located in the southeast and the central portion of the site.

The Master Site Plan, Site Plan, and development agreements identify future structures and improvements within areas subject to differential settlement. Parking facilities along the western edge of the property would be underlain by landfill deposits as would the basketball and tennis courts. Portions of the central parking area, ancillary structures, and bleachers are identified in areas underlain by dumped fill. Differential settlement under improvements such as parking areas, walkways, and drive aisles would not result in a substantial hazard; however, the life of these improvements would likely be decreased. Ancillary structures such as bathrooms and offices would be more substantially impacted due to the potential for cracking of foundations, connecting utility laterals, and walls. According to the preliminary geotechnical report, the project site is generally suitable for development of the facilities identified in the Master Site Plan, Site Plan, and development agreements. In areas subject to settlement, removal of non-engineered soils to underlying, competent natural soils, moisture conditioning, and recompaction prior to construction is recommended to stabilize subsurface soils. Buildings constructed on compacted fill materials are expected to be sufficiently supported by conventional spread and continuous footings. Foundation design would range from nominally thick, unreinforced to nominally reinforced slabs. Where the Class III landfill exists, floating foundations with flexible utility lines could be utilized to prevent settlement damage.

Future proposals for development of sports facilities and improvements identified in the Master Site Plan, Site Plan, and development agreements would be subject to project specific geotechnical analysis and engineering as required by the City of

Upland or the City of Claremont, pursuant to Chapter 18 of the CBC. Future geotechnical investigations would be based on site specific test borings and project specific soil preparation and foundation design recommendations. As identified above, adequate soil preparation and engineering techniques are available to ensure that damage to future potential onsite improvements and development is minimized. Furthermore, to ensure that impacts related to differential settlement are reduced to less than significant levels, Mitigation Measures 4.4.A-1 through 4.4.A-5 would be incorporated. Mitigation would ensure that the recommendations of the preliminary geotechnical report are considered and implemented, as appropriate, in future development proposals. These measures would ensure that potential settlement impacts to foundations, slabs, pavement, and structures are avoided and/or minimized through design parameters to be identified in project-specific geotechnical reports prepared by professional geotechnical engineers. Impacts related to future potential development due to differential settlement would be less than significant with implementation of the regulations of the CBC and incorporation of mitigation.

**IMPACT 4.4.A.3**

***Impacts to people and future structures due to landslides would be less than significant with mitigation incorporation and implementation of existing regulations***

Landslides can result in injury, loss of life, and property damage both at the top and toe of slopes subject to sliding. Structures and persons residing at the toe of slope risk being buried by flows of debris. Structures at the top of a slope risk structural collapse should supporting soils flow downhill. Earthquakes can worsen unstable ground conditions especially if slopes are saturated due to the loosening of soil bounds (clay) and strong groundshaking.

The Master Site Plan, Site Plan, and development agreements identify potential future improvements and structures in areas subject to landslides. The proposed parking lots, basketball court, and restrooms identified in the area of the landfill would be subject to damage if the landfill slope failed. Conversely, improvements and structures at the base of the landfill slope could be damaged in the event of slope failure. The project preliminary geotechnical report identified measures that could be taken to minimize slope failure on the project site. This includes grading and buttressing of slopes to an inclination of 2:1 or flatter. Terrace drains and benches are also recommended to ensure adequate drainage of slopes. These measures reduce the potential for landslides by reducing the sheerness of slopes and ensuring that soil saturation does not excessively weaken soils.

Future proposals for development of sports facilities and improvements identified in the Master Site Plan, Site Plan, and development agreements would be subject to project specific geotechnical analysis and engineering as required by the City of Upland or the City of Claremont, pursuant to Chapter 18 of the CBC. Future geotechnical investigations would be based on site specific test borings and project specific soil preparation and foundation design recommendations. The CBC also requires setbacks from ascending and descending slope surfaces. Structures at the toe of a slope are required to be a minimum 1/2 the structure's height from the toe

of a slope up to a maximum of 15 feet. Structures at the top of a slope are required to be a minimum 1/3 the structure's height from the structure's footing to the top of the slope up to a maximum of 40 feet. As identified above, grading and buttressing of slopes, terracing, and benching of slopes can ensure that damage to future potential onsite improvements and development due to landslides is minimized. To ensure that slopes are appropriately graded and stabilized to avoid and/or minimize impacts related to slope failure, Mitigation Measure 4.4.A-6 will be incorporated. This measure requires grading and of slopes at a maximum 2:1 inclination and verification that slope failure risk has been minimized through project-specific geotechnical reports prepared by qualified professional geotechnical engineers. This measure would not apply to slopes along the eastern or southern border of the project site where slopes were previously graded and stabilized during the construction of Monte Vista Avenue and fill import under permit by the City of Upland, respectively. Impacts related to future potential development due to landslides would be less than significant with incorporation of Mitigation Measure 4.4.A-6 and implementation of the regulations of the CBC.

## Standard Conditions

**Chapter 18**

**California Building Code.** Soils and foundation analysis and design for all future development shall be subject to the requirements of Chapter 18 of the California Building Code to minimize potential impacts related to expansive soils, liquefaction, differential settlement, varying soil strength, and slope failure through appropriate soil preparation and foundation, slab, pavement, and structure design.

## Mitigation Measures

**MITIGATION 4.4.A-1**

To minimize the potential for ground settlement, future development proposals shall reflect the recommendations of the project preliminary geotechnical assessment, or project-specific updates to that report, relating to removal and overexcavation of on-site soils where structures are proposed. This could include removal of dumped fill soils, compacted fill, road fill, and miscellaneous alluvial soils, as necessary to support structures. Removal of vegetation, scarification, moisture conditioning, and compaction may be required depending on the results of the project specific geotechnical report. Overexcavation and recompaction of building area and exterior flatwork may also be required depending on the results of the project-specific geotechnical report. Prior to approval of grading permits, all recommendations regarding removal and overexcavation from the preliminary geotechnical assessment and any project-specific report shall be reflected in the project grading design. Compliant grading shall be verified through routine inspection prior to occupancy.

**MITIGATION 4.4.A-2**

Placement of oversized (greater than 12 inches in maximum dimension) deleterious materials (i.e. large boulders) 10 or more feet below grade in future fill soils shall be permitted providing that placement areas within fill soils are identified on project-specific grading plans, observed and reviewed by the project soils engineer for fill stability, and approved by the approving jurisdiction's City Engineer, prior to issuance of grading permits.

**MITIGATION 4.4.A-3**

Prior to issuance of grading permits, foundation design and slab criteria shall be identified for future development in project-specific geotechnical reports and submitted for review and approval by the approving jurisdiction's City Engineer ensuring that the potential for settlement damage is minimized. This shall include specifications for conventional spread and continuous footings, slab thickness, reinforcement of slabs, floating foundations, and/or flexible utility lines. Compliant foundation design shall be verified through routine inspection prior to occupancy.

**MITIGATION 4.4.A-4**

Prior to issuance of grading permits, pavement design parameters for future on- and off-site improvements shall be identified in project-specific geotechnical reports for review and approval by the approving jurisdiction's City Engineer to minimize settlement impacts to future parking lots and roadways. Pavement performance shall be based on R-value tests, traffic index values, and consideration of soils and subgrade. Compliant pavement design shall be verified through routine inspection prior to occupancy.

**MITIGATION 4.4.A-5**

Prior to issuance of grading permits and subject to the approval of the approving jurisdiction's City Engineer, requirements for subsurface drainage and infiltration shall be identified in project-specific geotechnical reports and included in grading and building design to ensure that surface and subsurface moisture is adequately transported to prevent settlement impacts to foundations, slabs, and structures. Compliant drainage design shall be verified through routine inspection prior to occupancy.

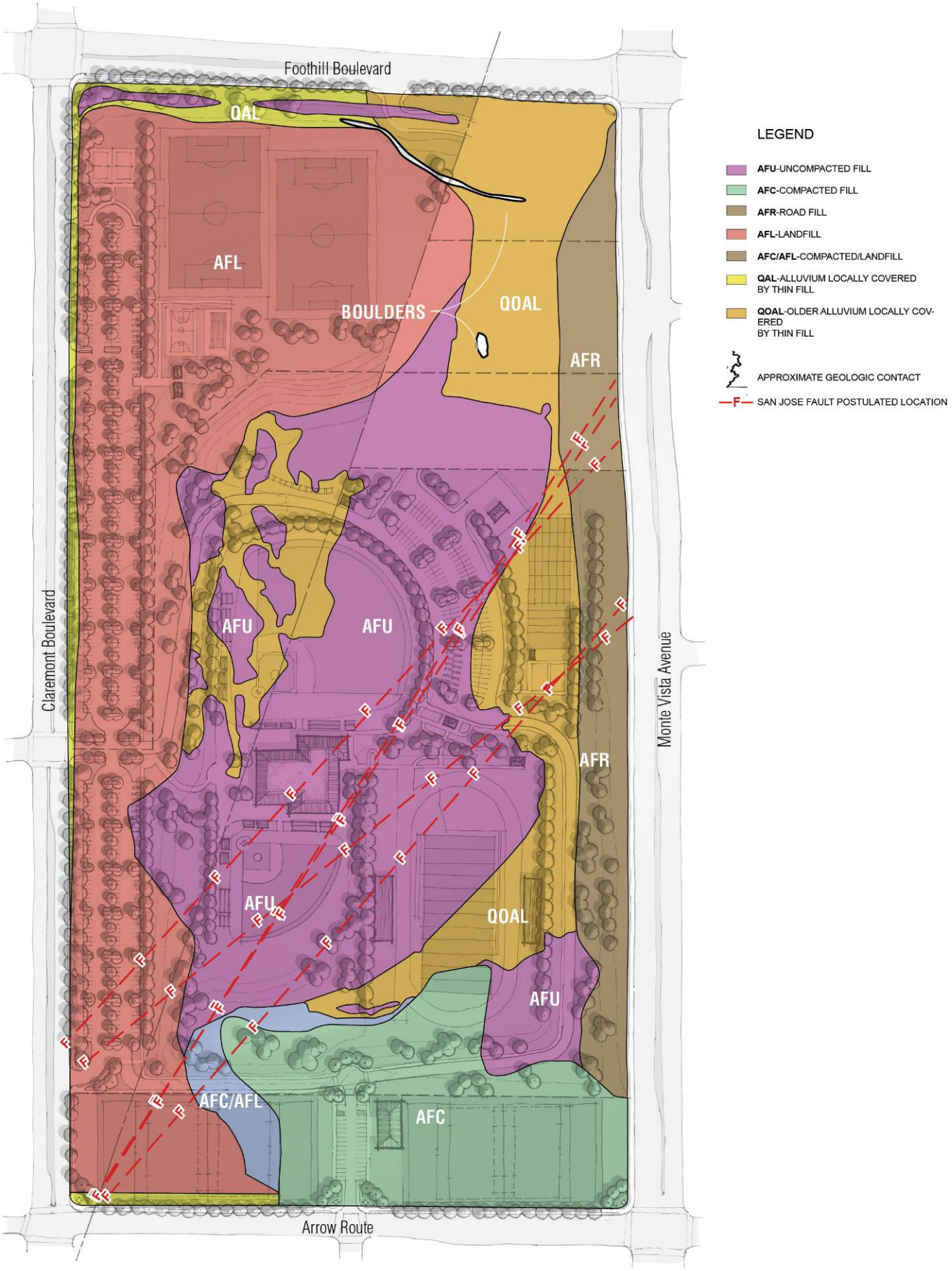
**MITIGATION 4.4.A-6**

To prevent impacts related to landsliding, slopes shall be graded and buttressed at an inclination of 2:1 or flatter, where necessary and not including slopes along Monte Vista Avenue or the southern portion of the site. The dimensions and requirements for terrace drains and benches shall be specified in the project-specific geotechnical report and approved by the approving jurisdiction's City Engineer to verify that potential impacts due to slope failure are minimized.

## *Level of Significance with Mitigation Incorporated*

Impacts 4.4.A.2, 4.4.A.3, and 4.4.B would be less than significant with implementation of the CBC and incorporation of mitigation.

[1] RMA Group. Preliminary Geotechnical Assessment, Pit Master Plan – Proposed Sports Complex. August 2007/March 2011
[2] City of Upland. Municipal Code. Ordinance 1829 et al. 2014
[3] City of Claremont. Municipal Code. Ordinance 07-08. 2014




Source: RMA Group 2011

# Exhibit 4.4-1 Geologic Map

Claremont Colleges East Campus EIR
Upland/Claremont, CA

MIG | Hogle-Ireland

# Greenhouse Gas Emissions 4.5

This section analyzes greenhouse gas emissions and the contribution to global climate change. The following discussion is based primarily on the Air Quality and Greenhouse Gas analysis prepared by MIG | Hogle-Ireland (see Appendix C). The South Coast Air Quality Management District (SCAQMD) submitted one comment on greenhouse gas emissions during the circulation of the Notice of Preparation. This comment is addressed below.

## *Existing Conditions*

### Defining Climate Change

Climate change is the distinct change in measures of climate for a long period of time. Climate change can result from natural processes and from human activities. Natural changes in the climate can be caused by indirect processes such as changes in the Earth's orbit around the Sun or direct changes within the climate system itself (i.e. changes in ocean circulation). Human activities can affect the atmosphere through emissions of gases and changes to the planet's surface. Emissions affect the atmosphere directly by changing its chemical composition, while changes to the land surface indirectly affects the atmosphere by changing the way the Earth absorbs gases from the atmosphere. The term "climate change" is preferred over the term "global warming" because "climate change" conveys the fact that other changes can occur beyond just average increase in temperatures near the Earth's surface. Elements that indicate that climate change is occurring on Earth include:

- Rising of global surface temperatures by 1.3° Fahrenheit (F) over the last 100 years
- Changes in precipitation patterns
- Melting ice in the Arctic
- Melting glaciers throughout the world
- Rising ocean temperatures
- Acidification of oceans
- Range shifts in plant and animal species

Climate change is intimately tied to the Earth's greenhouse effect. The greenhouse effect is a natural occurrence that helps regulate the temperature of the planet. The majority of radiation from the Sun hits the Earth's surface and warms it. The surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping back into space and re-radiate it in all directions. This process is essential to supporting life on Earth because it keeps the planet approximately 60° F warmer than without it. Emissions from human activities since the beginning of the industrial revolution (approximately 150 years) are adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap heat, thereby contributing to an average increase in the Earth's temperature. Human activities that enhance the greenhouse effect are detailed below.

## Greenhouse Gases

The greenhouse effect is caused by a variety of "greenhouse gases". Greenhouse gases (GHGs) occur naturally and from human activities. Greenhouse gases produced by human activities include carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride ($SF_6$). Since the year 1750, it is estimated that the concentrations of carbon dioxide, methane, and nitrous oxide in the atmosphere have increased over 36 percent, 148 percent, and 18 percent, respectively, primarily due to human activity. The primary GHGs are discussed below.[1]

**Carbon Dioxide.** $CO_2$ is emitted and removed from the atmosphere naturally. Animal and plant respiration involves the release of carbon dioxide from animals and its absorption by plants in a continuous cycle. The ocean-atmosphere exchange results in the absorption and release of $CO_2$ at the sea surface. Carbon dioxide is also released from plants during wildfires. Volcanic eruptions release a small amount of $CO_2$ from the Earth's crust.

Human activities that affect carbon dioxide in the atmosphere include burning of fossil fuels, industrial processes, and product uses. Combustion of fossil fuels is the largest source of carbon dioxide emissions in the United States, accounting for approximately 85 percent of all equivalent emissions. Because of the fossil fuels used, the largest of these sources is electricity generation and transportation. When fossil fuels are burned, the carbon stored in them is released into the atmosphere entirely as $CO_2$. Emissions from onsite industrial activities also emit carbon dioxide such as cement, metal, and chemical production and use of petroleum produced in plastics, solvents, and lubricants.

**Methane.** Methane ($CH_4$) is emitted from human activities and natural sources. Natural sources of methane include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, soils, and wildfires. Human activities that cause methane releases include fossil fuel production, animal digestive processes from farms, manure management, and waste management. It is estimated that 50 percent of global methane emissions are human generated. Wetlands are the primary natural producers of methane in the world because the habitat is conducive to bacteria that produce methane during decomposition of organic material. Methane is produced from landfills as solid waste decomposes. Methane is a primary component of natural gas and is emitted during its production, processing, storage, transmission, distribution, and use. Decomposition of organic material in manure stocks or in liquid manure management systems also releases methane. Releases from animal digestive processes are the primary source of human-related methane.

**Nitrous Oxide.** Anthropogenic (human) sources of nitrous oxide include agricultural soil management, animal manure management, sewage treatment, combustion of fossil fuels, and production of certain acids. $N_2O$ is produced naturally in soil and water, especially in wet, tropical forests. The primary human-related source of $N_2O$ is agricultural soil management due to use of synthetic nitrogen fertilizers and other techniques to boost nitrogen in soils. Combustion of

fossil fuels (mobile and stationary) is the second leading source of nitrous oxide, although parts of the world where catalytic converters are used (such as California) have significantly lower levels than those areas that do not.

**High Global Warming Potential Gases.** High global warming potential (GWP) gases (or fluorinated gases) are entirely manmade and are mainly used in industrial processes. HFCs, PFCs, and $SF_6$ are high GWP gases. These types of gases are used in aluminum production, semiconductor manufacturing, electric power transmission, magnesium production and processing, and in the production of hydrochlorofuorocarbon-22 (HCFC-22). High GWP gases are also used as substitutes for ozone-depleting gases like chlorofluorocarbons (CFCs) and halons. Use of high GWP gases as substitutes for ozone-depleting substances is the primary use of these gases in the United States.

**Water Vapor.** It should be noted that water vapor is also a significant GHG in the atmosphere; however, concentration of water vapor in the air is primarily dependent on air temperature and cannot be influenced by humans.

GHGs behave differently in the atmosphere and contribute to climate change in different ways. Some gases have more potential to reflect infrared heat back towards the earth while some persist in the atmosphere longer than others. To equalize the contribution of GHGs to climate change, the Intergovernmental Panel on Climate Change (IPCC) devised a weighted metric to compare all greenhouse gases to carbon dioxide.[2] The weighting depends on the lifetime of the gas in the atmosphere and its radiative efficiency. As an example, over a time horizon of 100-years, emissions of nitrous oxide will contribute to climate change 298 times more than the same amount of emissions of carbon dioxide while emissions of HFC-23 would contribute 14,800 times more than the same amount of carbon dioxide. These differences define a gas's GWP. Table 4.5.1 (Global Warming Potential of Greenhouse Gases) identifies the lifetime and GWP of select GHGs. The lifetime of the GHG represents how many years the GHG will persist in the atmosphere. The GWP of the GHG represents the GHG's relative potential to induce climate change as compared to carbon dioxide.

## Carbon Sequestration

Carbon sequestration is the process by which plants absorb $CO_2$ from the atmosphere and store it in biomass like leaves and grasses. Agricultural lands, forests, and grasslands can all sequester carbon dioxide, or emit it. The key is to determine if the land use is emitting carbon dioxide faster than it is absorbing it. Young, fast-growing trees are particularly good at absorbing more than they release and are known as a *sink*. Agricultural resources often end up being sources of carbon release because of soil management practices. Deforestation contributes to carbon dioxide emissions by removing trees, or carbon sinks, that would otherwise absorb $CO_2$. Forests are a crucial part of sequestration in some parts of the world, but not much in the United States. Another form of sequestration is geologic sequestration. This is a manmade process that results in the collection and transport of $CO_2$ from industrial emitters (i.e. power plants) and injecting it into underground reservoirs.

**Table 4.5.1**
**Global Warming Potential (GWP) of Greenhouse Gases (GHG)**

| GHG | Lifetime (yrs) | GWP |
|---|---|---|
| Carbon Dioxide | 50-200 | 1 |
| Methane | 12 | 25 |
| Nitrous Oxide | 114 | 298 |
| HFC-23 | 270 | 14,800 |
| HFC-134a | 14 | 1,430 |
| HFC-152a | 1.4 | 124 |
| PFC-14 | 50,000 | 7,390 |
| PFC-116 | 10,000 | 12,200 |
| Sulfur Hexafluoride | 3,200 | 22,800 |
| Source: IPCC 2007[3] | | |

## Climate Change and California

Specific, anticipated impacts to California have been identified in the 2009 California Climate Adaptation Strategy prepared by the California Natural Resources Agency (CNRA) through extensive modeling efforts.[4] General climate changes in California indicate that:

- California is likely to get hotter and drier as climate change occurs with a reduction in winter snow, particularly in the Sierra Nevadas
- Some reduction in precipitation is likely by the middle of the century
- Sea-levels will rise up to an estimated 55 inches
- Extreme events such as heat waves, wildfires, droughts, and floods will increase
- Ecological shifts of habitat and animals are already occurring and will continue to occur

It should be noted that changes are based on the results of several models prepared under different climatic scenarios; therefore, discrepancies occur between the projections. The potential impacts of global climate change in California are detailed below.

### Public Health and Welfare

Concerns related to public health and climate change includes higher rates of mortality and morbidity, change in prevalence and spread of disease vectors, decreases in food quality and security, reduced water availability, and increased exposure to pesticides. These concerns are all generally related to increase in ambient outdoor air temperature, particularly in summer.

Higher rates of mortality and morbidity could arise from more frequent heat waves at greater intensities. Health impacts associated with extreme heat events include heat stroke, heat exhaustion, and exacerbation of medical conditions such as cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. Climate change would result in degradation of air quality

promoting the formation of ground-level pollutants, particularly ozone. Degradation of air quality would increase the severity of health impacts from criteria and other air pollutants discussed in Section 4.3 (Air Quality). Temperature increases and increases in carbon dioxide are also expected to increase plant production of pollens, spores, and fungus. Pollens and spores could induce or aggravate allergic rhinitis, asthma, and obstructive pulmonary diseases.

Precipitation projections suggest that California will become drier over the next century due to reduced precipitation and increased evaporation from higher temperatures. These conditions could result in increased occurrences of drought. Surface water reductions will increase the need to pump groundwater, reducing supplies and increasing the potential for land subsidence.

Precipitation changes are also suspected to impact the Sierra snowpack (see "Water Management" herein). Earlier snow melts could coincide with the rainy season and could result in failure of the flood control devices in that region. Flooding can cause property damage and loss of life for those affected. Increased wildfires are also of concern as the State "dries" over time. Wildfires can also cause property damage, loss of life, and injuries to citizens and emergency response services.

Sea-level rises would also threaten human health and welfare. Flood risks will be increased in coastal areas due to strengthened storm surges and greater tidal damage that could result in injury and loss of property and life. Gradual rising of the sea will permanently inundate many coastal areas in the state.

Other concerns related to public health are changes in the range, incidence, and spread of infectious, water-borne, and food-borne diseases. Changes in humidity levels, distribution of surface water, and precipitation changes are all likely to shift or increase the preferred range of disease vectors (i.e. mosquitoes). This could expose more people and animals to potential for vector-borne disease.

### Biodiversity and Habitat

Changes in temperature will change the livable ranges of plants and animals throughout the state and cause considerable stress on these species. Species will shift their range if appropriate habitat is available and accessible if they cannot adapt to their new climate. If they do not adapt or shift, they face local extirpation or extinction. As the climate changes, community compositions and interactions will be interrupted and changed. These have substantial implications on the ecosystems in the state. Extreme events will lead to tremendous stress and displacement on affected species. This could make it easier for invasive species to enter new areas, due to their ability to more easily adapt. Precipitation changes would alter stream flow patterns and affect fish populations during their life cycle. Sea level rises could impact fragile wetland and other coastal habitat.

### Water Management

Although disagreement among scientists on long-term precipitation patterns in the State has occurred, it is generally accepted by scientists that rising temperatures

will impact California's water supply due to changes in the Sierra Nevada snowpack. Currently, the State's water infrastructure is designed to both gather and convey water from melting snow and to serve as a flood control device. Snowpack melts gradually through spring warming into early summer, releasing an average of approximately 15 million acre-feet of water. The State's concern related to climate change is that due to rising temperatures, snowpack melt will begin earlier in the spring and will coincide with the rainy season. The combination of precipitation and snowmelt would overwhelm the current system, requiring tradeoffs between water storage and flood protection to be made. Reduction in reserves from the Sierra Nevada snowpack is troublesome for California and particularly for Southern California. Approximately 75-percent of California's available water supply originates in the northern third of the state while 80 percent of demand occurs in the southern two-thirds. There is also concern is that rising temperatures will result in decreasing volumes from the Colorado River basin. Colorado River water is important to Southern California because it supplies water directly to Metropolitan Water District of Southern California. Water from the Colorado River is also used to recharge groundwater basins in the Coachella Valley.

### Agriculture

California is the most agriculturally productive state in the US resulting in more than 37 billion dollars in revenue in 2008. California is the nation's leading producer of nearly 80 crops and livestock commodities, supplying more than half of the nation's fruit and vegetables and over 90 percent of the nation's production of almonds, apricots, raisin grapes, olives, pistachios, and walnuts. Production of crops is not limited to the Central Valley but also occurs in Southern California. Strawberries and grapes are grown in San Bernardino and Riverside Counties. Orange County and San Diego County also contribute to strawberry production. Cherries are also grown in Los Angeles and Riverside County. Anticipated impacts to agricultural resources are mixed when compared to the potentially increased temperatures, reduced chill hours, and changes in precipitation associated with climate change. For example, wheat, cotton, maize, sunflower, and rice are anticipated to show declining yields as temperatures rise. Conversely, grapes and almonds would benefit from warming temperatures. Anticipated increases in the number and severity in heat waves would have a negative impact on livestock where heat stress would make livestock more vulnerable to disease, infection and mortality. The projected drying trend and changes in precipitation are a threat to agricultural production in California. Reduced water reliability and changes in weather patterns would impact irrigated farmlands and reduce food security. Furthermore, a drying trend would increase wildfire risk. Overall, agriculture in California is anticipated to suffer due to climate change impacts.

### Forestry

Increases in wildfires will substantially impact California's forest resources that are prime targets for wildfires. This can increase public safety risks, property damage, emergency response costs, watershed quality, and habitat fragmentation. Climate change is also predicted to affect the behavior or plant species including seed production, seedling establishment, growth, and vigor due to rising temperatures.

Precipitation changes will affect forests due to longer dry periods and moisture deficits and drought conditions that limit seedling and sapling growth. Prolonged drought also weakens trees, making them more susceptible to disease and pest invasion. Furthermore, as trees die due to disease and pest invasion (i.e. the Bark Beetle invasion of the San Bernardino Forest), wildfires can spread more rapidly.

Transportation and Energy Infrastructure

Higher temperatures will require increased cooling, raising energy production demand. Higher temperatures also decrease the efficiency of distributing electricity and could lead to more power outages during peak demand. Climate changes would impact the effectiveness of California's transportation infrastructure as extreme weather events damage, destroy, and impair roadways and railways throughout the state causing governmental costs to increase as well as impacts to human life as accidents increase. Other infrastructure costs and potential impacts to life would increase due to the need to upgrade levees and other flood control devices throughout the state. Infrastructure improvement costs related to climate change adaptation are estimated in the tens of billions of dollars.

## *Regulatory Framework*

### Executive Order S-3-05

Executive Order S-3-05 was issued by California Governor Arnold Schwarzenegger and established targets for the reduction of greenhouse gas emission at the milestone years of 2010, 2020, and 2050. Statewide GHG emissions must be reduced to 1990 levels by year 2020 and by 80 percent beyond that by year 2050. The Order requires the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate with other State departments to identify strategies and reduction programs to meet the identified targets. A Climate Action Team (CAT) was created and is headed by the Secretary of CalEPA who reports on the progress of the reduction strategies. The latest CAT *Biennial Report to the Governor and Legislature* was completed in December 2010.[5] CAT also works in 11 subgroups to support development and implementation of the Scoping Plan (see "California Global Warming Solutions Act" herein).

### California Global Warming Solutions Act

The California State Legislature adopted the California Global Warming Solutions Act in 2006 (AB 32). AB 32 establishes the caps on statewide greenhouse gas emissions proclaimed in Executive Order S-3-05 and establishes a regulatory timeline to meet the reduction targets. The timeline is as follows:

| | |
|---|---|
| January 1, 2009 | Adopt Scoping Plan |
| January 1, 2010 | Early action measures take effect |
| January 1, 2011 | Adopt GHG reduction measures |
| January 1, 2012 | Reduction measures take effect |

December 31, 2020 Deadline for 2020 reduction target

As part of AB 32, CARB had to determine what 1990 GHG emissions levels were and projected a business-as-usual (BAU) estimate for 2020 to determine the amount of GHG emissions that will need to be reduced. BAU is a term used to define emissions levels without considering reductions from future or existing programs or technologies. 1990 emissions are estimated at 427 million metric tons of carbon dioxide equivalent (MMTCO2E) while 2020 emissions (after accounting for the economic downturn in 2008 and implementation of Pavley 1 vehicle emissions reductions and the State Renewable Portfolio Standard identified in Air Resources Board Scoping Plan below) are estimated at 507 MMTCO2E; therefore, California GHG emissions must be reduced 80 MMTCO2E (507 – 427 = 80) by 2020, a reduction of approximately 16 percent below BAU. Emissions are required to be reduced an additional 80 percent below 1990 levels by 2050.

## Sustainable Communities and Climate Protection Act

In January 2009, California Senate Bill (SB) 375 went into effect known as the Sustainable Communities and Climate Protection Act.[6] The objective of SB 375 is to better integrate regional planning of transportation, land use, and housing to reduce sprawl and ultimately reduce greenhouse gas emissions and other air pollutants. SB 375 tasks ARB to set greenhouse gas reduction targets for each of California's 18 regional Metropolitan Planning Organizations (MPOs). Each MPO is required to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP). The SCS is a growth strategy in combination with transportation policies that will show how the MPO will meet its GHG reduction target. If the SCS cannot meet the reduction goal, an Alternative Planning Strategy (APS) may be adopted that meets the goal through alternative development, infrastructure, and transportation measures or policies.

In the Southern California Association of Governments (SCAG) region (in which the proposed project is located), sub-regions can also elect to prepare their own SCS or APS. In August 2010, ARB released the proposed GHG reduction targets for the MPOs to be adopted in September 2010. The proposed reduction targets for the SCAG region were 8-percent by year 2020 and 13-percent by year 2035. The 8-percent year 2020 target was adopted in September 2010 and tentatively adopted the year 2035 until February 2011 to provide additional time for SCAG, ARB, and other stakeholders to account for additional resources (such as state transportation funds) needed to achieve the proposed targets. In February 2011, the SCAG President affirmed the year 2035 reduction target and SCAG Staff updated ARB on additional funding opportunities.

## Air Resources Board Scoping Plan

The ARB Scoping Plan is the comprehensive plan to reach the GHG reduction targets stipulated in AB 32. The key elements of the plan are to expand and strengthen energy efficiency programs, achieve a statewide renewable energy mix of 33 percent, develop a cap-and-trade program with other partners in the Western

Climate Initiative (includes seven states in the United States and four territories in Canada), establish transportation-related targets, and establish fees.[7] The Scoping Plan measures are identified in Table 4.5.2 (Scoping Plan Measures). Note that the current early discrete actions are incorporated into these measures. ARB estimates that implementation of these measures will reduce GHG emissions in the state by 174 MMTCO2E by 2020; therefore, implementation of the Scoping Plan will meet the 2020 reduction target. In a report prepared on September 23, 2010, ARB indicates that 40 percent of the reduction measures identified in the Scoping Plan have been secured.[8] The cap-and-trade program began on January 1, 2012 after ARB completes a series of activities that deal with the registration process, compliance cycle, and tracking system; however, covered entities will not have an emissions obligation until 2013.[9] ARB is currently working on the low carbon fuel standard where public hearings and workshops are currently being conducted. In August 2011, the Scoping plan was reapproved by the ARB Board with the program's environmental documentation.

The ARB has prepared the First Update to the Scoping Plan (Update) with a draft made available for public review on February 10, 2014. The Update to the Scoping Plan builds upon the 2008 Scoping Plan with new strategies and recommendations. The Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The Update defines ARB's climate change priorities for the next five years and sets the groundwork to reach post-2020 goals set forth in Executive Orders S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. It also evaluates how to align the State's long-term GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. A draft Environmental Analysis (EA) was released for a 45-day public review period on March 14, 2014. After considering public comments and Board direction, the final First Update, summary of comments received on the draft EA, and ARB's responses to those comments were released on May 15, 2014. The First Update to the Scoping Plan was approved by the Board on May 22, 2014.

## Water Conservation in Landscaping Act

Section 65591 of the Government Code requires all local jurisdictions to adopt a water efficient landscape ordinance. The ordinance is to address water conservation through appropriate use and grouping of plants based on environmental conditions, water budgeting to maximize irrigation efficiency, storm water retention, and automatic irrigation systems. Failure to adopt a water efficiency ordinance requires a local jurisdiction to enforce the provisions of the State's model water efficiency ordinance. In 2009, the Department of Water Resources (DWR) updated the Model Water Efficient Landscape Ordinance pursuant to amendments to the 1991 Act. These amendments and the new model ordinance went into effect on January 1, 2010. The amended Act is applicable to any new commercial, multi-family, industrial or tract home project containing 2,500 square feet (SF) or more of landscaping. Individual landscape projects of 5,000 SF or more on single-family

properties will also be subject to the Act. All landscape plans are required to include calculations verifying conformance with the maximum applied water allowance and must be prepared and stamped by a licensed landscape architect.

## California Green Building Standards

New California Green Building Standards Code (CALGREEN) went into effect on January 1, 2014.[10] The purpose of the new addition to the California Building Code (CBC) is to improve public health, safety, and general welfare by enhancing the design and construction of buildings using concepts to reduce negative impacts or produce positive impacts on the environment. The CALGREEN regulations cover planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and environmental quality. Many of the new regulations have the effect of reducing greenhouse gas emissions from the operation of new buildings. Table 4.5.3 (CALGREEN Requirements) summarizes the previous requirements of the CBC and the new requirements of CALGREEN that went into effect in January 2011. Minor technical revisions and additional requirements went into effect in July 2012. The Code was further updated in 2013, effective January 1, 2014 through 2016.

**Table 4.5.2**
**Scoping Plan Measures**

| Measure | Description |
|---|---|
| T-1 | Pavely I and II – Light Duty Vehicle Greenhouse Gas Standards |
| T-2 | Low Carbon Fuel Standard |
| T-3 | Regional Transportation-Related Greenhouse Gas Targets |
| T-4 | Vehicle Efficiency Measures |
| T-5 | Ship Electrification at Ports |
| T-6 | Good Movement Efficiency Measures |
| T-7 | Heavy-Duty Vehicle Aerodynamic Efficiency |
| T-8 | Medium and Heavy-Duty Vehicle Hybridization |
| T-9 | High Speed Rail |
| E-1 | Energy Efficiency (Electricity Demand Reduction) |
| E-2 | Increase Combined Heat and Power Use |
| E-3 | Renewable Portfolio Standard |
| E-4 | Million Solar Roofs |
| CR-1 | Energy Efficiency (Natural Gas Demand Reduction) |
| CR-2 | Solar Water Heating |
| GB-1 | Green Buildings |
| W-1 | Water Use Efficiency |
| W-2 | Water Recycling |
| W-3 | Water System Energy Efficiency |
| W-4 | Reuse Urban Runoff |
| W-5 | Increase Renewable Energy Production |
| W-6 | Public Good Charge (Water) |
| I-1 | Energy Efficiency for Large Industrial Sources |
| I-2 | Oil and Gas Extraction GHG Reductions |
| I-3 | Oil and Gas Transmission Leak Reductions |
| I-4 | Refinery Flare Recovery Process Improvements |
| I-5 | Removal of Methane Exemption from Existing Refinery Regulations |
| RW-1 | Landfill Methane Control |
| RW-2 | Increase Landfill Methane Capture Efficiency |
| RW-3 | Recycling and Zero Waste |
| F-1 | Sustainable Forest Target |
| H-1 | Motor Vehicle Air Conditioning |
| H-2 | Non-Utilities and Non-Semiconductor $SF_6$ Limits |
| H-3 | Semiconductor Manufacturing PFC Reductions |
| H-4 | Consumer Products High GWP Limits |
| H-5 | High GWP Mobile Source Reductions |
| H-6 | High GWP Stationary Source Reductions |
| H-7 | High GWP Mitigation Fees |
| A-1 | Large Dairy Methane Capture |
| Source: ARB 2008[11] | |

**Table 4.5.3**
**CALGREEN Requirements**

| Item | | Requirements | |
|---|---|---|---|
| | | Previous | CALGREEN |
| 4.1 | Stormwater Management | Stormwater management required on projects > than one acre | All projects subject to stormwater management. |
| | Surface Drainage | Surface water must flow away from building | Drainage patterns must be analyzed |
| 4.2 | Energy Efficiency | California Energy Code | Minimum energy efficiency to be established by California Energy Commissions |
| 4.3 | Indoor Water Use | HCD maximum flush rates; CEC water use standards for appliances and fixtures | Indoor water use must decrease by at least 20 percent (prescriptive or performance based) |
| | Multiple Showerheads | Not covered | Multiple showerheads cannot exceed combined flow of the code |
| | Irrigation Controllers | Not covered | Irrigation controllers must be weather or soil moisture based controllers |
| 4.4 | Joint Protection | Plumbing and Mechanical Codes | All openings must be sealed with materials that rodents cannot penetrate |
| | Construction Waste | Local Ordinances | Establishes minimum 50 percent recycling and waste management plan |
| | Operation | Plumbing Code for gray water systems | Educational materials and manuals must be provided to building occupants and owners to ensure proper equipment operation |
| 4.5 | Fireplaces | Local Ordinances | Gas fireplaces must be direct-vent sealed-combustion type; Wood stoves and pellet stoves must meet USEPA Phase II emissions limits |
| | Mechanical Equipment | Not covered | All ventilation equipment must be sealed from contamination during construction |
| | VOCs | Local Ordinances | Establishes statewide limits on VOC emissions from adhesives, paints, sealants, and other coatings |
| | Capillary Break | No prescriptive method of compliance | Establishes minimum requirements for vapor barriers in slab on grade foundations |
| | Moisture Content | Current mill moisture levels for wall and floor beams is 15-20 percent | Moisture content must be verified prior to enclosure of wall or floor beams |
| | Whole House Fans | Not covered | Requires insulted louvers and closing mechanism when fan is off |
| | Bath Exhaust Fans | Not covered | Requires Energy Star compliance and humidistat control |
| | HVAC Design | Minimal requirements for heat loss, heat gain, and duct systems | Entire system must be designed in respects to the local climate |
| 7 | Installer Qualifications | HVAC installers need not be trained | HVAC installers must be trained or certified |
| | Inspectors | Training only required for structural materials | All inspectors must be trained |
| Source: HCD 2010 | | | |

## Claremont Sustainable City Plan

The City of Claremont adopted the Sustainable City Plan in October 2008 and updated the plan in October 2013.[12] The purpose of the plan is to establish a framework to promote the City of Claremont's vision to balance social needs, environmental health, and economic prosperity while preserving natural resources, avoiding social inequities, and continuing economic opportunity. The Plan

establishes targets for municipal operations and community behavior to reduce natural resources consumption, particularly in terms of energy use. These targets are listed below:

- The City must decrease energy consumption in City Facilities by 20% of 2006 levels by 2015 and 30% by 2020.
- The City must decrease water consumed at City facilities and parks by 20% by 2015 and 30% by 2020.
- The City must utilize best practices and environmentally superior supplies for office operations, fleet maintenance and operations, and park and facilities maintenance.
- All new Municipal facilities must be constructed to green standards (LEED Gold certification).
- Reduce electrical energy consumption community wide to 13% of 2006 levels by 2015 and 20% by 2020.
- Reduce water consumption citywide 20% by 2012 and 40% by 2017.
- Divert 70% of solid waste from landfills by 2015 and 75% by 2020.
- All new construction should be designed, constructed and operated to LEED Silver standards.

Each goal of the Sustainable City Plan is supported by actions, policies, and programs necessary for achievement. The majority of the programs and actions supporting the goals of the Plan will help curb emissions of greenhouse gases within the City of Claremont, particularly where energy efficiency and reductions in vehicle miles traveled (VMT) are highlighted. The Sustainable City Plan is organized around the following seven goal areas:

1. Resources Conservation
   - Energy
   - Water and Wastewater
   - Solid Waste

2. Environment and Public Health
   - Air Quality
   - Toxic Materials Reduction and Management
   - Organic and Sustainable Foods and Products
   - Local Agriculture and Horticulture

3. Transportation
   - Non-motorized Transportation: Increased Walking and Bicycling
   - Trip Reduction (For Single Occupant Vehicles (SOV's))
   - Reduction in Vehicle Miles Traveled
   - Cleaner Fuels

4. Sustainable Built Environment
   - New Construction (Public and Private)
   - Neighborhood Development
   - Infrastructure Development

- Existing Development (Retrofitting)

5. Open Space and Land Use (Ecology)
   - Natural and Constructed Open Space
   - Urban Forest
   - Protect and Restore Native Habitats

6. Housing & Economic Sustainability
   - Diversity of Jobs, Businesses and Housing Stock
   - Meeting State Mandates for Affordable Housing
   - Neighborhood Preservation
   - Fair Trade
   - Economic Viability

7. Outreach, Education and Implementation
   - Understanding of Sustainability for General Public and all Stakeholder Groups
   - Implementation of Sustainability Plan
   - Tracking Progress Toward Goals

## *Thresholds of Significance*

The project could result in a potentially significant impact if it would:

A. Generate greenhouse gas emissions, either directly or indirectly, that have a significant impact on the environment.
B. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases, or conflict with the City of Claremont's Sustainable Plan.

A numerical threshold for determining the significance of greenhouse gas emissions in the South Coast Air Basin (Basin) has not officially been adopted by the SCAQMD. As an interim threshold based on guidance provided in the CAPCOA *CEQA and Climate Change* white paper, a non-zero threshold based on Approach 2 of the handbook will be used.[13] Threshold 2.5 (Unit-Based Thresholds Based on Market Capture) establishes a numerical threshold based on capture of approximately 90 percent of emissions from future development. The latest threshold developed by SCAQMD using this method is 3,000 metric tons carbon dioxide equivalent ($MTCO_2E$) per year for residential and commercial projects.[14] This threshold is based on the review of 711 CEQA projects.

## *Environmental Impacts*

**IMPACT 4.5.A**

***Short-term and long-term impacts related to greenhouse gas emissions would be less than significant***

The proposed project will include activities that emit greenhouse gas emissions over the short- and long-term. While one project could not be said to cause global climate change, individual projects contribute cumulatively to greenhouse gas emissions that result in climate change.

If net emissions resulting from the proposed project exceed the 3,000 MTCO2E threshold, a potentially significant impact could occur because the proposed project would be outside of the smallest ten-percent of commercial GHG emitters and could contribute to climate change impacts such as temperature increases, precipitation changes, increases in natural hazards, and other identified impacts. To determine if the proposed project will exceed the threshold, a greenhouse gas emissions inventory was prepared for the proposed project and is analyzed below.

### Short-Term Emissions

The proposed project will result in short-term greenhouse gas emissions from construction and installation activities. Greenhouse gas emissions will be released by equipment used for grading, paving, building construction, and architectural coating activities. GHG emissions will also result from worker and vendor trips to and from the project site. Table 4.5.4 (Construction Greenhouse Gas Emissions) summarizes the estimated yearly emissions from construction activities. Carbon dioxide emissions from construction equipment and worker/vendor trips were estimated utilizing the California Emissions Estimator Model (CalEEMod) version 2013.2.2. Construction activities are short-term and cease to emit greenhouse gases upon completion, unlike operational emissions that are continuous year after year until operation of the use ceases. Because of this difference, SCAQMD recommends in its draft threshold to amortize construction emissions over a 30-year operational lifetime. This normalizes construction emissions so that they can be grouped with operational emissions in order to generate a precise project GHG inventory. Amortized construction emissions for each construction phase are included in Table 4.5.4.

**Table 4.5.4**
**Construction Greenhouse Gas Emissions**

| | GHG Emissions (MT/YR) | | | |
|---|---|---|---|---|
| | $CO_2$ | $CH_4$ | $N_2O$ | TOTAL* |
| **Claremont Boulevard Improvements** | | | | |
| 2017 | 1,274.87 | 0.31 | 0.00 | 1,281.31 |
| SUB-TOTAL | 1,274.87 | 0.31 | 0.00 | 1,281.31 |
| *AMORTIZED TOTAL^* | *42.50* | *0.01* | *0.00* | *41.71* |
| **Arrow Route Improvements** | | | | |
| 2017 | 1,274.87 | 0.31 | 0.00 | 1,281.31 |
| SUB-TOTAL | 1,274.87 | 0.31 | 0.00 | 1,281.31 |
| *AMORTIZED TOTAL^* | *42.50* | *0.01* | *0.00* | *41.71* |
| **Phase II** | | | | |
| 2017 | 119.47 | 0.03 | 0.00 | 120.17 |
| SUB-TOTAL | 119.47 | 0.03 | 0.00 | 120.17 |
| *AMORTIZED TOTAL^* | *3.98* | *0.00* | *0.00* | *4.01* |
| **Foothill Boulevard Improvements** | | | | |
| 2019 | 1,230.27 | 0.31 | 0.00 | 1,236.68 |
| SUB-TOTAL | 1,230.27 | 0.31 | 0.00 | 1,236.68 |
| *AMORTIZED TOTAL^* | *41.01* | *0.01* | *0.00* | *41.22* |
| **Phase III** | | | | |
| 2019 | 67.90 | 0.02 | 0.00 | 68.33 |
| SUB-TOTAL | 67.90 | 0.02 | 0.00 | 68.33 |
| *AMORTIZED TOTAL^* | *2.26* | *0.00* | *0.00* | *2.28* |
| **Monte Vista Improvements** | | | | |
| 2022 | 1,197.75 | 0.30 | 0.00 | 1,204.15 |
| SUB-TOTAL | 1,197.75 | 0.30 | 0.00 | 1,204.15 |
| *AMORTIZED TOTAL^* | *39.93* | *0.01* | *0.00* | *40.14* |
| **Phase IV** | | | | |
| 2022 | 610.02 | 0.14 | 0.00 | 612.86 |
| 2023 | 54.37 | 0.01 | 0.00 | 54.57 |
| SUB-TOTAL | 664.39 | 0.14 | 0.00 | 667.43 |
| *AMORTIZED TOTAL^* | *22.15* | *0.00* | *0.00* | *22.25* |
| **Phase V** | | | | |
| 2025 | 227.24 | 0.06 | 0.00 | 228.50 |
| SUB-TOTAL | 227.24 | 0.06 | 0.00 | 228.50 |
| *AMORTIZED TOTAL^* | *7.57* | *0.00* | *0.00* | *7.62* |
| ***Amortized Project Total*** | ***201.9*** | ***0.04*** | ***0.00*** | ***200.94*** |

* MTCO2E
Note: Slight variations may occur due to rounding and variations in modeling software
^ Amortized over 30-years

## Long-Term Emissions

Proposed project activities will result in continuous greenhouse gas emissions from mobile, area, and operational sources. Mobile sources including vehicle trips to and from the project site will result primarily in emissions of $CO_2$ with minor emissions of methane and nitrous oxide. The most significant GHG emission from natural gas usage will be methane. Electricity usage by the proposed project and indirect usage of electricity for water and wastewater conveyance will result primarily in emissions

of carbon dioxide. Disposal of solid waste will result in emissions of methane from the decomposition of waste at landfills coupled with $CO_2$ emission from the handling and transport of solid waste. These sources combine to define the long-term greenhouse gas emissions inventory for the build-out of the proposed project.

The methodology utilized for each emissions source in CalEEMod is based on the CAPCOA *Quantifying Greenhouse Gas Mitigation Measures* handbook.[15] A summary of the existing, proposed, and net operational greenhouse gas emissions is included in Table 4.5.5 (Existing Long-Term Greenhouse Gas Emissions), Table 4.5.6 (Proposed Long-Term Greenhouse Gas Emissions), and Table 4.5.7 (Net Long-Term Greenhouse Gas Emissions). Operational emissions associated with existing sports fields to be relocated to the project site have been subtracted from the total proposed emissions to provide an accurate analysis of project impacts. See Table 4.2.6 for existing operational emissions. The emissions inventories are presented as metric tons of carbon dioxide equivalent (MTCO2E) meaning that all emissions have been weighted based on their Global Warming Potential (GWP) (a metric ton is equal to 1.102 US short tons). Mobile sources are based on annual vehicle miles traveled (VMT) based on daily trip generation identified in the project traffic study.[16] Indoor water demand was estimated based on the number of plumbing fixtures to be installed. Outdoor water demand was estimated using irrigation estimates provided by Claremont McKenna College and Pitzer College. Natural gas, electricity, and solid waste generation were projected using CalEEMod default values.

**Table 4.5.5**
**Existing Long-Term Greenhouse Gas Emissions**

| Source | GHG Emissions (MT/YR) | | | |
|---|---|---|---|---|
| | $CO_2$ | $CH_4$ | $N_2O$ | TOTAL* |
| Area Emissions | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 10,637.21 | 0.42 | 0.12 | 10,684.05 |
| Mobile Emissions | 71.91 | 0.00 | 0.00 | 71.96 |
| Solid Waste Disposal | 0.96 | 0.06 | 0.00 | 2.15 |
| Water/Wastewater Treatment/Conveyance | 16.17 | 0.02 | 0.00 | 16.74 |
| *TOTAL* | *10,726.25* | *0.50* | *0.12* | *10,774.90* |

* MTCO2E/YR: metric tons of carbon dioxide equivalent per year
Note: Slight variations may occur due to rounding

**Table 4.5.6**
**Proposed Long-Term Greenhouse Gas Emissions**

| Source | GHG Emissions (MT/YR) | | | |
|---|---|---|---|---|
| | $CO_2$ | $CH_4$ | $N_2O$ | TOTAL* |
| Area Emissions | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Demand | 12,247.52 | 0.49 | 0.14 | 12,301.42 |
| Mobile Emissions | 128.94 | 0.00 | 0.00 | 129.03 |
| Solid Waste Disposal | 6.75 | 0.40 | 0.00 | 15.14 |
| Water/Wastewater Treatment/Conveyance | 28.86 | 0.09 | 0.00 | 31.61 |
| *TOTAL* | *12,412.08* | *0.99* | *0.14* | *12,477.19* |

* MTCO2E/YR: metric tons of carbon dioxide equivalent per year
Note: Slight variations may occur due to rounding

**Table 4.5.7**
**Net Long-Term Greenhouse Gas Emissions**

| Source | GHG Emissions (MT/YR) | | | |
|---|---|---|---|---|
| | $CO_2$ | $CH_4$ | $N_2O$ | TOTAL* |
| Area Emissions | -- | -- | -- | -- |
| Energy Demand | +1,610.31 | +0.07 | +0.02 | +1,617.37 |
| Mobile Emissions | +57.03 | -- | -- | +57.07 |
| Solid Waste Disposal | +5.79 | +0.34 | -- | +12.99 |
| Water/Wastewater Treatment/Conveyance | +12.69 | +0.07 | -- | +14.87 |
| *TOTAL* | *+1,685.82* | *+0.48* | *+0.02* | *+1,702.30* |

* MTCO2E/YR: metric tons of carbon dioxide equivalent per year
Note: Slight variations may occur due to rounding

## Greenhouse Gas Emissions Inventory

Tables 4.5.8 (Greenhouse Gas Emissions Inventory) summarizes the yearly estimated greenhouse gas emissions from construction of the proposed project and operational sources under operational conditions. Net greenhouse gas emissions associated with the proposed project would not exceed the 3,000 MTCO2E threshold.

**Table 4.5.8**
**Greenhouse Gas Emissions Inventory**

| Source | GHG Emissions (MT/YR) | | | |
|---|---|---|---|---|
| | $CO_2$ | $CH_4$ | $N_2O$ | TOTAL* |
| Construction^ | 201.9 | 0.04 | 0.00 | 200.94 |
| Net Operational | 1,685.82 | 0.48 | 0.02 | 1,702.30 |
| **GRAND TOTAL** | **1,706.01** | **0.52** | **0.02** | **1,903.24** |

* MTCO2E/YR: metric tons of carbon dioxide equivalent per year
Note: Slight variations may occur due to rounding
^ Construction impacts amortized over 30-years

## Scoping Comment, South Coast Air Quality Management District

A.6 This comment recommends an analysis of greenhouse gas emissions be prepared. GHG emissions inventories were prepared for the project and utilized for the analysis in this section.

**IMPACT 4.5.B** ***Impacts related to conflicts with GHG emissions reductions plans, policies, or regulations would be less than significant***

## Scoping Plan Consistency

ARB's *Scoping Plan* identifies strategies to reduce California's greenhouse gas emissions in support of AB 32. Many of the strategies identified in the Scoping Plan are not applicable at the project level, such as long-term technological improvements to reduce emissions from vehicles. Some measures are applicable and supported by the proposed project, such as energy efficiency. Finally, while some measures are not directly applicable, the proposed project would not conflict with their implementation. Reduction measures are grouped into 18 action categories, as follows:

1. **California Cap-and-Trade Program Linked to Western Climate Initiative Partner Jurisdictions.** Implement a broad-based California cap-and-trade program to provide a firm limit on emissions. Link the California cap–and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California.[17] Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.
2. **California Light-Duty Vehicle Greenhouse Gas Standards.** Implement adopted Pavley standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.
3. **Energy Efficiency.** Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).
4. **Renewables Portfolio Standards.** Achieve 33 percent renewable energy mix statewide.
5. **Low Carbon Fuel Standard.** Develop and adopt the Low Carbon Fuel Standard.
6. **Regional Transportation-Related Greenhouse Gas Targets.** Develop regional greenhouse gas emissions reduction targets for passenger vehicles.
7. **Vehicle Efficiency Measures.** Implement light-duty vehicle efficiency measures.
8. **Goods Movement.** Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.

9. **Million Solar Roofs Program.** Install 3,000 megawatts of solar-electric capacity under California's existing solar programs.
10. **Medium- and Heavy-Duty Vehicles.** Adopt medium- (MD) and heavy-duty (HD) vehicle efficiencies. Aerodynamic efficiency measures for HD trucks pulling trailers 53-feet or longer that include improvements in trailer aerodynamics and use of rolling resistance tires were adopted in 2008 and went into effect in 2010.[18] Future, yet to be determined improvements, includes hybridization of MD and HD trucks.
11. **Industrial Emissions.** Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.
12. **High Speed Rail.** Support implementation of a high speed rail system.
13. **Green Building Strategy.** Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.
14. **High Global Warming Potential Gases.** Adopt measures to reduce high global warming potential gases.
15. **Recycling and Waste.** Reduce methane emissions at landfills. Increase waste diversion, composting and other beneficial uses of organic materials, and mandate commercial recycling. Move toward zero-waste.
16. **Sustainable Forests.** Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation. The 2020 target for carbon sequestration is 5 million MTCO2E/YR.
17. **Water.** Continue efficiency programs and use cleaner energy sources to move and treat water.
18. **Agriculture.** In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.

Table 4.5.9 summarizes the proposed project's consistency with the State Scoping Plan. As summarized, the proposed project will not conflict with any of the provisions of the Scoping Plan and in fact supports four of the action categories through energy efficiency, water conservation, and recycling.

**Table 4.5.9**
**Scoping Plan Consistency Summary**

| Action | Supporting Measures | Consistency |
|---|---|---|
| Cap-and-Trade Program | -- | **Not Applicable.** These programs involve capping emissions from electricity generation, industrial facilities, and broad scoped fuels. Caps do not directly affect sports fields/recreational uses. |
| Light-Duty Vehicle Standards | T-1 | **Not Applicable.** This is a statewide measure establishing vehicle emissions standards. |
| Energy Efficiency | E-1<br>E-2<br>CR-1<br>CR-2 | **Consistent.** The project will include a variety of building, water, and solid waste efficiencies consistent with CALGREEN requirements. |
| Renewables Portfolio Standard | E-3 | **Not Applicable.** Establishes the minimum statewide renewable energy mix. |
| Low Carbon Fuel Standard | T-2 | **Not Applicable.** Establishes reduced carbon intensity of transportation fuels. |
| Regional Transportation-Related Greenhouse Gas Targets | T-3 | **Not Applicable.** The project will not result in substantial emissions of greenhouse gas emissions; therefore, transportation related emissions reductions are not required. |
| Vehicle Efficiency Measures | T-4 | **Not Applicable.** Identifies measures such as minimum tire-fuel efficiency, lower friction oil, and reduction in air conditioning use. |
| Goods Movement | T-5<br>T-6 | **Not applicable.** Identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories. |
| Million Solar Roofs Program | E-4 | **Not Applicable.** Sets goal for use of solar systems throughout the state. |
| Medium- & Heavy-Duty Vehicles | T-7<br>T-8 | **Not applicable.** Medium-duty and heavy-duty trucks and trailers will not operate from the proposed project. |
| Industrial Emissions | I-1<br>I-2<br>I-3 | **Not Applicable.** These measures are applicable to large industrial facilities (> 500,000 MTCOE2/YR) and other |

| | | |
|---|---|---|
| | I-4<br>I-5 | intensive uses such as refineries. |
| High Speed Rail | T-9 | **Not Applicable.** Supports increased mobility choice. |
| Green Building Strategy | GB-1 | **Consistent.** The project will include a variety of building, water, and solid waste efficiencies consistent with CALGREEN requirements. |
| High Global Warming Potential Gases | H-1<br>H-2<br>H-3<br>H-4<br>H-5<br>H-6<br>H-7 | **Not Applicable.** The proposed project is not a substantial source of high GWP emissions and will comply with any future changes in air conditioning, fire protection suppressant, and other requirements. |
| Recycling and Waste | RW-1<br>RW-2<br>RW-3 | **Consistent.** The project will be required to recycle a minimum of 50 percent from construction activities and operations per State requirements. |
| Sustainable Forests | F-1 | **Not Applicable.** The project site is not forested and the project will not result in the loss of any forest land. |
| Water | W-1<br>W-2<br>W-3<br>W-4<br>W-5<br>W-6 | **Consistent.** The project will include use of low-flow fixtures and efficient landscaping per State requirements. |
| Agriculture | A-1 | **Not Applicable.** The project is not an agricultural use. |

### Claremont Sustainable City Plan

The proposed sports facilities would reduce energy consumption, water usage, and landfilling of solid waste in accordance with resource conservation Goals 1.1 through 1.3. The proposed sports facilities also support Goal Area 4 (Sustainable Built Environment) of the Claremont Sustainable City Plan because they would be constructed utilizing green building techniques such as low-flow fixtures and sustainable landscaping. These features specifically support Goal 4.2 that requires sustainable design standards in all new and renovated development. The project would be consistent with the Claremont Sustainable City Plan.

## *Mitigation Measures*

None required.

## *Level of Significance with Mitigation Incorporated*

Impacts 4.5.A and 4.5.B would be less than significant and no mitigation is required.

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[1] United States Environmental Protection Agency. Greenhouse Gas Emissions. http://www.epa.gov/climatechange/ghgemissions/gases.html [August 2014]

[2] Intergovernmental Panel on Climate Change. Changes in Atmospheric Constituents and in Radiative Forcing (Working Group I). Forth Assessment Report. 2007

[3] Ibid

[4] California Natural Resources Agency. 2009 California Climate Adaptation Strategy.

[5] California Climate Action Team. Biennial Report. December 2010

[6] Southern California Association of Governments. Senate Bill 375 Fact Sheet. http://scag.ca.gov/Documents/SCAG_SB375_Factsheet.pdf [July 2014]

[7] California Air Resources Board. Climate Change Scoping Plan. December 2008

[8] California Air Resources Board. AB 32 Climate Change, Scoping Plan Progress Report. September 2010

[9] California Air Resources Board. Cap-and-Trade. http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm [July 2014]

[10] California Building Standards Commission. California Code of Regulations Title 24. California Green Building Standards Code. 2013

[11] Ibid 24

[12] City of Claremont. Updated Sustainable City Plan. October 2013

[13] California Air Pollution Control Officers Association. *CEQA and Climate Change.* January 2008

[14] South Coast Air Quality Management District. CEQA Significance Thresholds Working Group. Meeting # 15, Main Presentation. September 28, 2010

[15] California Air Pollution Control Officers Association. Quantifying Greenhouse Gas Emissions. August 2010

[16] Linscott, Law & Greenspan, Engineers. *Traffic Impact Analysis Report Claremont Colleges East Campus.* September 5, 2014

[17] California Air Resources Board. California GHG Emissions – Forecast (2002-2020). October 2010

[18] California Air Resources Board. Scoping Plan Measures Implementation Timeline. October 2010

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# Hazards and Hazardous Materials 4.6

The following section addresses hazardous site contamination and the compatibility between the proposed sports facilities and operations at Cable Airport. Compatibility issues will be evaluated using the Caltrans Airport Land Use Planning Handbook, the 1981 Cable Airport Comprehensive Airport Land Use Plan, and the "Evaluation of the Land Use Compatibility Issues Associated with the Proposed Development of the Claremont Colleges Quarry Site near the Cable Airport" 2007 and 2011 reports prepared by Walter E. Gillfillan and Associates (Appendix J). The California Department of Transportation, Division of Aeronautics, submitted comments regarding Cable Airport during the circulation of the Notice of Preparation. The San Bernardino County Department of Public Works submitted comments related to the generation and disposal of hazardous waste, which are addressed in this section. Impacts related to the transport, use, or disposal of hazardous materials, hazardous materials sites (Cortes List), impairment of emergency response or evacuation, and wildfires were found to be less than significant in the project Initial Study and are not discussed herein.

## *Existing Conditions*

### Site Contamination

The site was utilized for approximately 50 years as an aggregate mining operation. In 1972 the site was permitted as an inert landfill. Landfill activities continued by successive owners until 1984 when operations ceased in anticipation of potential development of the property. The Claremont University Consortium acquired the site in 1988 and in 1991 the Consortium issued a letter to the Regional Water Quality Board stating that they would like to maintain their existing waste discharge requirements as an inert (non-reactive) materials landfill and were allowed to resume landfill operations. A Phase I Environmental Site Assessment (ESA) was prepared in 2004 by Geomatrix Consultants and a Phase II ESA was prepared by AMEC Geomatrix in September of 2008. The results of these assessments are summarized below and attached as Appendix H and Appendix I.

An updated Phase II Environmental Site Assessment was prepared in 2014 by AMEC Environment & Infrastructure, Inc. The results of this assessment are summarized below and included as Appendix I.

#### Phase I Environmental Site Assessment

The Phase I ESA notes that the majority of the site is occupied by a quarry that has been primarily backfilled and graded in areas with what appears to be soil, rock, and predominantly inert waste material.[1] Much of the side slopes and base of the pit are covered with grasses and shrubs. No buildings or other structures are present at the subject property. A small power line extends onto the northwest corner of the subject property from Foothill Boulevard providing power to a monitoring well. No public water supply system serves the site. Fill material observed during the Phase I ESA reconnaissance consisted primarily of soil, rock, and concrete debris with lesser amounts of asphaltic concrete, wood, metal, and other miscellaneous materials. A small pile, approximately 10 feet in diameter, of

orange-brown sand and slag like material was present in the west-central portion of the quarry. The project site is listed in the State Water Resources Control Board (SWRCB) Waste Management Unit Database System (WMUDS/SWAT) due to the presence of the landfill. The database does not provide any information related to the disposal history or status of the property. The landfill on the subject property is considered a "Recognized Environmental Concern" due to the uncertainty associated with the types and composition of materials disposed of in the landfill and the risks that the landfill creates for future use of the site. Features related to the landfill that may contribute to onsite risks include improperly abandoned monitoring wells and the orange-brown slag-like material of unknown composition observed during site reconnaissance by Geomatrix Consultants.

## Phase II Environmental Site Assessment

Observations in the Phase II ESA conducted in 2008 were similar to the observations described in the Phase I ESA.[2] Fill materials observed consisted of soil, concrete, concrete with rebar, wood debris, and some asphaltic concrete. Fill materials also included limited occurrences of plastic, fabric, ceramic, small diameter PVC pipe and metal debris. A steel drum full of concrete or cement was found on the south-central area of the quarry. Recently placed imported or dumped fill in the southeastern portion of the quarry consisted of soil. One area on the northeast slope of dumped fill had several empty containers potentially indicating the presence of petroleum hydrocarbons or volatile organic compounds. Containers included an empty plastic oil container, empty grease gun container, and a crushed container with a label indicating it previously had contained PVC cement. Ponded water observed during the site reconnaissance in 2004 was not observed during the current investigation, although dried mud cracks were visible in this location.

Two areas with stained soil were observed during the current site investigation. The first area observed was the area identified in the Phase I ESA as orange-brown slag-like material. This material was located east of the north fence of the existing archery range in the north-central area of the quarry. This soil covered an irregular area and was estimated to cover an approximately 200 square foot area on the surface. The second area of stained soil was discovered during the current site survey and was not previously mentioned in the Phase I ESA. This stained soil consisted of darker-colored material with a slight hydrocarbon odor. The stain was approximately 43 feet in length and had a maximum width of approximately six feet (see Exhibit 4.6.1, Soil Contamination and Sampling).

The Phase II ESA includes analysis of soil samples that were collected at four locations in the quarry. Samples were taken from the locations identified as "orange soil", "soil with containers", "stained soil", and the "dry pond".

Each of the four collected samples was tested for various chemical components. The first tests performed on the soil samples were for volatile organic compounds, semi-volatile organic compounds, organochlorine pesticides, and polychlorinated biphenyls or PCB's. All of the samples analyzed for these parameters were reported as not detected at or above the laboratory reporting limits.

A second set of tests to detect total petroleum hydrocarbons with carbon chain distinction (TPHcc) was run on the "soil with containers", "stained soil", and "dry pond" soil. The carbon chain distinction test can identify what type of hydrocarbon exists within a test sample such as gasoline, diesel fuel, or motor oil. The laboratory results indicated the soil with used containers of construction adhesives and an empty bottle of motor oil did not detect petroleum hydrocarbons. The soil samples from the area with stained soil and the standing water were positive for motor oil.

A third test was conducted for California Code of Regulations (CCR), Title 22 metals. Title 22 contains all applicable State and Federal laws governing hazardous wastes in California. The laboratory results indicated metals were not detected at the reporting limits or were not present at concentrations in the range consistent with those found in horizon soils in the western United States, with one exception. The orange soil was found to contain copper at ten times the Soluble Threshold Limit as listed in Title 22 of the California Code of Regulations. Due to this result the orange soil was re-tested using a secondary method. The secondary method also reported soluble copper at elevated levels that, if representative of the orange soil overall, would indicate that the material may need to be classified as a California hazardous waste during management, transportation, and disposal.

## Work Conducted Since 2008

Based on documentation provided by CUC, CUC is currently in compliance with the reporting and monitoring requirements established in LARWQCB Order No. 00-070, Waste Discharge Requirements for Claremont University Center (Claremont Landfill), dated May 4, 2000, and summary provided following the end of each calendar year. The most recent quarterly submittal to the LARWQCB was the 1st Quarter 2014 Inert Waste Disposal Report, dated May 4, 2014. The most recent annual summary submittal was the Annual 2013 Inert Waste Disposal Report, dated January 15, 2014.

CUC monitored Well A (also known as well MW-A or Pit Well No. 1) in two sampling events conducted in December 2010 and February 2011 by Miller Brooks Environmental Inc. The December 2010 sampling event included only a subset of the analyses required to comply with the monitoring program; therefore, a follow-up sampling event was conducted in February 2012. Groundwater samples collected from these two sampling events, in aggregate, met the amended "monitoring requirements of the groundwater detection monitoring well MW-A." Miller Brooks indicated that the findings for these monitoring events were consistent with those of previous monitoring events and concluded that no impact to groundwater by site activities was evident based on monitoring results from Well A.

CUC conducted an additional monitoring event on April 23, 2014 by EarthCon Consultants CA, Inc. Based on the results of this monitoring event, EarthCon concluded that the inert landfill is not affecting the quality of groundwater represented by Pit Well No. 1 (Well A).

Phase II Environmental Site Assessment Update

A Phase II Environmental Site Assessment Update was prepared by AMEC Environment & Infrastructure, Inc. on June 30, 2014. Two AMEC geologists conducted the site reconnaissance in the CUC quarry site on February 25, 2014. The geologists traversed the quarry to update previous findings and to identify new areas of interest. A Trimble XM Global Positioning System (GPS) unit was used to gather and record GPS coordinates for areas of interest. The GPS unit has an accuracy of approximately three to six feet after post processing corrections. GPS coordinates were obtained at three locations identifiable on the aerial photograph (e.g., the southwest arc of the curb at the northeast corner of the intersection of N. Claremont Boulevard and W. Arrow Route) as control points after completing the site reconnaissance. These control points were used to evaluate the GPS data for drift, instrument malfunction, or other potential anomalies.

General observations were similar to the observations described for the Phase II site reconnaissance conducted in 2008. Fill material consisted of soil, concrete, concrete with rebar, wood debris (lumber and telephone or power poles), and some asphaltic concrete. Fill materials also included limited occurrences of plastic, fabric, ceramic, small diameter PVC pipe, and metal debris. Gravel was present in medium to large piles, particularly on the west side of the quarry.

### Cable Airport

Cable Airport (CCB) is a privately owned, public use airport located at the northwest corner of 13th Street and Benson Avenue, approximately 2,000 feet northeast of the subject property as measured from the corner of Foothill Boulevard and Monte Vista Avenue. Cable Airport includes a single runway and two helipads. The asphalt-paved runway is 3,864 feet long and 75 feet wide and provides approach and departure procedures from the southwest on Runway 6 and approach and departure procedures from the northeast on Runway 24 (see Exhibit 4.6.1 (Cable Airport Runway) for an overview of the runway configurations).[3] Helipads H1 and H2 are 65 feet square and located on the eastern portion of the airport. The weight bearing capacity of the runway is rated for single-wheeled aircraft weighing less than 12,500 pounds. Aircraft landing is limited to daylight hours. 116 aircraft are registered out of Cable Airport including 103 single-engine airplanes, seven multi-engine airplanes, and two helicopters. Operations average approximately 252 aircraft a day, 80 percent local and 20 percent transient. Runway 6 departure patterns cross over the project site as well as the maximum one-minute hold pattern.[4] Cable Airport discourages straight-out, right, or down-wind departures or straight-in approaches.

## *Regulatory Framework*

### California Code of Regulations

Title 22 of the California Code of Regulations contains all applicable State and Federal laws governing hazardous wastes in the State. Title 22 is more stringent and broader in its coverage of wastes than Federal law. Chapter 51 (Site Remediation) identified the minimum standards of performance for site

investigations and response actions performed by the private sector in site cleanup efforts, and was repealed as of January 2013.

## California Government Code

Section 65962.5 of the California Government Code establishes mandates for the Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) to maintain lists of hazardous materials and waste handlers and sites. The compilation of these lists is known as the Cortese List. As of September 8, 2014, the project site is not:

- listed as a hazardous waste and substance site by the Department of Toxic Substances Control (DTSC),[5] [6]
- listed as a leaking underground storage tank (LUFT) site by the State Water Resources Control Board (SWRCB),[7] [8]
- listed as a hazardous solid waste disposal site by the SWRCB,[9]
- currently subject to a Cease and Desist Order (CDO) or a Cleanup and Abatement Order (CAO) as issued by the SWRCB,[10] or
- developed with a hazardous waste facility subject to corrective action by the DTSC.[11]

## Cable Airport Comprehensive Airport Land Use Plan

The purpose of the Cable Airport Comprehensive Airport Land Use Plan (ALUP) is to "protect the public from the adverse effects of aircraft noise, to ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents, and to ensure than no structures affect navigable airspace."[12] The ALUP is based on the operational capacity of Cable Airport, the type of aircraft the airport can accept, and flight patterns utilized in approach and departure from the airport.

Based on maximum capacity of the airport, the Federal Aviation Administration (FAA) has established a "Practical Hourly Capacity" of 90 flights per hour under normal conditions or an annual capacity of 209,000 flights. This amounts to a maximum 573 flights per day, including approaches, departures, and round-trips.

The ALUP includes criteria for local agency land use decisions based on a proposed project's compatibility with current and future airport operations. The criteria consist of height, safety, and circulation limitations. Limitations on height are designed to protect the airspace around the airport to allow safe passage of aircraft in and out of the airport. The safety section is designed to reduce risk to persons and property from airport operations. The circulation section is designed to ensure roadways serving the airport will meet the current and future needs of the airport.

The ALUP identifies clear zones and safety areas that prohibit or limit certain types of land uses to avoid and minimize the potential for loss of life or property damage. The main flight path for the Cable Airport extends in a southwesterly direction from Runway 6 and includes a left hand turn towards the east. As indicated in the ALUP, aircraft begin air traffic pattern within 3,000 feet of Runway 6 that approximates

the northwest corner of the project site (see Exhibit 4.6.3, Clear Zone and Safety Areas).

The clear zone for the southwestern end of the runway begins 200 feet from the end of the runway and contains an initial width of 500 feet expanding to 700 feet. The length of the clear zone is 700 feet. This size creates a fan shaped area 700 feet in length.

Safety Area 1 extends from the clear zone a distance of 2,000 feet. This safety area begins at a 700 foot width and gradually expands to a 750 foot width at the 2,000 foot distance. Safety Area 1 is considered a significant crash hazard area and as such, a limited number of uses can be established within this safety area. The ALUP lists uses not considered compatible with aircraft operations in Safety Area 1 to include hazardous installations such as oil and gas storage, new residential development, and institutional facilities. Further limits include that no buildings should be located within 75 feet of the extended runway centerline and no new uses that encourage large concentrations of persons (over 100 persons). Also, structures within Safety Area 1 should not install reflective surfaces that would create glare, should not create any electronic interference, or emit smoke.

Safety Area 2 is the area that is not included within the clear zone or Safety Area 1, in a 5,000 foot radius from the runway terminus. Limitations within Safety Area 2 state that any building or object that would penetrate the airport imaginary surface as defined in the Federal Aviation Administration Part 77 not be permitted, in addition to the limitations on glare, electronic interference, and smoke. An imaginary surface is a function of the precision of the runway. There are a total of five imaginary surfaces: Primary, Approach, Horizontal, Conical, and Transitional. Based on the preceding discussion, a portion of the East Campus Project site at the northeast corner lies within Safety Area 1 with the remainder of the site within Safety Area 2.

## Federal Aviation Administration

The Federal Aviation Administration's Part 77 regulation is the basic reference source for defining hazards to air navigation. Section 77.5 of Part 77 applies to "any object of natural growth, terrain, or permanent or temporary construction or alteration, including equipment or materials used therein, and apparatus of a permanent or temporary character; and alteration of any permanent or temporary existing structure by a change in its height (including appurtenances), or lateral dimensions, including equipment or materials used therein." In addition, within Part 77 is a requirement for a notice of construction to be issued to the Federal Administrator prior to any commencement of work and also a list of projects that do not require construction notice.

The Federal Aviation Administration, Federal Aviation Regulation (FAR) Part 77 is the primary reference source for determining obstructions to air navigation. The Caltrans Handbook and the ALUP use Part 77 as a reference to define hazards to air navigation. The Federal Aviation Administration (FAA) does not approve projects,

but supplies written findings when a Notice of Intent to Construct is submitted to the administration. One of three findings can be made by the FAA: 1) not a problem with respect to air navigation; 2) an obstruction, but not a hazard to air navigation; 3) hazard to air navigation. A finding by the FAA is an advisory to the applicant and to the local zoning jurisdiction. The FAA does not have authority to prohibit a project, although the Administration can require identifiable markings and lighting if a proposal presents an obstruction or hazard to air navigation. Part 77 includes exceptions to the Notice of Intent to Construct as presented in Section 77.15 stating that, "No person is required to notify the Administrator for any of the following construction or alteration: any object that would be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic feature of equal or greater height, and would be located in the congested area of a city, town, or settlement where it is evident beyond all reasonable doubt that the structure so shielded will not adversely affect safety in air navigation." Table 4.6.1 (Allowable Site Development Elevations) lists the location of the four corners of the project site and site mid-points in relation to Part 77 definitions and estimates the allowable elevations above mean sea level (AMSL) at these points.

**Table 4.6.1**
**Allowable Site Development Elevations**

| Location | Applicable Imaginary Surface | Estimated Maximum Elevation (AMSL) | Approximate Project Elevation (ASML) |
|---|---|---|---|
| Northwest Corner | Approach Surface | 1,472 | 1,322 |
| Northeast Corner | Approach Surface | 1,425 | 1,320 |
| Southeast Corner | Horizontal Surface | 1,589 | 1,241 |
| Southwest Corner | Horizontal Surface | 1,589 | 1,241 |
| Mid-point Western Boundary | Transitional Surface | 1,567 | 1,280 |
| Mid-point Eastern Boundary | Horizontal Surface | 1,589 | 1,290 |

## California Airport Land Use Planning Handbook

In accordance with California Environmental Quality Act Guidelines Section 15154(a), an Environmental Impact Report shall utilize the Airport Land Use Planning Handbook published by the California Department of Transportation (Caltrans) Division of Aeronautics to evaluate airport related safety issues. The Caltrans Handbook advises that an airport land use plan should include the following essential elements: indicate the scope of the plan, describe information about the airport and airport plan providing a basis for the plan, contain policies and criteria, use maps, list procedures for use in conducting compatibility reviews, and provide an initial assessment of the consistency between a General Plan and the land use plan. Although the current ALUP was prepared and adopted in 1981, the plan contains all of the above suggested elements.

The Caltrans Airport Land Use Planning Handbook states that, "protecting people and property on the ground from the potential consequences of near-airport aircraft accidents is a fundamental land use compatibility planning objective", and that

some form of restriction on land use is essential. Furthermore, the basic factor by which the acceptability or unacceptability of different uses is judged is intensity. The Caltrans Handbook defines intensity as the number of people that a particular development can attract per acre.

The Airport Planning Handbook divides the areas surrounding an airport into six general safety zones, similar to those established in the ALUP. The safety zones are established based on analysis of accident data and characteristics. The majority of the project site would lie within the Handbook Zone 6, considered a traffic pattern zone limiting the intensity to 150 persons per acre. A small portion of the northern edge of the site would be situated within safety zone 4, which allows 60-80 persons per acre.

## Thresholds of Significance

The project could result in significant impacts if it would:

A. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
B. Result in a safety hazard to people residing or working within the vicinity of an airport.

The thresholds for determining the significance of impacts associated with the proximity of the project to Cable Airport are based on Federal criteria (Federal Aviation Regulations), State guidelines (Caltrans Airport Land Use Planning Handbook), and the policies and standards adopted in the Cable Airport Comprehensive Land Use Plan (ACLUP), including the project's consistency with the land use policies discussed in "Regulatory Framework" above.

## Environmental Impacts

**IMPACT 4.6.A**

***Impacts to public health and the environment due to the presence of hazardous materials on the project site would be less than significant with mitigation incorporated and implementation of existing regulations***

Three areas of the project site were determined to be contaminated according to the Phase I ESA (prepared in 2004) and Phase II ESA (prepared in 2008). The "orange soil" was located in the central portion of the site and found positive for elevated levels of soluble copper. The "stained soil" was located in the central portion of the site and was found positive for elevated concentration of petroleum hydrocarbons. The "dry pond" area was also located in the southern portion of the site and also tested positive for petroleum hydrocarbons. The laboratory analysis found that the types of hydrocarbons found on the site are related to motor oil.

A Phase II Environmental Site Assessment Update was prepared by AMEC Environment & Infrastructure, Inc. on June 30, 2014. The Claremont University

Consortium is currently in compliance with the reporting and monitoring requirements established in LARWQCB Order No. 00-070, Waste Discharge Requirements for Claremont University Center (Claremont Landfill), dated May 4, 2000, and revised May 25, 2000 (see Appendix I). Site reconnaissance was performed on February 25, 2014.

The field geologists confirmed previous observations of the location of the groundwater monitoring well (Well A). Of the two potential observation wells identified in the 2008 Phase II ESA, only one (Well 12) was observed during the 2014 site reconnaissance. The well identified as "Well" at the south central area of the CUC quarry in 2008 was not found during the site reconnaissance in 2014. A two-inch diameter polyvinyl chloride (PVC) pipe was identified approximately 75 feet east-southeast of Well A and is considered a potential observation well or potential vapor monitoring well.

The area of "stained soil" consisting of darker-colored soil with a slight hydrocarbon odor observed in the southern central portion of the site and sampled during the 2008 Phase II site reconnaissance was not observed during the 2014 site reconnaissance. The pattern of the stained area as observed in 2008 was consistent with a leak of oil from moving equipment and stained soil was likely very limited in depth. The stained soil was located in an area subject to heavy traffic at the quarry and was likely very limited in depth. Based on the location and limited extent of the stained soil observed, and the likelihood that petroleum hydrocarbons, if remaining in the area, will degrade over time, no additional actions are recommended to address the previously-observed stained soil in this area.

The "orange soil" observed previously was analyzed for TPHcc, VOCs, and metals. Following confirmation that the "orange soil" contained elevated levels of total and soluble copper, the soils were removed and disposed of by a licensed contractor. American Integrated Services, Inc. excavated and placed approximately ten cubic yards of soil in a 20-cubic yard containment bin. The orange soil was easily distinguishable from surrounding and underlying soil based on color. On June 9, 2014, following excavation and containment of the "orange soil", AMEC collected a confirmation sample (20140609-P1) of soil underlying the orange soil to confirm removal of soils with elevated copper concentrations. Results of these analyses indicated that the soil remaining in place following removal of the "orange soil" did not contain elevated concentrations of total or soluble copper. No additional actions have been recommended for this area. Potential future impacts to human health and the environment would be less than significant.

The majority of construction activities needed to construct future potential sports facilities involves grading and planting of turf. Other construction activities would include asphalt cutting and laying for on- and off-site roadway improvements and pouring concrete for sidewalks. Pouring of concrete could also be required in the construction of ancillary facilities and offices. Trenching and laying of utility lines for sewer and water service would also be required. These activities are common construction activities and do not result in the substantial production of hazardous wastes. Any hazardous wastes produced during future potential construction

activities would be required to be collected, transported, and disposed of in accordance with State and federal regulations, including CCR Title 22. Future potential construction would not result in a substantial impact to human health or the environment due to the production of hazardous wastes with implementation of existing regulations.

Operation of the future sports facilities would involve maintenance activities such as mowing of playfields and landscape maintenance. Operation would also include sporting events such as baseball and football games. These activities are not associated with the production of hazardous wastes. Operation of the project would not result in the production of hazardous wastes.

Construction and operation of the potential future sports facilities could expose persons to the hazardous substances currently located on the project site. Construction workers could be exposed during earthmoving activities. Future students and other visitors to the future sports facilities could be exposed if the contamination is not removed prior to opening of the facilities. This constitutes a potentially significant impact to human health. Site contamination could also impact the environment, if removal of the contamination is improperly disposed of without cleaning.

To ensure that potential future impacts to humans and the environment are minimized, Mitigation Measures 4.6.A-1 and 4.6.A-2 will be incorporated. Mitigation Measure 4.6.A-1 requires that contaminated soil be excavated and properly disposed of prior to beginning of any earthmoving activities associated with potential future development of sports facilities and Mitigation Measure 4.6.A-2 requires that a Soils Monitoring and Contingency Plan identifying procedures for remediating any previously unidentified chemically contaminated soils be prepared. This will ensure that the health of construction workers and users of the sports facilities would not be impacted because the soil contamination would be removed. This will also ensure that the environment is not substantially impacted because soils will be treated and disposed of in compliance with applicable regulations (such as CCR, Title 22). Potential future impacts to human health and the environment would be less than significant with mitigation incorporated and implementation of existing regulations.

## Scoping Comments, San Bernardino County

The San Bernardino County, Department of Public Works, Division of Solid Waste, submitted a comment on March 11, 2010 in response to the Notice of Preparation related to generation of hazardous wastes. This comment is addressed as follows:

E.4 This comment relates to the potential generation of hazardous wastes during construction and operational activities. As discussed in Impact 4.6.A above, the proposed subdivision would not result in the production of hazardous wastes. Future potential construction of on- and off-site facilities and improvements are common construction activities and would not result in the substantial production of hazardous wastes. Operation of the sports fields

would not result in the production of a substantial amount of hazardous wastes.

**IMPACT 4.6.B**

***Impacts to persons working or residing within the vicinity of Cable Airport due to compatibility issues with the proposed subdivision and future sports facilities would be less than significant with mitigation incorporated and implementation of existing regulations***

Obstruction of air navigation and the safety of persons working or living in the area of Cable Airport are the primary hazard-related concerns involving compatibility between the project and Cable Airport operations. Obstructions occur when structures of particular height are constructed within the approach and departure areas of an airport. Airport operations can also be impacted by smoke, glare, excessive lighting, and interference from electronic devices. These concerns are related to the potential for increases in aircraft crashes that can injure or kill persons on the ground as well as the crew and passengers of involved aircraft. The potential for injury or death increases when the density of persons on the ground is increased. Potential impacts related to the potential future development of the site as identified in the Master Site Plan, Site Plan, and development agreements are discussed below.

## Obstruction of Air Navigation

Based on the preliminary elevations presented on the tentative parcel map (see Exhibits 3.7 and 3.8) and general location of sports facilities identified in the Master Site Plan, Site Plan, and development agreements, the most elevated sports-related improvement would be the sand volleyball court located in the northwest corner of the project site. This court is conceptually designed to have a final pad elevation of 1,307 AMSL. This elevation is below the estimated allowable elevations presented in Table 4.6.1 for approach and horizontal surfaces, as are all potential future improvements identified in the Master Site Plan, Site Plan, and development agreements. Light poles on the project site are proposed at the parking lots, at the football field, at the baseball field, at the softball field, all-purpose athletic fields, and anywhere along the project perimeter where street lights currently are not constructed. Football field lighting would be a maximum of 80 feet in height. The football field is at 1,209 AMSL and would put field lighting at 1,289 AMSL. This is below the 1,589 AMSL height thresholds presented in Table 4.6.1. The baseball and softball field lighting would be no more than 60 feet in height. The baseball and softball fields are proposed at an elevation of 1,224 AMSL and 1,219 AMSL, respectively, putting field lighting at a maximum elevation of 1,284 AMSL and 1,279 AMSL. This is below the 1,589 AMSL horizontal surface limit. Field lighting proposed for the all-purpose athletic fields would be no more than 60 feet in height. Parking lot lighting would be limited to 15 feet in height pursuant to the Claremont Zoning Code. The highest elevation of the parking lot is located in the northwest portion of the site area, near the volleyball courts. With the parking lot at a maximum approximate elevation of 1,307 ASML, parking lot lighting would be at an elevation of 1,322 and is below the 1,472 AMSL threshold presented in Table 4.6.1.

Construction of light poles would result in less than significant impacts related to obstruction of air navigation.
Tragedy

Beyond the height of lighting fixtures, illumination from the fixtures can also impact airport operations. Pursuant to the Upland and Claremont Zoning Codes, all on-site lighting is required to be shielded and oriented so as to result in no light spillover onto adjacent properties (see Section 4.1 for further discussion). This would prevent lighting from potentially impacting approaching or departing aircraft because the light would not be substantially visible due to shielding and orientation. This proposed project is also subject to Mitigation Measure 4.1.A-1 that would eliminate the potential for glare from future development (see Section 4.1 for more details). Future development within the airport influence area is also subject to FAA review that would also be responsible for identifying any concerns related to lighting. Lighting associated with the proposed project would result in less than significant impacts related to obstruction of airport operations with mitigation incorporated and standard regulations implemented.

Based on these observations (as identified in the project aeronautical report, attached as Appendix J), impacts related to the obstruction of Cable Airport operations due to the height of the proposed structures would be less than significant. Future development proposals on the project site would be subject to both the City of Upland and the City of Claremont standard review processes for those portions of the project site within their respective jurisdictions. This would include review by the FAA in accordance with the requirements of federal law and the provisions of the Caltrans Handbook and the ALUP, if necessary. For example, if any structure were proposed to be greater than 200 feet in height or if a structure would project into any of the imaginary surfaces, the project proponent would be required to submit a Notice of Intent to Construct to the FAA. FAR Part 77 has been incorporated as a standard condition to ensure that future development complies with applicable federal regulations and will be included in the project Mitigation Monitoring Reporting Program. Height-related impacts to Cable Airport operations would be less than significant with incorporation of mitigation and implementation of existing regulations and review procedures.

Potential obstruction of airport operations is not limited to the height of structures but also includes electromagnetic interference, lighting and glare effects, and production of smoke. As discussed in Section 4.1, potential future development guided by the Master Site Plan, site Plan, and development agreements would not result in substantial light or glare impacts with mitigation incorporated; therefore, excessive light and glare would not significantly impact operations at the airport with incorporation of Mitigation Measure 4.1.A-1.

Future potential development and activities guided by the Master Site Plan, Site Plan, and development agreements could result in the emission of electronic frequencies that may or may not interfere with aircraft navigation in the vicinity of the airport. Electronic interference could occur due to the use of mobile phones by students and employees and use of radios by maintenance and other personnel.

This would be of particular concern during sporting events because of the potential for increased use of electronic devices.

To ensure that impacts related to smoke and electronic interference are not substantial, Mitigation Measures 4.6.B-1 and 4.6.B-2 will be incorporated. Mitigation Measures 4.6.B-1 establishes a performance standard for any potential future facilities that limit the production of smoke and emission of electronic frequencies to levels that would not impact operations at Cable Airport. The establishment of measures for adhering to Mitigation Measure 4.6.B-1 and 4.6.B-2 would be implemented during Upland and Claremont's standard review process and through the FAA's procedures for proposed development near an airport, including compliance with FAR Part 77 and filing of the Notice of Construction or Alteration (currently FAA Form 7460-1), when necessary based on the proposed height of the structure. Implementation of Mitigation Measure 4.6.B-1 and existing regulations and standards will ensure impacts related to smoke and electronic interference would be less than significant.

## Safety Compatibility

The following discusses potential safety impacts in terms of the applicable regulatory and planning documents applicable to Cable Airport. Table 4.6.2 (Safety Compatibility Summary) compares the project specifications to each safety requirement and provides a summary consistency determination. Exhibit 4.6.4 (Safety Compatibility) identifies the applicable safety zones and the estimated density within each zone.

**Table 4.6.2**
**Safety Compatibility Summary**

| Zone | Requirement Summary | Consistency Determination |
|---|---|---|
| *Federal Aviation Regulations* | | |
| Runway Protection Zone | **Land Use Limitation.** Agriculture, golf course, and similar land use permitted; structures and congregations of people incompatible. | **Not Applicable.** No portion of the project site is located in this zone. |
| *Cable Airport Comprehensive Land Use Plan* | | |
| Clear Zone | **Land Use Limitation.** Open space and Agricultural uses permitted; structures are incompatible. | **Not Applicable.** No portion of the project site is located in this zone. |
| Safety Zone 1 | **Incompatible Land Uses.** Hazardous installations, new residential development, and institutional buildings | **Consistent.** The project is not a hazardous installation or new residential development; the project is an institutional use but does not propose structures in this area. |
| | **Runway Setback.** No buildings/structures permitted within 75 FT of the extended centerline of the runway in this area. | **Consistent.** The project does not propose any structures within this setback area. |
| | **Concentrations of People.** New uses resulting in more than 100 persons are subject to Airport Land Use Commission. | **Consistent.** The project would result in more than 100 persons; rationale for a consistency finding by the Upland Airport Land Use Committee is summarized below. |
| | **Intensity Restrictions.** Require density/intensity restrictions in this area. | **Consistent.** While the ALUP does not explicitly identify an intensity restriction, the project would result in less than 6,554 persons at anyone time (100 persons/acre) with a maximum of approximately 5,200 persons* if all facilities are in use at the same time (please see discussion of intensity limitations under the *Caltrans Airport Planning Land Use Handbook* discussion). |

| Zone | Requirement Summary | Consistency Determination |
|---|---|---|
| | **Performance Standards.** Uses in the area should not reflect glare, emit electronic interference, or produce smoke. | **Consistent.** The proposed project would not reflect glare (see Section 4.1), does not propose any uses that emit high levels of electronic interference, and does not produce smoke. |
| Safety Area 2 | **Incompatible Structures.** No structure or object shall be constructed that penetrates FAR Part 77 imaginary surfaces. | **Consistent.** No structures are proposed that would penetrate the airport's imaginary surfaces (see Table 4.6.1). |
| | **Performance Standards.** Uses in the area should not reflect glare, emit electronic interference, or produce smoke. | **Consistent.** The proposed project would not reflect glare (see Section 4.1), does not propose any uses that emit high levels of electronic interference, and does not produce smoke. |
| *Caltrans Airport Planning Land Use Handbook* | | |
| Zone 4 | **Density Limitations.** Limit residential uses to very low densities. | **Not Applicable.** The project does not include any residential uses. |
| | **Intensity Limitations.** Avoid moderate to high intensity non-residential uses including outdoor sports venues, major shopping centers and theaters. Densities should not exceed 80 to 100 persons per gross acre in developed, urban areas. | **Consistent.** The project would result in less than 6,554 persons at anyone time (100 persons/acre) with a maximum of approximately 5,200 persons* if all facilities are in use at the same time. |
| | **Prohibitions.** Children's schools, hospitals, nursing homes, or hazardous uses such as above ground fueling storage are prohibited. | **Not Applicable.** The project does not include any children's schools, hospitals, nursing homes, or hazardous uses. |
| Zone 6 | **Restrictions.** Avoid children's schools, large day care centers, hospitals, and nursing homes. | **Not Applicable.** The project does not include any children's schools, large day cares, hospitals, nursing homes. |

| Zone | Requirement Summary | Consistency Determination |
|---|---|---|
| | **Prohibitions.** Should prohibit open stadiums and similar uses within very high intensities. | **Consistent.** The project does not include an open stadium (although it does include outdoor fields) and is not of "very high" intensity (more than 100 persons per gross acre). |
| * Addresses most extreme potential with simultaneous use of baseball, softball, football, multi-purpose, and all-purpose fields | | |

Federal Aviation Regulations

The three airport compatibility sources, the FAA, the Caltrans Handbook, and the ALUP identify the areas located immediately off the ends of the runway as having high risk exposure due to arriving and departing aircraft and designate these areas as "Runway Protection Zones". The ALUP refers to these areas as "clear zones". The project site is not located within these areas. Only the ALUP and the Caltrans handbook address additional risks beyond these areas; therefore, the project would not conflict with FAR land use compatibility regulations and no further discussion of consistency with FAR regulations is required.

Cable Airport Comprehensive Airport Land Use Plan

A portion of the site is located within Safety Zone 1 of the ALUP. Approximately 3.4 acres of the northern portion of the site is located in Safety Zone 1 based on preferred flight path from Cable Airport that incorporates a left turn towards the east after departure. The ALUP identifies the following land uses as incompatible within Safety Zone 1: hazardous installations such as oil or gas storage, new residential development, and institutional facilities. In the aeronautical consultant's report, institutional facilities are presumed to be buildings. Further restrictions involve limiting the density and intensity of uses, requiring buildings or structures to be located a minimum of 75 feet from the extended centerline of the runway, and requiring large concentrations of persons (100 or more people) to be subject to approval of the Airport Land Use Committee (ALUC). Lastly, any uses within Safety Zone 1 should not create glare, create electronic interference, or produce smoke. The Master Site Plan, Site Plan, or development agreements do not propose any buildings within Safety Zone 1 that could encroach in the 75 FT runway extension setback or conflict with the incompatible land uses requirements of the zone. Potential future facilities identified within Safety Area 1 include a sand volleyball court, a portion of the new parking area, and a multi-purpose field. The project would serve more than 100 persons and therefore is subject to review by the Upland Airport Land Use Committee. While the ALUP did not adopt specific density or intensity limitations for this zone, the project would not result in more than 100 persons per acre. The most intense usages proposed by the project are sporting events at the football field that could accommodate 3,500 total spectators, excluding teams, coaches, and other personnel. Softball and baseball events can accommodate a maximum of 500 spectators each. The all-purpose fields in the southern portion of the project site can accommodate a total of 200 spectators. Assuming approximately 200 additional persons to account for teams, coaches, and other personnel during football games, 100 during baseball and softball games, and

100 persons using the multi-purpose fields, the proposed sports facilities could accommodate a maximum of 5,200 people if a football, baseball, and softball game occurred simultaneously. This is less than 6,554 people that would equate to 100 persons per gross project acre (100 persons * 65.54 acres). Consistent with this discussion, the aeronautical consultant's report found that the potential athletic uses identified in Safety Area 1 comply with the ALUP criteria.

The remainder of the site is situated in Safety Zone 2, as depicted in the ALUP. Safety Zone 2 is described as having a moderate crash hazard with the following land use limitation listed: "no structure shall be constructed or object permitted that would penetrate the airport imaginary surfaces as defined in Federal Aviation Regulations Part 77". In addition the limit on glare, electronic interference, and the production of smoke are re-stated. As previously identified in Table 4.6.1 and discussed in "Obstruction of Air Navigation", the proposed sports facilities do not include structures that would conflict with FAR Part 77 imaginary surface height restrictions. The proposed project would not reflect glare (see Section 4.1), does not propose any uses that emit high levels of electronic interference, and does not produce smoke. The proposed sports facilities would be consistent with Safety Area 2 compatibility requirements.

Based on this analysis and the determination in the project evaluation of airport land use compatibility (Appendix J), the required Land Use Findings of the ALUP are supported by the project, as follows:

1. The proposed sports facilities are ". . . not contrary to the best interest of the airport and adjacent area" because:
   a. The portion of the site closest to the airport is not part of the project (referring to Lots 1,2, and 3 of TTM 18989);
   b. The proposed project is consistent with FAA, Part 77 and is not likely to be found by the FAA to be a hazard to air navigation;
   c. There would be no noise impacts;
   d. The project offers better options to a pilot in distress than the existing quarry;
   e. The project is an important adjunct to the Claremont Colleges; and
   f. The project would not negatively affect airport operations or growth options.
2. "The level of risk to lives and potential for destruction of property due to a single aircraft accident is within the range of *acceptable*" because:
   a. Activities involving the bleachers are not continuous nor simultaneous;
   b. Bleachers are seldom 100 percent occupied;
   c. When options exist during an emergency, the playing fields and parking area offer better opportunities to the pilot than do bleachers;
   d. The dominant operations are small, single-engine aircraft with relatively small accident sites; and
   e. The more probable aircraft accident sites are closer to the airport.

## Caltrans Airport Planning Land Use Handbook

The premise used by Caltrans in developing their most recent land use compatibility guidelines involves National Transportation Safety Board statistics for aircraft accidents, the probability of an accident occurring, location of accident sites and the risks and consequences to people in the aircraft and on the ground. Data for a ten-year record of aircraft accidents nation-wide were investigated with particular interest in accidents involving people and structures on the ground. Risk exposure for various land uses is derived from this accident data. Elements related to the definition of Caltrans "Safety Compatibility Zone" are probability, location, risk exposure, and consequences.

The Cable Airport is defined as a short general aviation runway with less than 4,000 feet of runway length. Based on Caltrans Handbook's six general safety zones, approximately 6.5 acres of the project site lie within the Outer Arrival/Departure Zone 4. Remaining areas of the site are located in Traffic Pattern Zone 6.

The Caltrans Handbook establishes the following limitations for the Outer Arrival/Departure Zone 4:

- Limit residential uses to very low densities. Consider noise exposure limits.
- Avoid non-residential uses to those having moderate to high usage intensities (assumed to include outdoor sports venues with high intensities). Avoid major shopping centers, theaters, buildings with more than three floors. Densities should not exceed 80 to 100 persons per gross acre in developed, urban areas.
- Prohibit children's schools, hospitals and nursing homes.
- Prohibit hazardous uses such as above ground fuel storage.

Limitations in Traffic Pattern Zone 6 include:

- Allow residential uses.
- Allow most non-residential uses.
- Prohibit open stadiums and similar uses with very high intensities.
- Avoid children's schools, large day care centers, hospitals, and nursing homes.

The Caltrans Handbook usage intensities are calculated in consideration of the entire site, regardless of streets or parcel lines (gross acres). The Caltrans Handbook states that "Nonresidential land use intensities (people per acre), as well as residential densities (dwelling units per acre), should both generally be calculated on the basis of gross acreage."

The most intense usages proposed by the project are sporting events at the football field that could accommodate 3,500 total spectators, excluding teams, coaches, and other personnel. Softball and baseball events can accommodate a maximum of 500 spectators each. The all-purpose athletic fields at the southern portion of the site can accommodate a total of 200 spectators. Considering the Caltrans Handbook recommends a limit of 80-100 persons per gross acre for non-residential development in an urban area and based on a project site size of 65.54 AC, user densities could range between approximately 5,244 persons to 6,554 persons at

any one time. Assuming approximately 200 additional persons to account for teams, coaches, and other personnel during a football game, 100 during baseball and softball games, and 100 persons using the multi-purpose fields, the proposed sports facilities would not exceed the maximum 6,554 persons per acre threshold with 5,200 persons if all major sporting events were occurring at the same time. Furthermore, as identified in Exhibit 4.6.4, the project would not exceed the density thresholds within each zone with a maximum density of 14.7 persons per acre in Zone 4 and 96.0 persons per acre in Zone 6. The Chapter 9, Page 9-2 of the Caltrans Handbook notes "…that people outdoors have more of a chance to see a plane coming as well as more directions in which they can move to vacate the impact area. A greater concentration of people thus is sometimes considered acceptable for such land uses." The proposed outdoor sports facilities are supported by this statement. Additionally, the project does not include an open stadium which is defined by Caltrans as a use "where a large number of people are confined in a small area with limited exists."

The Caltrans Airport Land Use Planning Handbook (Caltrans Handbook) provides a method for judging risk acceptability for development proposed within the vicinity of an airport. Risk is assessed by combining the anticipated frequency of accident occurrence with the magnitude of adverse consequences for persons and property. Accident frequency is gauged on a five-point scale qualified from least potential for accidents to greatest as *Extraordinary, Rare, Uncommon, Occasional,* and *Frequent*, respectively. According to the project airport compatibility report (Appendix J), Cable Airport has a *Rare* frequency of accident occurrence, the second least potential for accidents (above "Extraordinary"). Consequences are rated on 5-point scale from least to greatest as *Negligible, Minor, Major, Sever,* and *Disastrous*, respectively. The project airport compatibility report indicates that consequences associated with aircraft accidents at Cable Airport are Major, the middle tier on the consequence scale. Pursuant to the Caltrans Handbook, land uses proposed in the vicinity of airports with *Rare* accident occurrences and *Major* consequences are considered to be subject to *Acceptable Risk. Acceptable Risk* is the lowest level of risk to property and persons that can be calculated using the Caltrans Handbook with *Significant Risk* and *Intolerable Risk* beyond that.

### *Consultation with Cable Airport*

To ensure that impacts related to operation of the proposed sports facilities, Mitigation Measures 4.6.B-1 through 4.6.B-3 will be incorporated at the request of Cable Airport. Mitigation requires that Cable Airport be notified of any large, special events in order to issue a "Notice to Airmen" (NOTAM) to minimize overflight of an event. NOTAMs are created by government agencies and airport operators pursuant to the guidelines of the Convention on International Aviation (CICA) and transmitted to the FAA for publication in accordance with FAA Order JO7930.2M (February 11, 2010).[13] NOTAMs are important advisories that air traffic controllers, technical operations services, airport management, and pilots use to avoid hazardous conditions within the National Air Space (NAS) as outlined in Order JO7930.2M and the federal code of regulations. Issuance of a NOTAM for special events would help minimize the potential for aircraft crashes over the event. Mitigation also requires that avigation easements be attached to each parcel on the

project site to ensure future purchasers are aware that Cable Airport has the perpetual right and easement for the unobstructed flight of aircraft over the parcel. This will ensure that future property owners are bound to and understand the requirements for maintaining safe airport operations. Safety impacts related to potential future operation of the project site would be less than significant with mitigation incorporated.

## Scoping Comments, Caltrans Division of Aeronautics

The California Department of Transportation (Caltrans), Division of Aeronautics, submitted comments on March 1, 2010 in response to the Notice of Preparation related to operation of Cable Airport (see Scoping Letter C in Appendix A). These comments are addressed as follows:

C.1 Caltrans recommended that the proposed project should be coordinated with Cable Airport. The project has been proposed in coordination with Cable Airport. Specifically, the project proponent met with Bob Cable in November 2007 and September 2008, president of Cable Airport, to discuss the Master Site Plan, Site Plan, and development agreements. Mr. Cable submitted a letter to the City of Upland on September 12, 2008 indicating the acceptability of the project with implementation of Caltrans Airport Land Use Planning Handbook.

C.2 This comment identifies requirements for land acquisition for community colleges. The project is not part of a community college or within community college district; therefore, this comment does not apply to the project.

C.3 This comment outlines the applicability of the California Airport Land Use Planning Handbook to the project. The project has been analyzed for consistency with the California Airport Land Use Planning Handbook and found to be consistent with implementation of mitigation measures, as discussed in Impact 4.6.B above.

C.4 This comment identifies the general applicability of FAR Part 77 to the project. Standard conditions require issuance of a determination by the FAA prior to issuance of building permits for buildings meeting the height limitations or otherwise be required to submit a Notice of Intent to Construct as established in FAR Sections 77.13, 77.14, and 77.17, to ensure compatibility of any future potential facilities.

## *Standard Conditions*

**CCR 22**

**California Code of Regulations.** The handling, transport, and disposal of any hazardous materials shall comply with the requirements of California Code of Regulations Title 22.

**FAR 77**

**Federal Aviation Regulations.** Prior to issuance of building permits, any proponent of construction on the project site subject to the requirements of Federal Aviation Regulations related to obstruction of airport operations (currently initiated through filing of a Notice of Intent to Construct, Form 7460-1) shall submit to the approving jurisdiction an official determination by the Federal Aviation Agency pursuant to Federal Aviation Regulations Part 77 verifying that proposed structures and activities shall not obstruct or otherwise interfere with the operation of Cable Airport.

## *Mitigation Measures*

**MITIGATION 4.6.A-1**

Prior to initiation of any ground disturbing activities as part of the East Campus Sports Complex construction, those areas identified in the project Phase II Environmental Site Assessment as being contaminated by total petroleum hydrocarbons-carbon chain (TPHcc) (identified as the "stained soil" and in the "dry pond" area) shall be excavated by a qualified contractor, characterized for waste classification, and transported to an appropriate facility for treatment and disposal. All remedial work shall be coordinated with the Los Angeles Regional Water Quality Control Board for agreement with the remedial action plan and all necessary approvals obtained. A final soil analysis shall be conducted within the excavated areas to affirm complete removal of all identified spills. The remedial action plan and final soils analysis shall be submitted to the appropriate jurisdiction's Director of Development Services or Community Development Director for review and approval prior to initiation of earthmoving activities as part of the East Campus Sports Complex construction in areas of known contamination.

**MITIGATION 4.6.A-2**

The applicant shall prepare a Soils Monitoring and Contingency Plan prior to the issuance of grading permits for the East Campus Sports Complex. This plan shall specifically identify procedures for remediating any previously unidentified chemically contaminated soils within the East Campus Sports Complex site, including proposed methods to identify the nature, source, and estimated volume of the released contamination, identify the lateral and vertical extent of the soils and/or groundwater contamination, and identify the concentration of the contaminates.

**MITIGATION 4.6.B-1**

Any activity proposed on the project site (including long-term operational activities and short-term special events) shall be prohibited from emitting smoke (or visibility-reducing emissions) or producing electromagnetic frequencies at levels that could interfere with the safe operation of Cable Airport.

**MITIGATION 4.6.B-2**

No more than 72-hours prior to commencement of any large, special one-day events, the property owner of the property where the event is to be held shall ensure the event proponent notifies the Cable Airport authority to issue a "Notice to Airmen" to avoid overflight of the event.

**MITIGATION 4.6.B-3**

Prior to recording of final parcel maps, the project proponent shall provide a copy of a recorded and deed restricted avigation easement between the property owner (grantor) and Cable Airport (grantee) establishing a perpetual right and easement for the unobstructed flight of aircraft over and in the vicinity of each proposed parcel and the perpetual right to cause noise and other impacts inherent in the operation of aircraft of all types to the approving jurisdiction.

## *Level of Significance with Mitigation Incorporated*

- Impact 4.6.A would be less than significant with Mitigation Measure 4.6.A-1 incorporated and implementation of existing regulations
- Impact 4.6.B would be less than significant with Mitigation Measures 4.1.A-1, 4.6.B-1 through 4.6.B-3, and FAR Part 77 incorporated

[1] Geomatrix Consultants. Final Phase I Environmental Site Assessment Report, Pit Property. June 2004

[2] AMEC Geomatrix. Phase II Environmental Site Assessment, CUC Quarry Site. September 2008

[3] AirNav. KCCB: Cable Airport. www.airnav.com/airport/KCCB [September 8, 2014]

[4] Walter E. Gillfillan and Associates. Evaluation of the Land Use Compatibility Issues Associated with the Proposed Development of the Claremont Colleges Quarry Site near Cable Airport. December 2007

[5] California Department of Toxic Substances Control. EnviroStor. Advanced Search: Upland, All Statuses. www.envirostor.dtsc.ca.gov/public/search.asp [September 8, 2014]

[6] California Department of Toxic Substances Control. EnviroStor. Advanced Search: Claremont, All Statuses. www.envirostor.dtsc.ca.gov/public/search.asp [September 8, 2014]

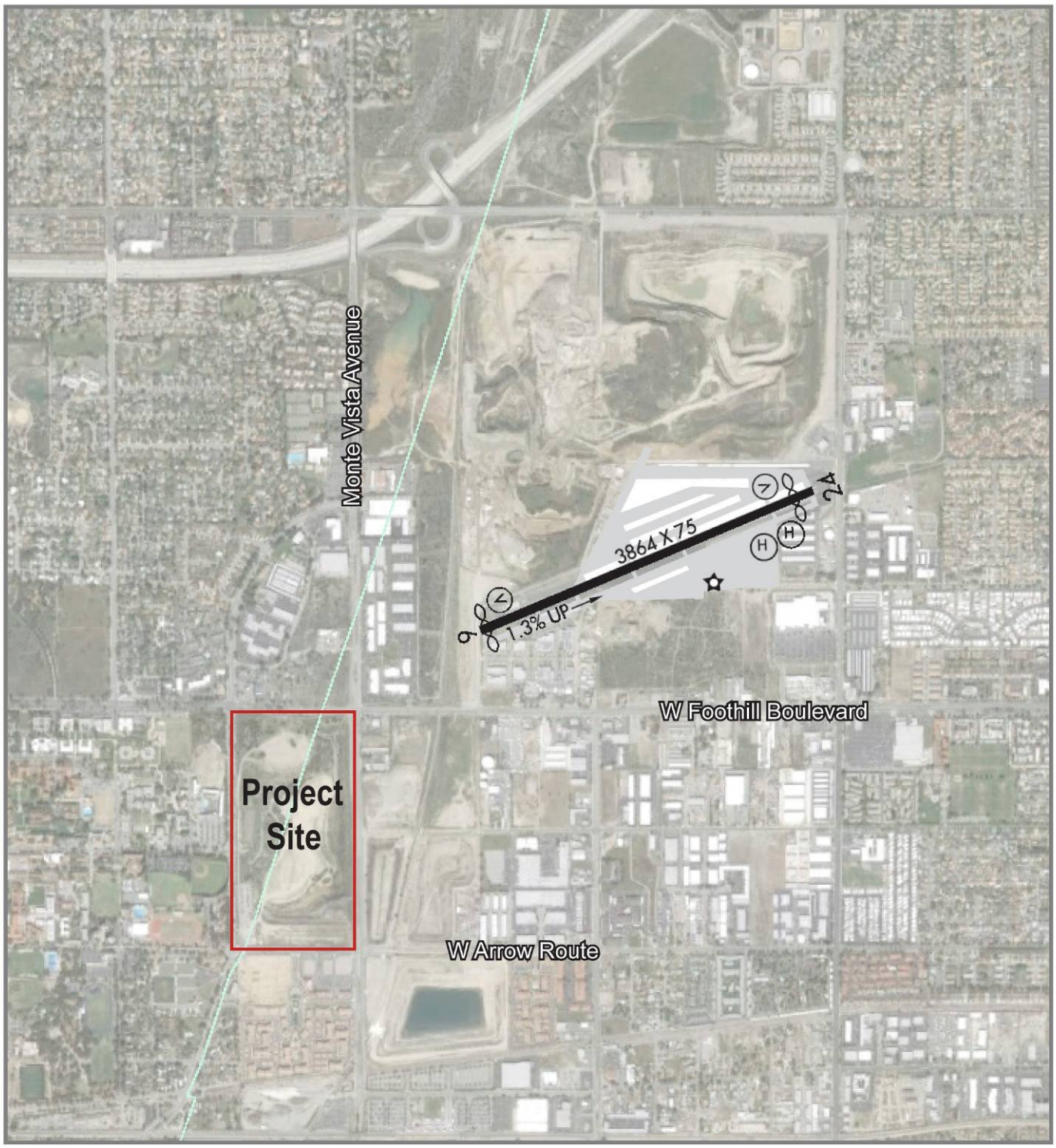
[7] California State Water Resources Control Board. GeoTracker: Upland. geotracker.waterboards.ca.gov/ [September 8, 2014]

[8] California State Water Resources Control Board. GeoTracker: Claremont. geotracker.waterboards.ca.gov/ [September 8, 2014]

[9] California State Water Resources Control Board. Sites Identified with Waste Constituents Above Hazardous Waste Levels Outside the Waste Management Unit. www.calepa.ca.gov/SiteCleanup/CorteseList/CurrentList.pdf [September 8, 2014]

[10] California State Water Resources Control Board. List of Active CDO and CAO. www.calepa.ca.gov/SiteCleanup/CorteseList/CDOCAOList.xls [September 8, 2014]
[11] California Department of Toxic Substances Control. Hazardous Facilities Subject to Corrective Action. www.calepa.ca.gov/SiteCleanup/CorteseList/SectionA.htm#Facilities [September 8, 2014]
[12] West Valley Planning Agency Airport Land Use Commission. Cable Airport Comprehensive Land Use Plan. December 1981
[13] Federal Aviation Administration. ORDER JO7930.2M. Notices to Airmen. February 11, 2010

This document is designed for double-sided printing to conserve natural resources




Runway
Obstruction
Heliport
Airport Beacon
Displaced Threshold

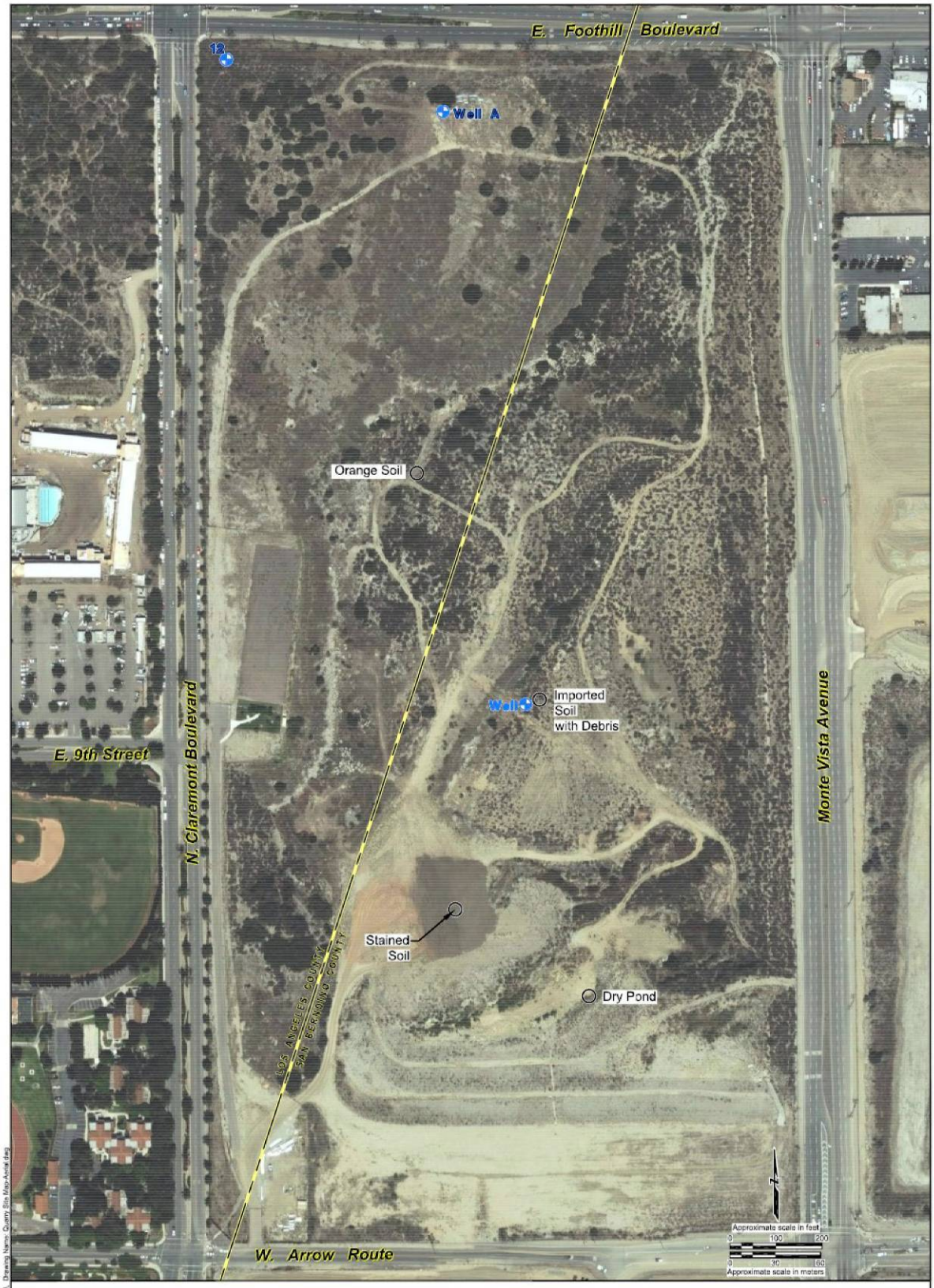
Not to Scale

Source: FAA 2010

# Exhibit 4.6-1 2014 Cable Airport Runway

MIG | Hogle-Ireland

Claremont Colleges East Campus EIR
Upland/Claremont, CA




Explanation

Well or potential well (field checked by AMEC Geomatrix, July 2008); designation shown if well is near a historically mapped well location shown on Figure 2

Area of interest with soil sample

Note:

1. All locations are approximate.

Basemap modified from an aerial photo from Google Earth © 2007, a figure by RMA Group, "Geologic Map", and observations made in the field by AMEC Geomatrix, July 10, 2008.

SITE MAP SHOWING FINDINGS DURING SITE RECONNAISSANCE ON JULY 10, 2008

CUC Quarry Site
Claremont and Upland, California

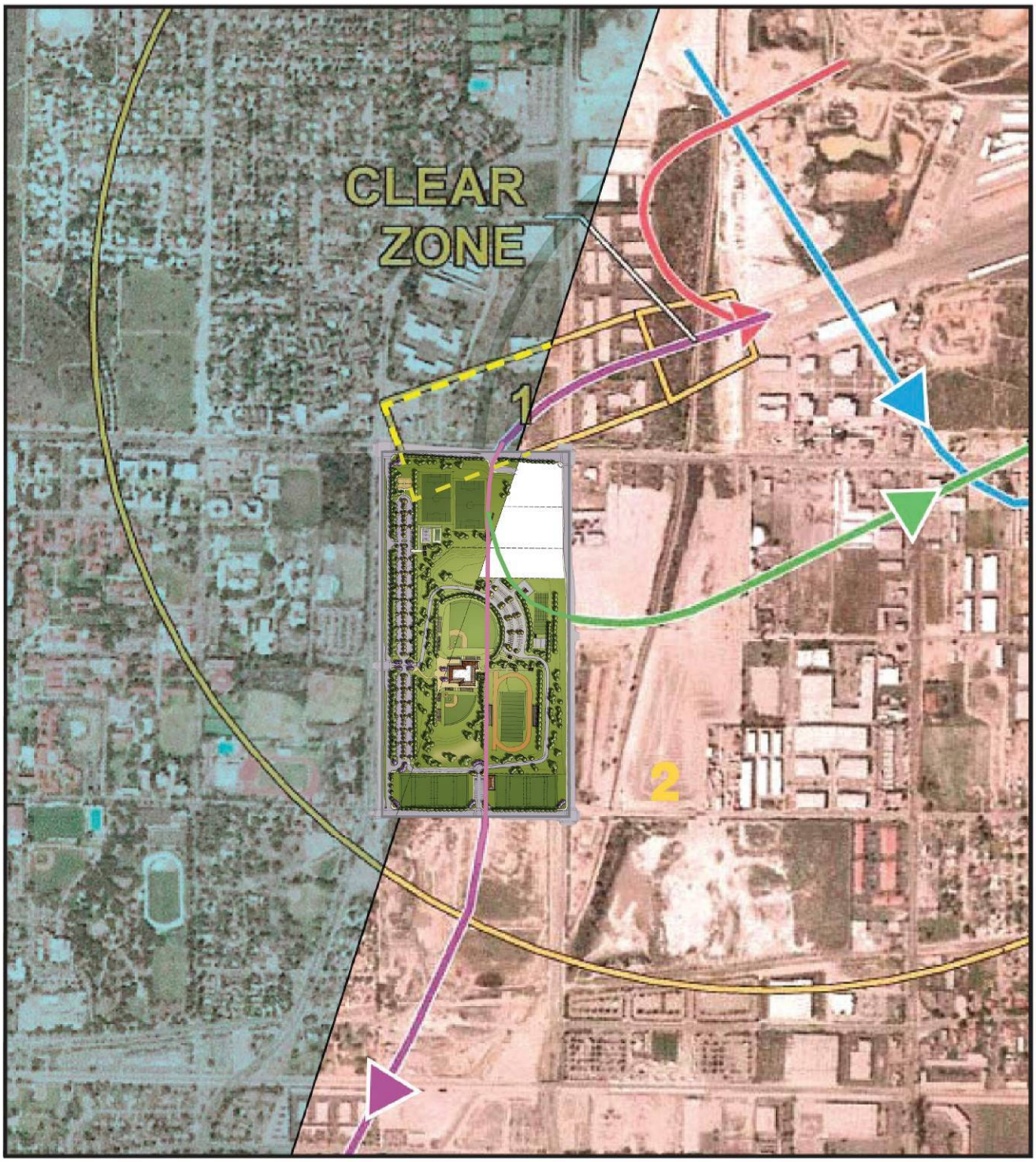
By: jrw | Date: 9/19/08 | Project No. 9234.001

AMEC Geomatrix

Plot Date: 09/19/08 - 1:55pm, Plotted by: jenkar
Drawing Path: W:\Projects\09\9234 (CUC)\ACAD - Graphics\, Drawing Name: Quarry Site Map-Aerial.dwg

Source: AMEC Geomatrix 2008

# Exhibit 4.6-2 2014 Soil Contamination and Sampling




PROJECT BOUNDARY

SAFETY ZONES FROM CABLE AIRPORT COMPREHENSIVE AIRPORT LAND USE PLAN

SAFETY ZONES FROM CABLE AIRPORT COMPREHENSIVE AIRPORT LAND USE PLAN OUTSIDE CITY BOUNDARY

IN CITY OF CLAREMONT

VOLUNTARY FLIGHT PATH

LEFT TURN ENTRY ONTO RUNWAY 6

RUNWAY 24 DEPARTURE

RUNWAY 24 CROSS-WIND ENTRY

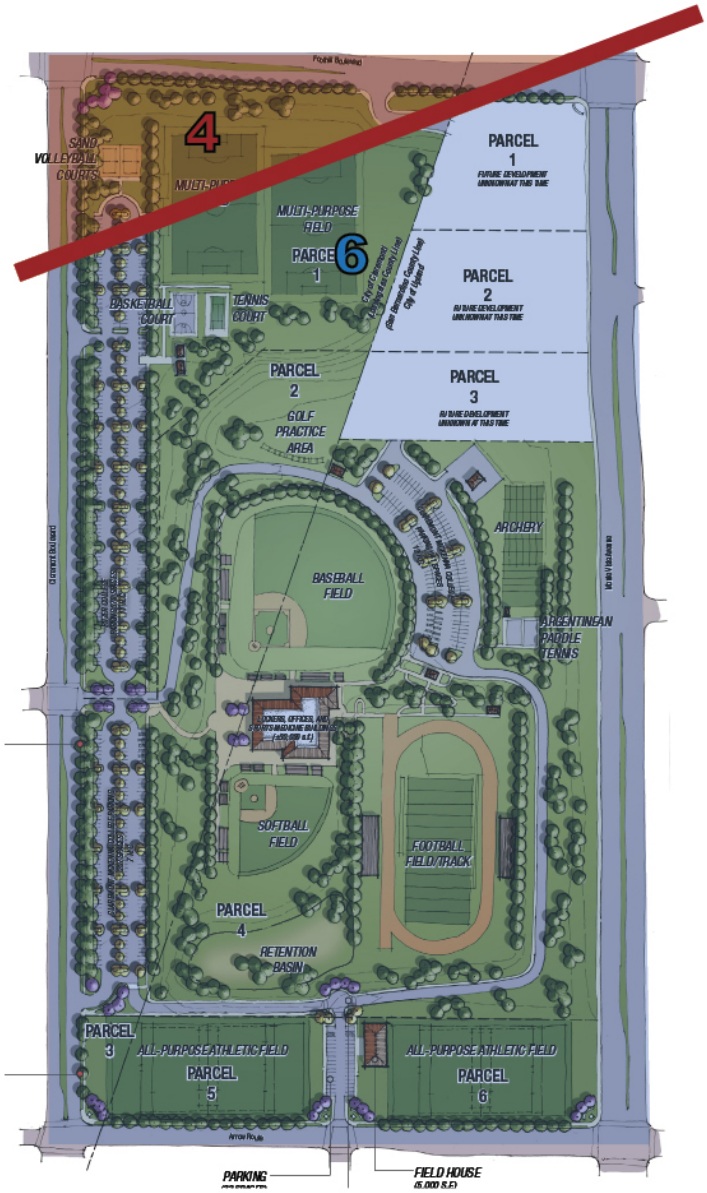
RUNWAY 24 CROSS WIND ENTRY

Source: Walter A. Gillifan and Associates 2007

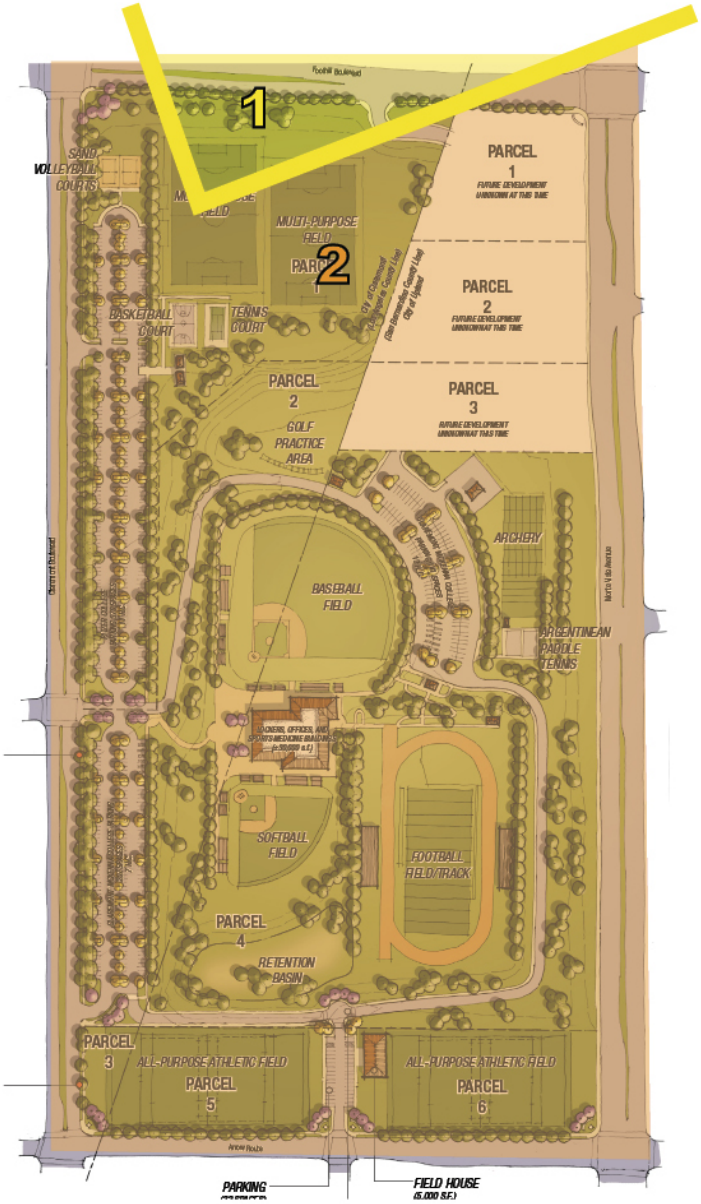
## Exhibit 4.6-3 2014 Clear Zone and Safety Areas

MIG | Hogle-Ireland

Claremont Colleges East Campus EIR
Upland/Claremont, CA




*Caltrans Safety Zones*




*ALUP Safety Zones*

| Zone | Plan | Acres | Persons | Proposed Density | Max Density |
|---|---|---|---|---|---|
| 1 | ALUP | 3.4 | 50 | 14.7/acre | No max |
| 2 | ALUP | 62.14 | 5,150 | 82.9/acre | No max |
| 4 | Caltrans | 6.5 | 60 | 9.2/acre | 80/acre |
| 6 | Caltrans | 59.04 | 5,140 | 87.1/acre | 100/acre |
| | Total Site Average | 65.54 | 5,200 | 79.3/acre | 100/acre |

***Persons:*** *Estimated people to occupy zone at any one time*
***Proposed Density:*** *Maximum density from project at any one time*
***Max Density:*** *Maximum density permitted by applicable airport plan*
***Total Site Average:*** *Average density across entire project site*

Source: MIG | Hogle-Ireland, 2014

# Exhibit 4.6-4 2014 Safety Combatibility

Claremont Colleges East Campus EIR
Upland/Claremont, CA

MIG | Hogle-Ireland

This section will analyze impacts to groundwater resources due to the closure of the existing landfill that would be required to implement the project. This section was completed in part utilizing the Preliminary Geotechnical Assessment (see Appendix G), the Phase I Environmental Site Assessment prepared by Geomatrix (see Appendix H), and the Phase II Environmental Site Assessment prepared by AMEC Geomatrix (see Appendix I). Potential impacts related to water quality standards, groundwater levels, on- or off-site siltation, flooding, dam or levee failure, seiche, tsunamis, and mudflow were found to be less than significant in the project Initial Study and are not discussed in this section.

The Initial Study recognizes the requirements of the National Pollution Discharge Elimination System (NPDES) that includes the preparation of a Storm Water Pollution Prevention Plan (SWPPP) during construction activities and the implementation of Best Management Practices (BMPs) through the preparation of a Standard Urban Stormwater Management Plan (SUSMP) (Los Angeles County) and a Water Quality Management Plan (WQMP) (San Bernardino County) to ensure that short- and long-term impacts to downstream water bodies would be less than significant. Specifically, and as discussed in the project Initial Study (Appendix B), all runoff from the proposed parking lots is proposed to be directed south through vegetated swales and/or perimeter landscaping that will filter contaminants prior to discharge into the proposed retention basin (note that concrete v-ditches may be required on slopes to prevent erosion). These swales and possibly other structural and non-structural BMPs will be incorporated into the project design and long-term maintenance program of the sports fields and other facilities. These measures will be detailed in individual projects' SUSMP/WQMP as required by NPDES Permits issued by the Los Angeles and Santa Ana RWQCBs. Examples of additional BMPs could involve the design of trash enclosures, controls for roof runoff, parking area maintenance requirements, and others as identified in the California Stormwater Quality Association BMP handbooks or as otherwise required by the approving jurisdiction's City Engineer.

No comments related to hydrology and water quality were submitted during the circulation of the Notice of Preparation.

## *Existing Conditions*

### Groundwater Resources

Groundwater basins for this area appear to be associated with the location of the San Jose earthquake fault.[1] The project is underlain by two groundwater subbasins. The northern portion of the site overlies the Pomona as defined by the adjudication of the San Gabriel Valley Groundwater Basin (Basin No. 4-13). The remainder of the site is underlain by the Chino Subbasin (Basin No. 8-2.01), part of the Upper Santa Ana Valley Groundwater Basin.

Regional groundwater flow is generally southward and appears to be affected by the San Jose Fault that crosses in a diagonal direction beneath the site and the

presence of water spreading basins located northeast of the site. A 1979 groundwater contour map assembled from data gathered by the Los Angeles County Flood Control District shows groundwater flowing toward the southwest, north of the San Jose Fault and toward the southeast, south of the fault. Groundwater elevation data collected in 1989 from Flood Control District wells showed a general southwest trend within the vicinity of the site. Both sets of data from 1979 and 1989 listed lower overall groundwater elevations south of the San Jose Fault by approximately 200 to 400 feet, possibly indicating that the San Jose Fault influences groundwater flow beneath the site. In 2003, groundwater elevation contours were mapped at 650 AMSL by the Chino Basin Watermaster, approximately 600 feet below the project site.[2] This same elevation was reported in the 2008 State of the Basin report.[3]

Groundwater levels are generally below the bottom of the quarry floor. Piezometers, a device used to measure ground water levels or hydraulic pressure of groundwater, installed during geotechnical investigations in 1983 encountered groundwater ranging from 180 feet below ground surface to above ground surface in some instances on the quarry floor. A groundwater elevation contour map prepared for the site showed groundwater flow direction toward the southwest with elevations approximately 30 feet lower on the south side of the San Jose Fault. One explanation for the small elevation difference between the north and south sides of the fault could have been the result of large rainfall totals for that year. Measurements taken in 1986 from the piezometers were dry indicating that water levels had dropped below the installed depth of the measuring devices. Groundwater depth measured in 2008 during the preparation of the project Phase II Environmental Site Assessment (ESA) at on-site wells ranged from 53 feet below ground surface to 361 feet below the surface.

Similarly, the geotechnical assessment also found that the historic depth to groundwater has ranged between 400 and 600 feet below ground surface but was reported between 195 and 140 feet below ground surface in 1983. This was attributed to heavy rainfall in the winter of 1982-1983 that could have caused groundwater to temporarily rise and pond in the quarry bottom.[4] The geotechnical assessment also found a relatively impermeable silty layer of soil approximately 50-70 feet below the quarry surface and this coupled with the San Jose Fault acting as a groundwater barrier may have resulted in groundwater flowing to the surface. Another explanation for surface water is due to past water recharging activities in the nearby area that resulted in rising ground water in the basin. Most recharging activities were halted due to rising groundwater levels within the basin.

The Whittier Narrows, Puente Basin, Baldwin Park, and El Monte areas of the San Gabriel Valley Groundwater Basin are classified as Superfund Sites due to contamination by trichloroethylene, perchloroethylene, and carbon tetrachloride. In the project vicinity, the Pomona Subbasin has exhibited high nitrate levels and is contaminated by plumes of volatile organic compounds (VOCs).[5] Impairments in the Chino Subbasin include high concentrations of dissolved solids and nitrate-nitrogen compounds.[6] These contamination plumes begin approximately 13 miles west of the project site with the Baldwin Park Operable Unit.[7]

### Wells

The project Phase II ESA identifies twelve historic wells and the current monitoring well on the project site based on locations identified in previous reports.[8] These wells are identified as Wells 1, 11-20, and Well A and mapped in Figure 2 of the Phase II ESA. Two additional historic wells are identified within the right of way of Monte Vista Avenue. These wells are identified as Wells 5 and 6. During the Phase II site reconnaissance performed in July 2008, three wells were able to be verified. One well was located in the northwest corner of the site, near the historic position of Well 11. This well was dry and constructed of a two-inch polyvinyl chloride (PVC) casing. The second well is the RWQCB monitoring well identified as Well A, located in the north-central portion of the site. It is constructed of a twelve-inch outer steel casing and an eight-inch inner steel casing. Measurements taken during the reconnaissance found the groundwater levels were in excess of 361 feet below the ground surface. The third well was identified in the south-central portion of the site and was constructed of a four-inch, white PVC casing. This well is located about half-way between Wells 18 and 20. No water was detected in this well. Fragments of PVC pipe, potentially corresponding to broken casings of former monitoring wells were found at two separate locations, but no evidence of in-place wells were observed in either area. The other nine wells identified in past reports may still be present on site; however, they were not detected during the Phase II survey.

## *Regulatory Framework*

### California Water Code

The California Water Code establishes the State's right to manage water resources to ensure maximum beneficial usage, prevent unreasonable waste, and promote conservation.[9] Section 13200 *et seq.* establishes the applicable regions of the State and delegates authority to representative Regional Water Quality Control Boards to plan and regulate for maximum benefit of water resources in the region. Specific to the existing landfill on the project site, Waster Discharge Requirements (WDRs) were issued in 2000 and 2001 pursuant to Section 13260 *et al* of the Water Code. Order No. 00-070 was issued by the Los Angeles Regional Water Quality Control Board (RWQCB) and identifies discharge specifications, prohibitions, water quality protection limits, and general provisions for the operation of the landfill.[10] Order No. 00-070 was amended in 2001 to include requirements for waste disposal reporting, groundwater monitoring, sampling and analysis, and other standard provisions.[11]

Section 13700 *et seq.* of the Water Code establishes policies for the construction and destruction of wells, including those located on the project site. The Water Code requires the Department of Water Resources (DWR) to develop standards for well construction and destruction that will prevent degradation of groundwater quality or impairment of beneficial uses. DWR issued Bulletin 74-81 and Bulletin 74-90 pursuant to the Water Code, known as the "California Well Standards", to implement the provisions of the Water Code.

### California Health and Safety Code

California Health and Safety Code Section 115700 *et seq*. requires land owners with onsite wells to properly secure them to prevent injury to persons and children on the premises.[12] This section also identifies that known continuation of a well that is a known or potential pollutant pathway to groundwater resources is a misdemeanor. Permanently inactive wells are required to be destroyed in compliance with the provisions of the Water Code.

### California Public Resources Code

Section 40000 *et seq*. of the California Public Resources Code establishes the State's waste management regulations.[13] Waste management regulations identify landfill facility requirements, handling and disposal standards, and requirements for landfill closure. Closure and post-closure maintenance of solid waste landfills is assured through financial assurances and approval of closure plans to protect air, land, and water from pollution. Closure plans must be approved by the applicable RWQCB, the Local Enforcement Agency (Los Angeles County, in the case of the existing onsite landfill), and the Department of Resources and Recycling (CalRecycle) for approval.

## *Threshold of Significance*

A significant impact could occur if the project would:

A. Otherwise substantially degrade water quality

## *Environmental Impacts*

**IMPACT 4.7.A.1**

***Potential impairment of groundwater resources due to the closure of the Claremont Landfill would be less than significant with implementation of existing regulations***

Contamination of groundwater resources is a concern on the project site due to the presence of current and past landfill and quarry activities. Contamination of subsurface aquifers could occur through improperly decommissioned monitoring wells that could act as pathways for pollutants from within the landfill.[14] Other risks include long-term leaching of constituents from solid waste due to exposure to rain through the soil and into groundwater resources. Future construction of sports facilities and improvements guided by the proposed Master Site Plan, Site Plan, and development agreements would require complete closure of the landfill.

In 2000, the RWQCB required a groundwater monitoring program to be implemented at the landfill site because of lack of sufficient operational history to determine if groundwater resources were in danger of being impacted by the landfill. Based on the results of three quarterly groundwater monitoring events conducted in 1989 and 1990, the RWQCB approved a Solid Waste Assessment Test (SWAT) in March of 2001 and concluded that the data indicated that the landfill operations on the project site had had no adverse impact on groundwater

resources; however, the RWQCB required groundwater monitoring be continued. An additional ground water test was conducted in August of 2001. The results of this test revealed that no constituents were detected above the "Maximum Contaminant Levels" (MCL) and that metal and inorganic water quality parameters of the groundwater sample were similar to those of the regional ground water. The RWQCB approved an updated groundwater monitoring program for the site based on the favorable results requiring that groundwater be tested every third year during the month of October starting in 2004. Groundwater monitoring includes tests for volatile organic compounds, metals, and general chemistry. Groundwater monitoring occurs at a well located in the northern portion of the site, identified as Well A in the Phase II ESA. Based on the available monitoring information over the last 20 years, the existing landfill does not appear to be impacting subsurface groundwater resources. Furthermore, the latest disposal site inspection performed by CalRecycle on February 20, 2014 did not identify any Health Code violations associated with the existing landfill.[15]

Pursuant to the requirements of RWQCB Order No. 00-070, Provision No. 10, the permittee (CUC) is required to submit a closure plan to the RWQCB a minimum of 90 days prior to the cessation of landfill operations. The technical report would include methods and controls to be used to assure protection of groundwater resources during final landfill operations and during any subsequent land uses, including the potential future sports facilities. Landfill closures generally involve final covering with a low-hydraulic-conductivity layer to prevent leaching of contaminates and a vegetative cover to prevent erosion.[16] Permitted post closure land uses include non-irrigated open space, irrigated open space, or commercial and industrial uses. Monitoring and inspection procedures are also required to be established as part of the landfill closure. Adherence to these requirements would ensure that the landfill is properly closed to prevent and minimize exposure of groundwater resources to pollutants and contaminants from the landfill. These requirements have been included as standard conditions of the project. Impacts to groundwater resources due to the potential future closure of the Claremont Colleges Disposal Site landfill would be less than significant with implementation of existing regulations.

**IMPACT 4.7.A.2**

***Potential impairment of groundwater resources due improper closure of existing onsite wells would be less than significant with implementation of existing regulations***

As identified in the previous section, three known wells are located on the project site and nine historically identified wells that may still be present on the site. Two additional wells may be located within the right-of-way of Monte Vista Avenue. Inactive and improperly managed wells provide a means for the preferential migration of poor-quality water, pollutants, and contaminants into groundwater resources.[17] They can also cause injury to humans and animals.

Proposed off-site improvements and the future sports facilities identified on the Master Site Plan, Site Plan, and development agreements could potentially require destruction of existing or currently unknown wells. For example, improvements

along Foothill Boulevard could require destruction of Well 12 or improvements along Monte Vista Avenue could require destruction of Wells 5 and/or 6. Potential development of the baseball field and the associated parking lot could require destruction of Wells 14, 15, 18, 19, and/or 20 as identified in Figure 2 of the Phase II ESA. The project proponent proposes to destroy any wells encountered during proposed and potential future construction activities, except for Well A that would continue to be utilized to monitor groundwater as part of the landfill closure plan. Any well proposed to be destroyed is required to be destroyed in compliance with the "California Well Standards" issued by DWR and the Los Angeles County Department of Environmental Health "Requirements for Well Construction/Decommissioning".[18] The minimum procedures for decommissioning a well in an area with a single aquifer include the following:

1. Prepare a video log if construction details are unknown, sounding data does not match the well log, the well is unused or inoperative, the well has been modified, the well is non-residential, or if other circumstances warrant that more information is needed to design the decommissioning protocol.
2. Assemble all known information and develop a work plan to restore the controlling geological conditions that existed before the well was constructed. Work plans may consist of a well log, video log, lithology, water level, contamination vulnerability, original construction details, specifications on use of closure materials, cement formulations, material placement, perforator and pressure sealing method, and sealing grout volume.
3. Complete the well permit application, file a service request, and pay the required fee.
4. Review the work plan with Environmental Health and agree on the scope of work.
5. Remove any obstructions and contaminants.
6. Fill the well casing up to 150 feet below grade with at least a six-sack fine sand mix. Perforate the casing from 150 feet up to the bottom of the annular seal. Pressure grout with neat cement from 150 feet up to four feet below grade. Cut the casing at five feet and mushroom a cap over it. Cover with fill material to grade.
7. Arrange for a local environmental health inspector to witness the placement of the annular seal.
8. Submit a well completion report to the Department of Environmental Health.

These standards would ensure that any contamination identified in the future is appropriately cleaned and that the well is sufficiently sealed to eliminate the potential for future contamination. These requirements have been included as standard conditions of the project. Potential destruction of any wells associated with proposed or future construction activities and onsite uses would be less than significant with implementation of existing regulations.

## *Standard Conditions*

**PRC 40000**

**California Public Resources Code.** Landfill closure shall be conducted in accordance with the California Public Resources Code Section 40000 and other applicable regulations including final covering, monitoring, and inspection requirements. A copy of the closure plan shall be submitted to the Development Services Director of the approving jurisdiction prior to issuance of the first on-site grading permits.

**Water Code 13700**

**California Water Code.** Destruction of existing wells shall be completed in accordance with Section 13700 of the California Water Code and utilizing the guidance provided in California Department of Water Resources Bulletin 74-81 and Bulletin 74-90.

## *Mitigation Measures*

None required

## *Level of Significance with Mitigation Incorporated*

Impacts would be less than significant with implementation of existing regulations.

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[1] Geomatrix Consultants. Final Phase I Environmental Site Assessment Report, Pit Property. June 2004
[2] Chino Basin Watermaster. State of the Basin Report. 2004
[3] Chino Basin Watermaster. State of the Basin Report. 2008
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# Mineral Resources 4.8

The following section will discuss the potential loss of Statewide/regionally- and locally-important aggregate resources. The following discussion is primarily based on mineral resources reports prepared by the California Department of Conservation that include SMARA Designation Report No. 5 (Designation of Regionally Significant Aggregate Resource Areas in the Claremont-Upland and San Bernardino Production-Consumption Regions) and Open File Report 94-08 (Mineral Land Classification of a Part of Southwestern San Bernardino County). No comments related to mineral resources were submitted during the circulation of the Notice of Preparation.

## *Existing Conditions*

Minerals are defined as a naturally occurring, inorganic, homogenous solid with a definite chemical composition and an ordered atomic arrangement. Generally, a mineral is a single or compound of elements and serve as the building blocks for rocks.[1] "Aggregate" is a rock or mineral used separately and as a filler for cement, asphalt, plaster, and other materials. The project site was subject to aggregate extraction activities for approximately 50 years beginning in the 1920s. The site was mined to an approximate depth of 50 feet on the southern edge and 80 feet on the northern edge resulting in an open basin with a level floor. These depths of mining would equate to a volume of several million tons of material excavated from the site, although the exact amount of re-sold material is unknown. Mining operations were discontinued in 1972 and the owner of record at that time permitted the site as a Class III landfill. The reason for the cessation of mining operations is unknown.

### Mineral Land Classification

A mineral land classification study of the San Bernardino Valley Area, including the San Bernardino County portion of the project site, was conducted concurrently with the study of adjacent areas from December 1989 to April 1994.[2] The study was conducted by Dinah O. Shumway of the California Department of Conservation Division of Mines and Geology with assistance from M.A. Silva. The study involved research of geologic and mining-related literature from publications of the Division of Mines and Geology (DMG) and the U.S. Geological Survey, as well as published and unpublished mapping and documents by other geologists. The plotting of known mines and prospects was based on data from the DMG, the U.S. Geological Survey, the U.S. Bureau of Mines, and the U.S. Bureau of Land Management. The study included field work that involved general field observations, site investigations, and interviews with operators of active mines. Limited sampling of rocks for fire assay, chemical analysis, and x-ray diffraction analysis was performed and the data was assessed in order to identify resources and/or the geological factors that control or influence mineralization. The field and analytical data were integrated and evaluated for assigning Mineral Resource Zones (MRZ) in accordance with mineral land classification guidelines adopted by the California State Mining and Geological Board (SMGB). Additional information on MRZ classifications is

provided in the Regulatory Framework section below. The project site is classified as MRZ-2, an "area of identified mineral resource significance".[3]

### Regionally Significant Construction Aggregate Designations

The mineral land classification system described above is the first step utilized by the SMGB in identifying significant mineral resources. After an area has been classified, the SMGB may proceed to designate those deposits that are of regional or statewide significance.[4] In contrast to the classification process that inventories mineral deposits without regard for land use, the designation process identifies those deposits that are potentially available from a land use perspective and are of "prime importance" in meeting future needs of a production-consumption region.

Based on information contained in the Division of Mines and Geology report the Claremont-Upland Production-Consumption region contains the smallest land area of the eleven production-consumption regions within Southern California. Included in the Upland-Claremont region are the cities of Claremont, Upland, Ontario, Rancho Cucamonga, and Chino. Aggregate resources for this region are derived from the alluvial fans emanating from the San Antonio, Cucamonga, Day, and Deer Creeks and the San Gabriel Mountain foothills. Some of the identified aggregate resources lay within the urbanized areas of the identified cities and some lie within rural areas on the northern portions of the alluvial fans. Four sectors (designated as A through D) were identified as regionally significant by the DMG. The project site is not designated as a regionally significant area.

## *Regulatory Framework*

### Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA) was enacted by the California legislature to promote the conservation of the State's mineral resources and to ensure adequate reclamation of mined lands.[5] Among other provisions, SMARA requires the State Geologist to classify land in California into Mineral Resource Zones (MRZ), according to the known or inferred mineral potential of the land. Upon completion of each study, the State Geologist submits the mineral land classification report to the State Mining and Geology Board, which transmits the information to appropriate local governments that maintain jurisdictional authority in mining, reclamation, and related land-use activities. Local governments are required to incorporate the report and maps into their general plans and consider the information when making land use decisions.

SMARA addresses the need for a continuing supply of mineral resources and the need to prevent or minimize the negative impacts of surface mining to public health, property and the environment. The Act applies to anyone, including government agencies, engaged in surface mining operations in California, including federally managed lands that disturb more than one acre or remove more than 1,000 cubic yards of material cumulatively from one site. Regulated mining activities include: prospecting and exploratory activities, dredging and quarrying, streambed skimming, borrow pitting, and the stockpiling of mined materials.

Areas subject to California mineral land classification studies are divided by the State Geologist into various Mineral Resource Zone (MRZ) categories that reflect varying degrees of mineral potential. The MRZ nomenclature and criteria adopted by the California State Mining and Geology Board (1983) is as follows:

1) MRZ-1: Areas of No Mineral Resource Significance
2) MRZ-2: Areas of Identified Mineral Resource Significance
3) MRZ-3: Areas of Undetermined Mineral Resource Significance
4) MRZ-4: Areas of Unknown Mineral Resource Significance

The distinction between the MRZ-1 and MRZ-4 categories is important for land use considerations. It must be emphasized the MRZ-4 classification does not imply that there is little likelihood for the presence of mineral resources, but rather there is a lack of knowledge regarding mineral occurrence. Further exploration work could well result in the reclassification of land in an MRZ-4 area to another, more definitive category.

### Upland General Plan

The Upland General Plan identifies high quality rock, sand, and gravel deposits as the most productive natural resource for the City of Upland.[6] Special Report No. 143 prepared by the Division of Mines and Geology in 1984 for the Claremont-Upland Production-Consumption Region listed total reserves for the region at 55 million tons or a 13-year supply with a projected demand of 245 million tons. The General Plan explains that the Division of Mines and Geology assumes that future demand based on the rate of consumption would remain constant with continued urbanization. This assumption does not account for the diminishing of available vacant land for construction and the concurrent decrease in the need for aggregate resources.

### Claremont General Plan

The Claremont General Plan ensures that the City of Claremont recognizes the responsibility to balance the value of mineral resources and to consider the regional and statewide significance of a mineral resource whenever it evaluates a project proposed within a designated mineral zone.[7] The majority of undeveloped land within the City of Claremont that contains mineral resources is owned by the Pomona Valley Protective Association (PVPA) and is used for watershed and groundwater recharge. This land, although suitable for aggregate extraction due to the presence of significant deposits, is also ecologically important because it contains Riversidean Alluvial Fan Sage Scrub. The Sage Scrub habitat has all but been eliminated from Southern California due to urban development. The project site is not located within the PVPA land holdings.

## *Thresholds of Significance*

Significant impacts could occur if the project would result in:

A. The loss of availability of known mineral resources that would be of value to the region and the residents of the State.
B. The loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

## Environmental Impact

**IMPACT 4.8.A**

***Impacts due to the loss of known mineral resources of value to the region and the State would be less than significant***

The project site is designated MRZ-2 and is therefore an area of known mineral resources. This is supported by 50 years of aggregate mining activities that occurred on the site. Loss of mineral resources, particularly aggregate like that located within the project site, can directly impact the growth of the State and result in a variety of indirect impacts. Adequate supplies of construction aggregate are needed at a reasonable cost in order to provide for the maintenance and continued growth of the community structure, according to the SMARA Designation Report No. 5. Construction aggregate is a key component in products like concrete, asphalt, railroad ballast, stucco, road base and as fill material. Concrete alone is used in a variety of building materials such as concrete blocks and pipes, foundations, concrete beams, and tilt-up concrete walls. The report states that "developers, building and highway contractors, cement manufacturers, asphalt producers, construction workers, and truck drivers are dependent, either directly or indirectly on a ready supply of aggregate." Failure to provide reasonably priced and strategically located aggregate requires aggregate to be imported into an area. This can impact air quality and infrastructure (i.e. roadways and rail tracks) due to the need for longer truck and rail trips.

Although the project site is classified as an area of known mineral resources, it has not been designated by the State as a viable source of aggregate within the Claremont-Upland Production-Consumption area. This is because land uses surrounding the project site are not compatible with mining activities. SMARA Designation Report No. 5 identifies "incompatible" land uses as those that are "inherently incompatible with mining and/or that require a high public or private investment in structures, land improvements, and landscaping that would prevent mining because of the higher economic value of land use and its improvements."[8] Examples of "incompatible" land uses include high density residential, low density residential with high unit value, public facilities, intensive industrial, and commercial. "Incompatible" land uses as defined by the State are located adjacent to the project site. Primary uses of concern include the existing children's school and college dormitories to the west and southwest. These uses are inherently incompatible with mining activities because children are sensitive receptors to pollutant emissions (such as particulate matter) associated with aggregate mining operations. The commercial centers to the northwest and south and the business center to the northeast are also incompatible with mining operations because they represent a substantial amount of private investment. Although the project site is an area of known mineral resources, based on the existing surrounding land uses

and the State's methodology for designating mineral deposits of "prime importance", the project site is not suitable for extraction of aggregate resources; therefore, impacts related to the loss of aggregate resources of Statewide and regional importance due to the approval of the proposed subdivision, off-site improvements, and potential future sports facilities would be less than significant.

**IMPACT 4.8.B**

***No impacts related to the loss of minerals locally-important to the Cities of Upland or Claremont or the Counties of San Bernardino or Los Angeles could occur***

For purposes of the analyzing the project, "locally-important" mineral resources are defined as any mineral resource identified in a local planning document that has not already been identified by the State as important. The Upland and Claremont General Plan's do not recognize the project site as an area of locally-important mineral resources.[9] [10] Furthermore, the San Bernardino County and Los Angeles County General Plans do not recognize the project site as an area of locally-important mineral resources; therefore, the proposed subdivision, off-site improvements, and potential development guided by the Master Site Plan, Site Plan, or development agreements could not result in any impacts to locally-important mineral resources. [11] [12]

## Mitigation Measures

None required

## Level of Significance with Mitigation Incorporated

Not applicable

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[1] Frank, Dave, John Galloway, and Ken Assmus. United States Geological Survey. General Information Product 17. The Life Cycle of a Mineral Deposit – A Teacher's Guide for Hands-On Mineral Education Activities. 2005

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[3] City of Claremont. General Plan. Open Space, Parkland, Conservation, and Air Quality Element. 2005

[4] California Division of Mines and Geology. SMARA Designation Report No. 5. Designation of Regionally Significant Construction Aggregate Resource Areas in the Claremont-Upland and San Bernardino Production-Consumption Regions. January 1987

[5] State of California. Public Resources Code. Section 2207.

[6] City of Upland. General Plan. Open Space and Conservation Element. GPA-82 (III), Mineral Resources. January 1986

[7] City of Claremont. General Plan. Open Space, Parkland, Conservation, and Air Quality Element. 2005

[8] California Division of Mines and Geology. SMARA Designation Report No. 5. Designation of Regionally Significant Construction Aggregate Resource Areas in the Claremont-Upland and San Bernardino Production-Consumption Regions. January 1987

[9] City of Upland. General Plan. Open Space and Conservation Element. GPA-82 (III), Mineral Resources. January 1986
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# Noise 4.9

This section discusses potential impacts related to increases in ambient noise levels due to traffic generated by the project, generation of vibration from construction activities, temporary noise increases due to construction and operation of the future sports facilities, and potential noise impacts to the proposed sports facilities due to operation of Cable Airport and traffic on surrounding streets. The following analysis is based primarily on the "Environmental Noise Study" prepared by Wieland Acoustics (see Appendix K) on April 16, 2015 and the Cable Airport Comprehensive Airport Land Use Plan.

## *Existing Conditions*

### Characteristics of Sound

Noise is usually defined as unwanted sound.[1] Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep. To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect our ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves, combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

### Measurement of Sound

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale representing points on a sharply rising curve. For example, 10 decibels (dB) are 10 times more intense than 1 dB, 20 dB are 100 times more intense, and 30 dB are 1,000 times more intense. Thirty decibels (30 dB) represents 1,000 times as much acoustic energy as 1 dB. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 A-weighted decibels (dBA) (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately 6 dBA for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad operations, the sound decreases 3 dBA for each doubling of distance in a hard site environment. Line source, noise in a relatively flat environment with absorptive vegetation, decreases 4.5 dBA for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level ($L_{eq}$) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the $L_{eq}$ and community noise equivalent level (CNEL) or the day-night average level ($L_{dn}$) based on A-weighted decibels (dBA). CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly $L_{eq}$ for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and a 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). $L_{dn}$ is similar to the CNEL scale, but without the adjustment for events occurring during the evening hours. CNEL and $L_{dn}$ are within 1 dBA of each other and are normally exchangeable.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level ($L_{max}$), which is the highest exponential time averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by $L_{max}$, which reflects peak operating conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the $L_{10}$ noise level represents the noise level exceeded 10 percent of the time during a stated period. The $L_{50}$ noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The $L_{90}$ noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the $L_{eq}$ and $L_{50}$ are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dB or greater since this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

## Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure (typically more than 8 hours, as defined by the Occupational Safety and Health Administration (OSHA)) to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dB, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dB, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 160 to 165 dB will result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying less developed areas.

Table 4.9.1 (Definitions of Acoustical Terms) summarizes the definitions of acoustical terms utilized in this section. Figure 1 (Sound Levels and Noise Sources) provides examples of noise sources and associated sound level. Table 4.9.2 (Land Use Compatibility for Exterior Community Noise) identifies the noise level ranges at various land uses as recommended by the California Department of Health, Office of Noise Control.

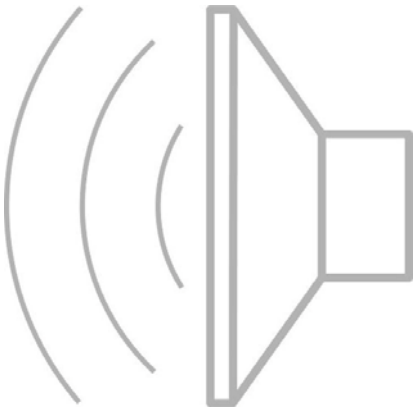


**Table 4.9.1**

**Definitions of Acoustical Terms**

| Term | Definitions |
|---|---|
| Decibel, dB | A unit of level that denotes the ratio between two quantities proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio. |
| Frequency, Hz | Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second). |
| A-Weighted Sound Level, dBA | The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise. |
| $L_{01}$, $L_{10}$, $L_{50}$, $L_{90}$ | The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period. |
| Equivalent Continuous Noise Level, $L_{eq}$ | The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound. |
| Community Noise Equivalent Level, CNEL | The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 dB to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 dB to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m. |
| Day/Night Noise Level, $L_{dn}$ | The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 dB to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m. |
| $L_{max}$, $L_{min}$ | The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging. |
| Ambient Noise Level | The all encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant. |
| Intrusive | The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level. |
| Source: California Office of Noise Control 1991 | |

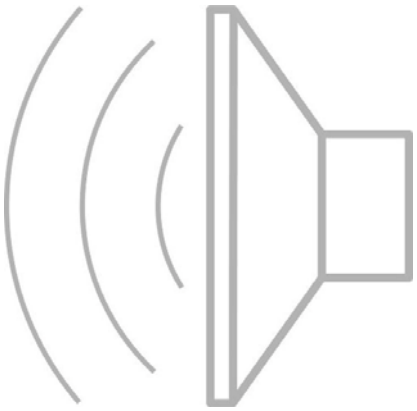
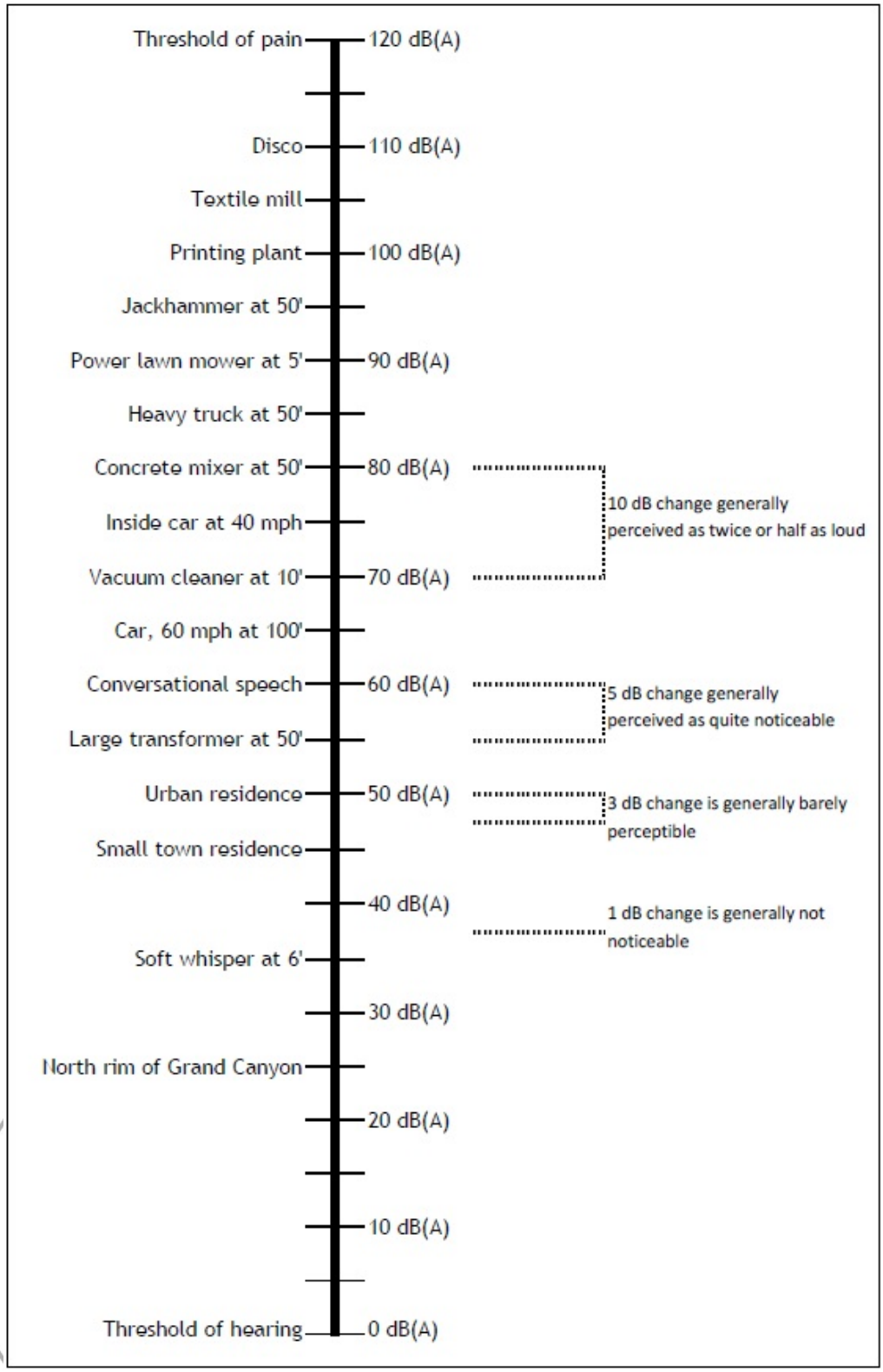


**Figure 1**
**Sound Levels and Noise Sources**




*Source: Wieland Acoustics, Figure 3-1. Common Noise Sources and A-Weighted Noise Levels*

**Table 4.9.2**
**Land Use Compatibility for Exterior Community Noise**

| Land Use Category | Noise Range ($L_{dn}$ or CNEL), dB | | | |
|---|---|---|---|---|
| | I | II | III | IV |
| Passively used open spaces | 50 | 50–55 | 55–70 | 70+ |
| Auditoriums, concert halls, amphitheaters | 45–50 | 50–65 | 65–70 | 70+ |
| Residential—low density single family, duplex, mobile homes | 50–55 | 55–70 | 70–75 | 75+ |
| Residential—multifamily | 50–60 | 60–70 | 70–75 | 75+ |
| Transient lodging—motels, hotels | 50–60 | 60–70 | 70–80 | 80+ |
| Schools, libraries, churches, hospitals, nursing homes | 50–60 | 60–70 | 70–80 | 80+ |
| Actively used open spaces—playgrounds, neighborhood parks | 50–67 | — | 67–73 | 73+ |
| Golf courses, riding stables, water recreation, cemeteries | 50–70 | — | 70–80 | 80+ |
| Office buildings, business commercial and professional | 50–67 | 67–75 | 75+ | — |
| Industrial, manufacturing, utilities, agriculture | 50–70 | 70–75 | 75+ | — |

Source: California Office of Noise Control 1976

-Noise Range I, Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
-Noise Range II, Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Noise Range III, Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis must be made of the noise reduction requirements and the needed noise insulation features included in the design.
Noise Range IV, Clearly Unacceptable: New construction or development should generally not be undertaken.

## Vibration

Vibration energy propagates from a source through intervening soil and rock layers to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by occupants as the motion of building surfaces, the rattling of items on shelves or wall hangings, or a low-frequency rumbling noise. The rumble noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Ground-borne vibration is usually measured in terms of vibration velocity, either the root-mean-square (RMS) velocity or peak particle velocity (PPV). Of these two, RMS is best for characterizing human response to building vibration, and PPV is used to characterize potential for damage. Ground vibrations from construction activities do not often reach the levels that can damage structures, but they can achieve the audible and sensate ranges in buildings very close to the site. Problems with ground-borne vibration from construction sources are usually localized to areas within approximately 100 ft from the vibration source.

## Ambient Noise

The primary existing noise sources in the project area are transportation facilities. Traffic on Foothill Boulevard, Claremont Boulevard, Arrow Route, Monte Vista Avenue, and other local streets is the dominant source of ambient noise. Aircraft operations associated with Cable Airport, approximately 3,000 ft to the northeast of the project site, also contributed to the ambient noise in the project area. In addition, noise generated by the existing landfill operations on the project site is similar to that of grading activity and contributes to the ambient noise in the project area as well. The Federal Highway Administration (FHWA) highway traffic noise prediction model was used to evaluate highway traffic-related noise conditions along the roadway segments in the project vicinity. Existing traffic volumes in the project's traffic study, prepared by Linscott, Law & Greenspan (LLG), were used to assess the existing traffic noise impacts. Table 4.9.3 (Existing Weekday Traffic Noise Levels) and Table 4.9.4 (Existing Weekend Traffic Noise Levels) provide the traffic noise levels along the roadways adjacent to the project site under the existing conditions. The LLG study provides hourly traffic volumes for AM and PM peak hours. The average daily traffic volumes (ADTs) used in the analysis of traffic noise levels were estimated by assuming that the PM peak volume represents 10 percent of the overall ADT for each arterial segment.

The Traffic Noise Model was used to estimate existing traffic noise levels adjacent to the streets based on traffic volumes, speeds, truck mix, site conditions, and distance from the roadway to the receptor. The results are presented in terms of an unmitigated CNEL at the distance of the nearest existing sensitive receptor from the centerline of the roadway.

The project site is generally lower in elevation than the surrounding areas, and as a result of the elevation difference, the dirt embankments provide some noise attenuation for activities occurring near the center of the site when propagating towards the surrounding areas. Similarly, noise generated in the project vicinity would be reduced somewhat as it propagates towards the center of the project site.

As shown in Table 4.9.3, the existing CNEL values due to weekday traffic conditions exceed the General Plan noise standards at some of the residential and college properties adjacent to Arrow Route, Baseline Road, Claremont Boulevard, Foothill Boulevard, Indian Hill Boulevard, Monte Vista Avenue, and Padua Avenue. As shown in Table 4.9.4, CNEL values due to weekend traffic conditions exceed the City of Upland General Plan noise standards at some of the residential properties adjacent to Monte Vista Avenue south of Arrow Route.

## Airport Noise

The Cable Airport, located northwest of the project site, is a general aviation airport used by private and business aircraft. The main runway (6-24) is 3,600 feet long and 75 feet wide, and can accommodate single- and multi-engine propeller aircraft and most business jets. The Cable Airport Comprehensive Airport Land Use Plan (ALUP) establishes noise contours associated with aircraft approach and departure

patterns.[2] The ALUP indicates that the majority of the project site is within the 60-65 CNEL zone of the airport.

**Table 4.9.3**
**Existing Weekday Traffic Noise Levels**

| Roadway Segment | Unmitigated CNEL @ Nearest Sensitive Receptor, dB | Distance to CNEL Contour From Roadway Centerline, Ft. | | |
|---|---|---|---|---|
| | | 60 dB | 65 dB | 70 dB |
| ***1st STREET*** | | | | |
| W/O Claremont Blvd | 63.6 | 82 | -- | -- |
| ***5th STREET*** | | | | |
| E/O Indian Hill Rd | 54.3 | -- | -- | -- |
| ***6th STREET*** | | | | |
| W/O College Ave | 54.7 | -- | -- | -- |
| E/O College Ave | 56.4 | -- | -- | -- |
| W/O Mills Ave | 58.8 | 40 | -- | -- |
| E/O Mills Ave | 62.3 | 58 | -- | -- |
| W/O Claremont Blvd | 62.0 | 62 | -- | -- |
| ***9th STREET*** | | | | |
| W/O Claremont Blvd | 57.3 | -- | -- | -- |
| ***ARROW ROUTE*** | | | | |
| E/O Claremont Blvd | 65.5 | 189 | 61 | -- |
| W/O College Park | 65.6 | 192 | 62 | -- |
| ***BASELINE ROAD*** | | | | |
| W/O Monte Vista Ave | 69.3 | 433 | 158 | 52 |
| ***CLAREMONT BOULEVARD*** | | | | |
| W/O Monte Vista Ave | 63.9 | 114 | 36 | -- |
| N/O Foothill Blvd | 65.8 | 172 | 56 | -- |
| S/O Foothill Blvd | 62.7 | 218 | 71 | -- |
| N/O 9th St | 65.3 | 221 | 72 | -- |
| S/O 9th St | 66.7 | 252 | 85 | -- |
| N/O Arrow Route | 67.2 | 252 | 85 | -- |
| S/O Arrow Route | 65.4 | 161 | 53 | -- |
| N/O 1st St | 65.6 | 159 | 52 | -- |
| ***FOOTHILL BOULEVARD*** | | | | |
| W/O Indian Hill Blvd | 70.8 | 499 | 187 | 60 |
| E/O Indian Hill Blvd | 69.6 | 490 | 183 | 59 |
| W/O Mills Ave | 68.1 | 474 | 176 | 57 |
| E/O Mills Ave | 65.5 | 444 | 162 | 53 |
| ***HARRISON AVENUE*** | | | | |
| W/O Indian Hill Blvd | 57.7 | -- | -- | -- |
| ***INDIAN HILL BOULEVARD*** | | | | |
| N/O Foothill Blvd | 66.3 | 194 | 61 | -- |
| ***MILLS AVENUE*** | | | | |
| S/O Foothill Blvd | 53.7 | -- | -- | -- |
| ***MONTE VISTA AVENUE*** | | | | |
| S/O Baseline Rd | 70.3 | 407 | 147 | 48 |
| N/O Claremont Blvd | 69.2 | 348 | 122 | 39 |
| S/O Arrow Rte | 67.4 | 426 | 155 | 51 |
| ***PADUA AVENUE*** | | | | |
| N/O Baseline Rd | 65.3 | 147 | 48 | -- |

Notes:
"--" signifies no contour line located outside of right-of-way line
Sensitive receptors are single- and multifamily properties, and school buildings

Source: Wieland Acoustics, 2015

**Table 4.9.4**
**Existing Weekend Traffic Noise Levels**

| Roadway Segment | Unmitigated CNEL @ Nearest Sensitive Receptor, dB | Distance to CNEL Contour From Roadway Centerline, Ft. | | |
|---|---|---|---|---|
| | | 60 dB | 65 dB | 70 dB |
| ***6th STREET*** | | | | |
| W/O Claremont Blvd | 60.7 | 48 | -- | -- |
| ***9th STREET*** | | | | |
| W/O Claremont Blvd | 54.4 | -- | -- | -- |
| ***ARROW ROUTE*** | | | | |
| E/O Claremont Blvd | 62.9 | 105 | 39 | -- |
| W/O College Park | 63.4 | 119 | 34 | -- |
| ***CLAREMONT BOULEVARD*** | | | | |
| N/O Foothill Blvd | 63.0 | 91 | -- | -- |
| S/O Foothill Blvd | 60.0 | 123 | 40 | -- |
| N/O 9th St | 62.5 | 121 | 39 | -- |
| S/O 9th St | 63.8 | 134 | 45 | -- |
| N/O Arrow Route | 63.8 | 142 | 47 | -- |
| S/O Arrow Route | 62.5 | 82 | -- | -- |
| ***MONTE VISTA AVENUE*** | | | | |
| S/O Arrow Rte | 65.6 | 302 | 103 | -- |

Notes:
"--" signifies no contour line located outside of right-of-way line
Sensitive receptors are single- and multifamily properties, and school buildings

Source: Wieland Acoustics, 2015

## *Regulatory Framework*

### Upland General Plan Noise Element

The City of Upland has adopted a Noise Element in its General Plan. Upland adopted guidelines for land use compatibility and community noise environment similar to those recommended by the State (Table 4.9.2). School uses are normally acceptable in areas up to 60 dBA CNEL and conditionally acceptable in areas up to 70 dBA CNEL. For actively used open spaces—playgrounds, neighborhood parks, the normally acceptable range is up to 67 dBA CNEL. However, since 70 dBA $L_{dn}$ is used by the City of Claremont as the exterior noise standard for public/institutional uses such as the proposed college sports complex, and the CNEL and $L_{dn}$ are interchangeable, the 70 $L_{dn}$ is used in this analysis as the noise standard for outdoor active uses associated with sports fields.[3]

### Claremont General Plan Noise Element

The City of Claremont, in its General Plan, Chapter 6, Public Safety and Noise Element, has established Noise/Land Use Noise Compatibility Criteria, which identifies that the maximum exterior noise level for schools is 65 dBA day-night average noise level ($L_{dn}$), and the maximum interior noise level is 50 dBA $L_{dn}$. For other public/institutional uses (including college campuses) the maximum exterior acceptable noise level is up to 70 dBA $L_{dn}$ and the maximum interior acceptable noise level is up to 50 dBA $L_{dn}$. The maximum exterior noise level in active open space is 70 dBA $L_{dn}$ and up to 70 dBA $L_{dn}$ for passive open space. Based on the

proposed Master Site Plan, there are proposed sports fields along Foothill Boulevard, Monte Vista Avenue, Arrow Route, and Claremont Boulevard that will be subject to the noise standard of up to 70 dBA $L_{dn}$.[4]

## Upland Municipal Code

Chapter 9.40 of the Municipal Code limits exterior noise at residential properties to 55 dBA from 7:00 a.m. to 10:00 p.m. and 45 dBA from 10:00 p.m. to 7:00 a.m. It is unlawful for any person to create noise at noise-sensitive land uses that causes the sound level to exceed the following:

- The noise standard for a cumulative period of 30 minutes in any hour
- The noise standard plus 5 dBA for a cumulative period of more than 15 minutes in any hour
- The noise standard plus 10 dBA for a cumulative period of more than 5 minutes in any hour
- The noise standard plus 15 dBA for a cumulative period of more than 1 minute in any hour
- The noise standard plus 20 dBA for any period of time

Construction, repair, or demolition activities are limited to between the hours of 7:00 a.m. and 6:00 p.m. of any working day, except Sundays and federal holidays.

## Claremont Municipal Code

The City of Claremont has incorporated the following measures in its Municipal Code, Chapter 16.154 (Environmental Protective Standards) to control loud, unnecessary, and unusual nuisance noises:

- **Exterior Noise Standards.** The Base Noise Level is the ambient noise level or the Ambient Base Noise Level, whichever is higher. The Ambient Base Noise Levels are shown in Table 4.9.5 (City of Claremont Exterior Ambient Base Noise Levels). It shall be unlawful for any person at any location within the incorporated area of the City of Claremont to create any noise or allow the creation of any noise on the property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured on the property line of any other property to exceed the basic noise level as adjusted below:
    - Base Noise Level for a cumulative period of more than 15 minutes in any one hour; or
    - Base Noise Level plus 5 dBA for a cumulative period of more than 10 minutes in any one hour; or
    - Base Noise Level plus 14 dBA for a cumulative period of more than 5 minutes in any one hour; or
    - Base Noise Level plus 15 dBA at any time.

**Table 4.9.5**
**City of Claremont Exterior Ambient Base Noise Levels**

| Maximum Allowable Type of Land Use | Time Interval | Exterior Noise Standard |
|---|---|---|
| Single, double or multiple family residential | Night (10:00 p.m. to 7:00 a.m.)<br>Day (7:00 a.m. to 10:00 p.m.) | 55<br>60 |
| Commercial | Night (10:00 p.m. to 7:00 a.m.)<br>Day (7:00 a.m. to 10:00 p.m.) | 60<br>65 |
| Industrial | Anytime | 70 |
| Source: City of Claremont Municipal Code March 2010<br>-Each of the noise limits above shall be reduced by 5 dBA for noise consisting of impulse or simple tone noise | | |

- **Interior Noise Standards.** The Interior Ambient Noise Level or the Ambient Base Noise Level is defined in Table 4.9.6 (City of Claremont Interior Ambient Base Noise Levels). It shall be unlawful for any person at any location within the incorporated area of the City of Claremont to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise when measured within any other residential dwelling unit in any noise zone to exceed the interior Basic Noise Standard in the manner described in Section 16.154.020.D.2.

**Table 4.9.6**
**City of Claremont Interior Ambient Base Noise Levels**

| Maximum Allowable Type of Land Use | Time Interval | Exterior Noise Standard |
|---|---|---|
| Residential | Night (10:00 p.m. to 7:00 a.m.)<br>Day (7:00 a.m. to 10:00 p.m.) | 37<br>47 |
| Source: City of Claremont Municipal Code March 2010<br>-Each of the noise limits above shall be reduced by 5 dBA for noise consisting of impulse or simple tone noise | | |

Based on Table 4.9.6, maximum exterior noise level for residential uses is 75 dBA $L_{max}$ during daytime hours and 70 dBA $L_{max}$ during nighttime hours. Similarly, the maximum exterior noise level for commercial uses is 85 dBA $L_{max}$ during daytime hours and 80 dBA $L_{max}$ during nighttime hours. For the proposed college land uses, maximum noise levels for commercial uses are applied.

Claremont-approved and/or sponsored activities conducted at public parks, facilities, and/or playgrounds, and on public or private school or college grounds including, but not limited to, athletic and school entertainment events between the hours of 7 a.m. and 10 p.m., are exempted from the provisions of the Municipal Code noise ordinance. The ordinance prohibits the loading, unloading, opening, closing, or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects between the hours of 10 p.m. and 7 a.m. the following day in such a manner as to cause a noise disturbance across a residential real property boundary or within Noise Zone 1.

Noise associated with or vibration created by construction, repair, remodeling or grading of any real property, or during authorized seismic surveys are exempted from the provisions of the Municipal Code noise ordinance, provided: Activities take place between the hours of 7 a.m. and 8 p.m. weekdays and Saturdays, excluding national holidays; and Noise levels, as measured on residential properties, do not exceed 65 dBA for a cumulative period of more than 15 minutes in any hour, 70 dBA for a cumulative period of more than 10 minutes in any one hour, 79 dBA for a cumulative period of more than 5 minutes in any one hour or 80 dBA at any time; and any vibration created does not endanger the public health, welfare, and safety. For the purpose of the City of Claremont's Ordinance, the perception threshold shall be presumed to be more than 0.05 inches per second (in/sec) RMS vertical velocity (PPV).

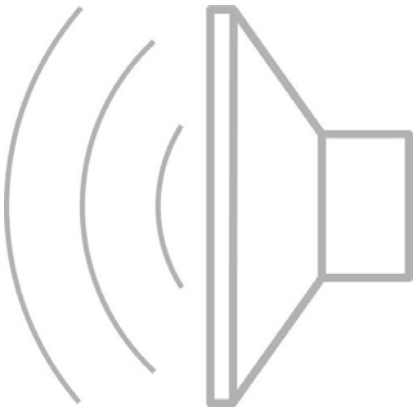
### Cable Airport Land Use Plan

The project site is within Zone B (Moderate Noise Impact) of Cable Airport as defined by the ALUP. The ALUP indicates that Zone B is sufficiently impacted by airport noise that sound attenuation or sound insulation is required. Residential and institutional uses such as schools, hospitals, and libraries are deemed unacceptable in Zone B unless it can be shown that through design and construction a 45 dBA interior noise level can be achieved.

## *Thresholds of Significance*

A significant impact could occur if the project would:

A. Expose persons to or generate noise levels in excess of standards established by the City of Upland or the City of Claremont General Plans or Noise Ordinances.
B. Expose persons to or generate excessive groundborne vibration or groundborne noise levels.
C. Result in a substantial permanent increase in ambient noise levels above existing levels.
D. Result in a substantial temporary or periodic increase in ambient noise levels above existing noise levels.
E. Expose people residing or working within two miles of an airport to excessive noise levels.



## Environmental Impacts

**IMPACT 4.9.A 4.9.C**

***Impacts to surrounding uses and the project site caused by increases in traffic generated noise and operational noise in the project area would be less than significant in the City of Claremont because projected noise levels would not exceed the City standards and would not result in a substantial permanent increase in existing noise levels. Impacts to surrounding uses and the project site caused by increases in traffic generated noise and operational noise in the project area in the City of Upland would be significant and unavoidable.***

### Long-Term Traffic Noise Impacts

The FHWA highway traffic noise prediction model (FHWA RD-77-108) was used to evaluate highway traffic-related noise conditions along the roadway segments in the project vicinity. Future traffic volumes projected in the project's traffic study were used to model the potential future traffic noise impacts.

Tables 4.9.7 through 4.9.18 provide combined traffic noise levels for:

- Existing conditions with and without project, weekday practice day
- Existing conditions with and without project, weekday game day
- Existing conditions with and without project, weekend fall game day
- Existing conditions with and without project, weekend spring game day
- Year 2020 cumulative projections with and without the project, weekday practice day
- Year 2020 cumulative projections with and without the project, weekday game day
- Year 2020 cumulative projections with and without the project, weekend fall game day
- Year 2020 cumulative projections with and without the project, weekend spring game day
- Year 2030 cumulative projections with and without the project, weekday practice day
- Year 2030 cumulative projections with and without the project, weekday game day
- Year 2030 cumulative projections with and without the project, weekend fall game day
- Year 2030 cumulative projections with and without the project, weekend spring game day

These noise levels represent a "worst case" scenario that assumes that no shielding is provided between the traffic and the location where the noise contours are drawn. The specific assumptions used in developing these noise levels and model printouts are provided in Appendix K.

**Table 4.9.7**
**Existing Conditions With and Without Project, Weekday Practice Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***1st STREET*** | | | |
| W/O Claremont Blvd | 63.6 | 63.6 | 0.0 |
| ***5th STREET*** | | | |
| E/O Indian Hill Rd | 54.3 | 54.3 | 0.0 |
| ***6th STREET*** | | | |
| W/O College Ave | 54.7 | 54.8 | 0.1 |
| E/O College Ave | 56.4 | 56.5 | 0.1 |
| W/O Mills Ave | 58.8 | 58.8 | 0.0 |
| E/O Mills Ave | 62.3 | 62.3 | 0.0 |
| W/O Claremont Blvd | 62.0 | 62.0 | 0.0 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 57.3 | 57.3 | 0.0 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 65.5 | 65.5 | 0.0 |
| W/O College Park/Dwy 5 | 65.6 | 65.6 | 0.0 |
| ***BASELINE ROAD*** | | | |
| W/O Monte Vista Ave | 69.3 | 69.3 | 0.0 |
| ***CLAREMONT BOULEVARD*** | | | |
| W/O Monte Vista Ave | 63.9 | 63.9 | 0.0 |
| N/O Foothill Blvd | 65.8 | 65.8 | 0.0 |
| S/O Foothill Blvd | 62.7 | 62.7 | 0.0 |
| S/O Dwy 2 | 62.7 | 62.8 | 0.1 |
| N/O Dwy 2 | 65.3 | 65.3 | 0.0 |
| N/O 9th St / Dwy 3 | 65.3 | 65.3 | 0.0 |
| S/O 9th St / Dwy 3 | 65.9 | 65.9 | 0.0 |
| S/O Dwy 4 | 66.7 | 66.7 | 0.0 |
| N/O Dwy 4 | 67.2 | 67.2 | 0.0 |
| N/O Arrow Route | 66.5 | 66.5 | 0.0 |
| S/O Arrow Route | 65.4 | 65.4 | 0.0 |
| N/O 1st St | 65.6 | 65.6 | 0.0 |
| ***FOOTHILL BOULEVARD*** | | | |
| W/O Indian Hill Blvd | 70.8 | 70.8 | 0.0 |
| E/O Indian Hill Blvd | 69.6 | 69.6 | 0.0 |
| W/O Mills Ave | 68.1 | 68.1 | 0.0 |
| E/O Mills Ave | 65.5 | 65.5 | 0.0 |
| ***HARRISON AVENUE*** | | | |
| W/O Indian Hill Blvd | 57.7 | 57.7 | 0.0 |
| ***INDIAN HILL BOULEVARD*** | | | |
| N/O Foothill Blvd | 66.3 | 66.3 | 0.0 |
| ***MILLS AVENUE*** | | | |
| S/O Foothill Blvd | 53.7 | 53.8 | 0.1 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Baseline Rd | 70.3 | 70.3 | 0.0 |
| N/O Claremont Blvd | 69.2 | 69.2 | 0.0 |
| S/O Arrow Rte | 67.4 | 67.4 | 0.0 |
| ***PADUA AVENUE*** | | | |
| N/O Baseline Rd | 65.3 | 65.3 | 0.0 |

**Table 4.9.8**
**Existing Conditions With and Without Project, Weekday Game Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***1st STREET*** | | | |
| W/O Claremont Blvd | 63.6 | 63.6 | 0.0 |
| ***5th STREET*** | | | |
| E/O Indian Hill Rd | 54.3 | 54.4 | 0.1 |
| ***6th STREET*** | | | |
| W/O College Ave | 54.7 | 54.8 | 0.1 |
| E/O College Ave | 56.4 | 56.5 | 0.1 |
| W/O Mills Ave | 58.8 | 58.8 | 0.0 |
| E/O Mills Ave | 62.3 | 62.3 | 0.0 |
| W/O Claremont Blvd | 62.0 | 62.1 | 0.1 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 57.3 | 57.3 | 0.0 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 65.5 | 65.5 | 0.0 |
| W/O College Park/Dwy 5 | 65.6 | 65.6 | 0.0 |
| ***BASELINE ROAD*** | | | |
| W/O Monte Vista Ave | 69.3 | 69.3 | 0.0 |
| ***CLAREMONT BOULEVARD*** | | | |
| W/O Monte Vista Ave | 63.9 | 64.0 | 0.1 |
| N/O Foothill Blvd | 65.8 | 65.9 | 0.1 |
| S/O Foothill Blvd | 62.7 | 62.8 | 0.1 |
| S/O Dwy 2 | 62.7 | 62.8 | 0.1 |
| N/O Dwy 2 | 65.3 | 65.4 | 0.1 |
| N/O 9th St / Dwy 3 | 65.3 | 65.4 | 0.1 |
| S/O 9th St / Dwy 3 | 65.9 | 66.0 | 0.1 |
| S/O Dwy 4 | 66.7 | 66.7 | 0.0 |
| N/O Dwy 4 | 67.2 | 67.2 | 0.0 |
| N/O Arrow Route | 66.5 | 66.6 | 0.1 |
| S/O Arrow Route | 65.4 | 65.5 | 0.1 |
| N/O 1st St | 65.6 | 65.7 | 0.1 |
| ***FOOTHILL BOULEVARD*** | | | |
| W/O Indian Hill Blvd | 70.8 | 70.8 | 0.0 |
| E/O Indian Hill Blvd | 69.6 | 69.6 | 0.0 |
| W/O Mills Ave | 68.1 | 68.1 | 0.0 |
| E/O Mills Ave | 65.5 | 65.5 | 0.0 |
| ***HARRISON AVENUE*** | | | |
| W/O Indian Hill Blvd | 57.7 | 57.7 | 0.0 |
| ***INDIAN HILL BOULEVARD*** | | | |
| N/O Foothill Blvd | 66.3 | 66.3 | 0.0 |
| ***MILLS AVENUE*** | | | |
| S/O Foothill Blvd | 53.7 | 53.9 | 0.2 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Baseline Rd | 70.3 | 70.3 | 0.0 |
| N/O Claremont Blvd | 69.2 | 69.2 | 0.0 |
| S/O Arrow Rte | 67.4 | 67.5 | 0.1 |
| ***PADUA AVENUE*** | | | |
| N/O Baseline Rd | 65.3 | 65.3 | 0.0 |

**Table 9.4.9**
**Existing Conditions With and Without Project, Weekend Fall Game Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***6th STREET*** | | | |
| W/O Claremont Blvd | 60.7 | 60.9 | 0.2 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 54.4 | 54.6 | 0.2 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 62.9 | 63.1 | 0.2 |
| W/O College Park/Dwy 5 | 63.4 | 63.6 | 0.2 |
| ***CLAREMONT BOULEVARD*** | | | |
| N/O Foothill Blvd | 63.0 | 63.3 | 0.3 |
| S/O Foothill Blvd | 60.0 | 60.7 | 0.7 |
| N/O 9th St / Dwy 3 | 62.5 | 63.1 | 0.6 |
| S/O 9th St / Dwy 3 | 63.0 | 63.2 | 0.2 |
| N/O Arrow Route | 63.8 | 64.1 | 0.3 |
| S/O Arrow Route | 62.5 | 62.5 | 0.0 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Arrow Rte | 65.6 | 65.7 | 0.1 |

**Table 9.4.10**
**Existing Conditions With and Without Project, Weekend Spring Game Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***6th STREET*** | | | |
| W/O Claremont Blvd | 60.7 | 60.8 | 0.1 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 54.4 | 54.5 | 0.1 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 62.9 | 63.0 | 0.1 |
| W/O College Park/Dwy 5 | 63.4 | 63.5 | 0.1 |
| ***CLAREMONT BOULEVARD*** | | | |
| N/O Foothill Blvd | 63.0 | 63.2 | 0.2 |
| S/O Foothill Blvd | 60.0 | 60.4 | 0.4 |
| N/O 9th St / Dwy 3 | 62.5 | 62.8 | 0.3 |
| S/O 9th St / Dwy 3 | 63.0 | 63.1 | 0.1 |
| N/O Arrow Route | 63.8 | 64.0 | 0.2 |
| S/O Arrow Route | 62.5 | 62.5 | 0.0 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Arrow Rte | 65.6 | 65.7 | 0.1 |

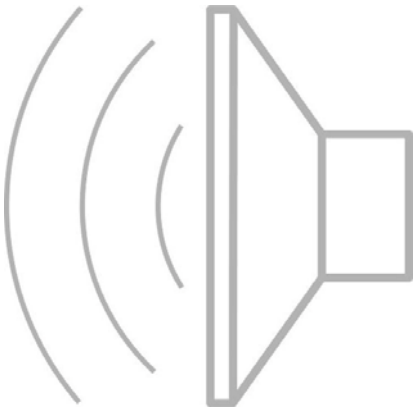


**Table 4.9.11**
**Year 2020 Conditions With and Without Project, Weekday Practice Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***1st STREET*** | | | |
| W/O Claremont Blvd | 68.0 | 68.0 | 0.0 |
| ***5th STREET*** | | | |
| E/O Indian Hill Rd | 54.9 | 55.0 | 0.1 |
| ***6th STREET*** | | | |
| W/O College Ave | 56.6 | 56.6 | 0.0 |
| E/O College Ave | 57.8 | 57.8 | 0.0 |
| W/O Mills Ave | 60.3 | 60.3 | 0.0 |
| E/O Mills Ave | 63.7 | 63.7 | 0.0 |
| W/O Claremont Blvd | 63.3 | 63.3 | 0.0 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 57.6 | 57.7 | 0.1 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 67.2 | 67.2 | 0.0 |
| W/O College Park/Dwy 5 | 67.2 | 67.2 | 0.0 |
| ***BASELINE ROAD*** | | | |
| W/O Monte Vista Ave | 69.8 | 69.8 | 0.0 |
| ***CLAREMONT BOULEVARD*** | | | |
| W/O Monte Vista Ave | 66.4 | 66.4 | 0.0 |
| N/O Foothill Blvd | 67.7 | 67.7 | 0.0 |
| S/O Foothill Blvd | 65.3 | 65.3 | 0.0 |
| S/O Dwy 2 | 65.3 | 65.3 | 0.0 |
| N/O Dwy 2 | 67.8 | 67.9 | 0.1 |
| N/O 9th St / Dwy 3 | 67.9 | 67.9 | 0.0 |
| S/O 9th St / Dwy 3 | 68.3 | 68.3 | 0.0 |
| S/O Dwy 4 | 69.0 | 69.0 | 0.0 |
| N/O Dwy 4 | 69.5 | 69.5 | 0.0 |
| N/O Arrow Route | 68.8 | 68.9 | 0.1 |
| S/O Arrow Route | 68.2 | 68.3 | 0.1 |
| N/O 1st St | 68.5 | 68.5 | 0.0 |
| ***FOOTHILL BOULEVARD*** | | | |
| W/O Indian Hill Blvd | 72.0 | 72.0 | 0.0 |
| E/O Indian Hill Blvd | 70.8 | 70.8 | 0.0 |
| W/O Mills Ave | 69.4 | 69.4 | 0.0 |
| E/O Mills Ave | 66.9 | 66.9 | 0.0 |
| ***HARRISON AVENUE*** | | | |
| W/O Indian Hill Blvd | 58.5 | 58.5 | 0.0 |
| ***INDIAN HILL BOULEVARD*** | | | |
| N/O Foothill Blvd | 67.0 | 67.0 | 0.0 |
| ***MILLS AVENUE*** | | | |
| S/O Foothill Blvd | 54.4 | 54.5 | 0.1 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Baseline Rd | 72.5 | 72.5 | 0.0 |
| N/O Claremont Blvd | 71.7 | 71.7 | 0.0 |
| S/O Arrow Rte | 70.1 | 70.1 | 0.0 |
| ***PADUA AVENUE*** | | | |
| N/O Baseline Rd | 67.8 | 67.8 | 0.0 |

**Table 4.9.12**
**Year 2020 Conditions With and Without Project, Weekday Game Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***1st STREET*** | | | |
| W/O Claremont Blvd | 68.0 | 68.0 | 0.0 |
| ***5th STREET*** | | | |
| E/O Indian Hill Rd | 54.9 | 55.0 | 0.1 |
| ***6th STREET*** | | | |
| W/O College Ave | 56.6 | 56.6 | 0.0 |
| E/O College Ave | 57.8 | 57.8 | 0.0 |
| W/O Mills Ave | 60.3 | 60.3 | 0.0 |
| E/O Mills Ave | 63.7 | 63.7 | 0.0 |
| W/O Claremont Blvd | 63.3 | 63.4 | 0.1 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 57.6 | 57.7 | 0.1 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 67.2 | 67.2 | 0.0 |
| W/O College Park/Dwy 5 | 67.2 | 67.3 | 0.1 |
| ***BASELINE ROAD*** | | | |
| W/O Monte Vista Ave | 69.8 | 69.8 | 0.0 |
| ***CLAREMONT BOULEVARD*** | | | |
| W/O Monte Vista Ave | 66.4 | 66.4 | 0.0 |
| N/O Foothill Blvd | 67.7 | 67.7 | 0.0 |
| S/O Foothill Blvd | 65.3 | 65.3 | 0.0 |
| S/O Dwy 2 | 65.3 | 65.4 | 0.1 |
| N/O Dwy 2 | 67.8 | 67.9 | 0.1 |
| N/O 9th St / Dwy 3 | 67.9 | 67.9 | 0.0 |
| S/O 9th St / Dwy 3 | 68.3 | 68.3 | 0.0 |
| S/O Dwy 4 | 69.0 | 69.0 | 0.0 |
| N/O Dwy 4 | 69.5 | 69.5 | 0.0 |
| N/O Arrow Route | 68.8 | 68.9 | 0.1 |
| S/O Arrow Route | 68.2 | 68.3 | 0.1 |
| N/O 1st St | 68.5 | 68.5 | 0.0 |
| ***FOOTHILL BOULEVARD*** | | | |
| W/O Indian Hill Blvd | 72.0 | 72.0 | 0.0 |
| E/O Indian Hill Blvd | 70.8 | 70.8 | 0.0 |
| W/O Mills Ave | 69.4 | 69.4 | 0.0 |
| E/O Mills Ave | 66.9 | 66.9 | 0.0 |
| ***HARRISON AVENUE*** | | | |
| W/O Indian Hill Blvd | 58.5 | 58.6 | 0.1 |
| ***INDIAN HILL BOULEVARD*** | | | |
| N/O Foothill Blvd | 67.0 | 67.0 | 0.0 |
| ***MILLS AVENUE*** | | | |
| S/O Foothill Blvd | 54.4 | 54.5 | 0.1 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Baseline Rd | 72.5 | 72.5 | 0.0 |
| N/O Claremont Blvd | 71.7 | 71.7 | 0.0 |
| S/O Arrow Rte | 70.1 | 70.1 | 0.0 |
| ***PADUA AVENUE*** | | | |
| N/O Baseline Rd | 67.8 | 67.8 | 0.0 |

**Table 9.4.13**
**Year 2020 Conditions With and Without Project, Weekend Fall Game Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***6th STREET*** | | | |
| W/O Claremont Blvd | 62.0 | 62.1 | 0.1 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 54.8 | 55.0 | 0.2 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 64.5 | 64.7 | 0.2 |
| W/O College Park/Dwy 5 | 65.1 | 65.2 | 0.1 |
| ***CLAREMONT BOULEVARD*** | | | |
| N/O Foothill Blvd | 64.9 | 65.1 | 0.2 |
| S/O Foothill Blvd | 62.6 | 63.0 | 0.4 |
| N/O 9th St / Dwy 3 | 65.1 | 65.5 | 0.4 |
| S/O 9th St / Dwy 3 | 65.3 | 65.5 | 0.2 |
| N/O Arrow Route | 66.2 | 66.3 | 0.1 |
| S/O Arrow Route | 65.3 | 65.3 | 0.0 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Arrow Rte | 68.3 | 68.4 | 0.1 |

**Table 9.4.14**
**Year 2020 Conditions With and Without Project, Weekend Spring Game Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***6th STREET*** | | | |
| W/O Claremont Blvd | 62.0 | 62.1 | 0.1 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 54.8 | 54.9 | 0.1 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 64.5 | 64.6 | 0.1 |
| W/O College Park/Dwy 5 | 65.1 | 65.2 | 0.1 |
| ***CLAREMONT BOULEVARD*** | | | |
| N/O Foothill Blvd | 64.9 | 65.0 | 0.1 |
| S/O Foothill Blvd | 62.6 | 62.8 | 0.2 |
| N/O 9th St / Dwy 3 | 65.1 | 65.3 | 0.2 |
| S/O 9th St / Dwy 3 | 65.3 | 65.4 | 0.1 |
| N/O Arrow Route | 66.2 | 66.2 | 0.0 |
| S/O Arrow Route | 65.3 | 65.3 | 0.0 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Arrow Rte | 68.3 | 68.3 | 0.0 |

**Table 4.9.15**
**Year 2030 Conditions With and Without Project, Weekday Practice Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***1st STREET*** | | | |
| W/O Claremont Blvd | 68.2 | 68.2 | 0.0 |
| ***5th STREET*** | | | |
| E/O Indian Hill Rd | 56.0 | 56.0 | 0.0 |
| ***6th STREET*** | | | |
| W/O College Ave | 56.4 | 56.4 | 0.0 |
| E/O College Ave | 58.0 | 58.0 | 0.0 |
| W/O Mills Ave | 60.6 | 60.6 | 0.0 |
| E/O Mills Ave | 64.0 | 64.0 | 0.0 |
| W/O Claremont Blvd | 63.7 | 63.7 | 0.0 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 58.7 | 58.7 | 0.0 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 67.3 | 67.3 | 0.0 |
| W/O College Park/Dwy 5 | 67.9 | 67.9 | 0.0 |
| ***BASELINE ROAD*** | | | |
| W/O Monte Vista Ave | 70.9 | 70.9 | 0.0 |
| ***CLAREMONT BOULEVARD*** | | | |
| W/O Monte Vista Ave | 67.0 | 67.0 | 0.0 |
| N/O Foothill Blvd | 68.2 | 68.2 | 0.0 |
| S/O Foothill Blvd | 65.9 | 65.9 | 0.0 |
| S/O Dwy 2 | 65.8 | 65.8 | 0.0 |
| N/O Dwy 2 | 68.4 | 68.4 | 0.0 |
| N/O 9th St / Dwy 3 | 68.3 | 68.3 | 0.0 |
| S/O 9th St / Dwy 3 | 68.7 | 68.7 | 0.0 |
| S/O Dwy 4 | 69.5 | 69.5 | 0.0 |
| N/O Dwy 4 | 70.0 | 70.0 | 0.0 |
| N/O Arrow Route | 69.3 | 69.3 | 0.0 |
| S/O Arrow Route | 68.6 | 68.6 | 0.0 |
| N/O 1st St | 68.8 | 68.8 | 0.0 |
| ***FOOTHILL BOULEVARD*** | | | |
| W/O Indian Hill Blvd | 72.2 | 72.2 | 0.0 |
| E/O Indian Hill Blvd | 70.5 | 70.5 | 0.0 |
| W/O Mills Ave | 69.3 | 69.3 | 0.0 |
| E/O Mills Ave | 66.7 | 66.7 | 0.0 |
| ***HARRISON AVENUE*** | | | |
| W/O Indian Hill Blvd | 59.2 | 59.2 | 0.0 |
| ***INDIAN HILL BOULEVARD*** | | | |
| N/O Foothill Blvd | 68.3 | 68.3 | 0.0 |
| ***MILLS AVENUE*** | | | |
| S/O Foothill Blvd | 51.9 | 52.0 | 0.1 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Baseline Rd | 73.1 | 73.1 | 0.0 |
| N/O Claremont Blvd | 71.3 | 71.3 | 0.0 |
| S/O Arrow Rte | 68.8 | 68.8 | 0.0 |
| ***PADUA AVENUE*** | | | |
| N/O Baseline Rd | 66.2 | 66.2 | 0.0 |

**Table 4.9.16**
**Year 2030 Conditions With and Without Project, Weekday Game Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***1st STREET*** | | | |
| W/O Claremont Blvd | 68.2 | 68.2 | 0.0 |
| ***5th STREET*** | | | |
| E/O Indian Hill Rd | 56.0 | 56.1 | 0.1 |
| ***6th STREET*** | | | |
| W/O College Ave | 56.4 | 56.5 | 0.1 |
| E/O College Ave | 58.0 | 58.0 | 0.0 |
| W/O Mills Ave | 60.6 | 60.6 | 0.0 |
| E/O Mills Ave | 64.0 | 64.0 | 0.0 |
| W/O Claremont Blvd | 63.7 | 63.7 | 0.0 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 58.7 | 58.8 | 0.1 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 67.3 | 67.3 | 0.0 |
| W/O College Park/Dwy 5 | 67.9 | 67.9 | 0.0 |
| ***BASELINE ROAD*** | | | |
| W/O Monte Vista Ave | 70.9 | 70.9 | 0.0 |
| ***CLAREMONT BOULEVARD*** | | | |
| W/O Monte Vista Ave | 67.0 | 67.0 | 0.0 |
| N/O Foothill Blvd | 68.2 | 68.2 | 0.0 |
| S/O Foothill Blvd | 65.9 | 65.9 | 0.0 |
| S/O Dwy 2 | 65.8 | 65.9 | 0.1 |
| N/O Dwy 2 | 68.4 | 68.4 | 0.0 |
| N/O 9th St / Dwy 3 | 68.3 | 68.3 | 0.0 |
| S/O 9th St / Dwy 3 | 68.7 | 68.8 | 0.1 |
| S/O Dwy 4 | 69.5 | 69.5 | 0.0 |
| N/O Dwy 4 | 70.0 | 70.0 | 0.0 |
| N/O Arrow Route | 69.3 | 69.3 | 0.0 |
| S/O Arrow Route | 68.6 | 68.6 | 0.0 |
| N/O 1st St | 68.8 | 68.8 | 0.0 |
| ***FOOTHILL BOULEVARD*** | | | |
| W/O Indian Hill Blvd | 72.2 | 72.2 | 0.0 |
| E/O Indian Hill Blvd | 70.5 | 70.5 | 0.0 |
| W/O Mills Ave | 69.3 | 69.3 | 0.0 |
| E/O Mills Ave | 66.7 | 66.7 | 0.0 |
| ***HARRISON AVENUE*** | | | |
| W/O Indian Hill Blvd | 59.2 | 59.2 | 0.0 |
| ***INDIAN HILL BOULEVARD*** | | | |
| N/O Foothill Blvd | 68.3 | 68.3 | 0.0 |
| ***MILLS AVENUE*** | | | |
| S/O Foothill Blvd | 51.9 | 52.1 | 0.2 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Baseline Rd | 73.1 | 73.1 | 0.0 |
| N/O Claremont Blvd | 71.3 | 71.3 | 0.0 |
| S/O Arrow Rte | 68.8 | 68.9 | 0.1 |
| ***PADUA AVENUE*** | | | |
| N/O Baseline Rd | 66.2 | 66.2 | 0.0 |

**Table 9.4.17**
**Year 2030 Conditions With and Without Project, Weekend Fall Game Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***6th STREET*** | | | |
| W/O Claremont Blvd | 62.4 | 62.5 | 0.1 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 55.9 | 56.0 | 0.1 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 64.6 | 64.8 | 0.2 |
| W/O College Park/Dwy 5 | 65.7 | 65.9 | 0.2 |
| ***CLAREMONT BOULEVARD*** | | | |
| N/O Foothill Blvd | 65.4 | 65.6 | 0.2 |
| S/O Foothill Blvd | 63.2 | 63.6 | 0.4 |
| N/O 9th St / Dwy 3 | 65.5 | 65.8 | 0.3 |
| S/O 9th St / Dwy 3 | 65.8 | 65.9 | 0.1 |
| N/O Arrow Route | 66.6 | 66.8 | 0.2 |
| S/O Arrow Route | 65.6 | 65.6 | 0.0 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Arrow Rte | 67.0 | 67.1 | 0.1 |

**Table 9.4.18**
**Year 2030 Conditions With and Without Project, Weekend Spring Game Day**

| Roadway Segment | CNEL at Nearest Receptor, dB | | Change in CNEL Due to Project, dB |
|---|---|---|---|
| | Without Project | With Project | |
| ***6th STREET*** | | | |
| W/O Claremont Blvd | 62.4 | 62.4 | 0.0 |
| ***9th STREET*** | | | |
| W/O Claremont Blvd | 55.9 | 55.9 | 0.0 |
| ***ARROW ROUTE*** | | | |
| E/O Claremont Blvd | 64.6 | 64.7 | 0.1 |
| W/O College Park/Dwy 5 | 65.7 | 65.8 | 0.1 |
| ***CLAREMONT BOULEVARD*** | | | |
| N/O Foothill Blvd | 65.4 | 65.5 | 0.1 |
| S/O Foothill Blvd | 63.2 | 63.4 | 0.2 |
| N/O 9th St / Dwy 3 | 65.5 | 65.7 | 0.2 |
| S/O 9th St / Dwy 3 | 65.8 | 65.9 | 0.1 |
| N/O Arrow Route | 66.6 | 66.7 | 0.1 |
| S/O Arrow Route | 65.6 | 65.6 | 0.0 |
| ***MONTE VISTA AVENUE*** | | | |
| S/O Arrow Rte | 67.0 | 67.1 | 0.1 |

To determine if the project could result in a "substantial" increase in noise, "substantial" must be defined. According to the Caltrans highway noise manual, a 3 dBA increase is a "barely perceptible" change in noise level by the average healthy ear while a 5 dBA increase is "readily perceptible" by the average ear. Based on standards identified by the City of Claremont, a 3 dBA increase would be considered to constitute a "substantial" increase in noise levels.

Tables 4.9.7 through 4.9.18 show that project-related (practice day or game day) traffic noise increases along roadway segments in the project vicinity would be 0.7 dBA or less. This range of increases in traffic noise levels is less than the 3 dBA change established as a substantial increase in noise; therefore, individual or cumulative traffic-related noise increases would not result in a significant impact.

The City of Claremont's General Plan, Chapter 6, Public Safety and Noise Element identifies that the maximum exterior noise level for schools is 65 dBA $L_{dn}$, and the maximum interior noise level is 50 dBA $L_{dn}$. For other public/institutional uses (including college campuses) the maximum acceptable noise level is up to 70 dBA $L_{dn}$. The maximum exterior noise level in active open space is 70 dBA $L_{dn}$ and up to 70 dBA $L_{dn}$ for passive open space. Based on the proposed Master Site Plan and Site Plan, there are proposed sports fields along Foothill Boulevard, Monte Vista Avenue, Arrow Route, and Claremont Boulevard that would be subject to the noise standard of up to 70 dBA $L_{dn}$.

Based on the Master Site Plan and Site Plan, the areas within the 70 dBA $L_{dn}$ noise impact zones are covered by landscaped areas. The proposed sand volley courts and multi-purpose fields are outside of the 70 dBA $L_{dn}$ impact zone from Foothill Boulevard. Similarly, the proposed archery and Argentinean paddle tennis courts are outside of the 70 dBA $L_{dn}$ impact zone from Monte Vista Avenue; therefore, ambient traffic-related noise would not exceed the applicable levels established by the City of Upland or the City of Claremont and impacts to on-site receptors would be less than significant. Note that this analysis represents a "worst case" scenario considering that the proposed football field, Argentinean paddle tennis court, and archery range are at a lower elevation than Monte Vista Avenue and Arrow Route where the difference in elevation would further attenuate roadway noise.

## Long-Term Operational Noise

During the long-term or operational phase of the on-site sports complex uses, potential noise impacts would be created by on-site recreational/sport activities. These stationary sources of noise include noises associated with shouting and yelling by spectators, players, coaches, and other noise-generating activities. Such isolated peak noises are measured in dBA $L_{max}$, as the volume or frequency of such events is not critical and the noises are not an averaged calculation, such as the $L_{dn}$.

There would be various new sports fields proposed on site. Participants in the sports fields would be spread out and moving around throughout the various fields. During a sports event, spectators, players, and coaches would generate noise such

as periodic whistles, loud talking, players yelling on the fields, and cheering, yelling, and applause from spectators. The noise study by Wieland Acoustics identified various scenarios for the sports activities generated by project operation.

The Weekday Practice Day scenario includes activities occurring simultaneously during a “worst case” hour. Recreational games at the Pitzer College facilities (i.e., the basketball court, the tennis court, the volleyball court, and the two multipurpose fields) will occur on Parcel 1 in Claremont. Practices at the two all-purpose athletic fields will occur on Parcels 5 and 6 in Upland. A total of 30 players and coaches would be involved in practice at the baseball field. A total of 20 players and coaches would be involved in practice at the softball field. A total of 85 players and coaches would be involved in practice at the football field.

The Weekday Game Day scenario includes activities occurring simultaneously during a “worst case” hour. Recreational games at the Pitzer College facilities (i.e., the basketball court, the tennis court, the volleyball court, and the two multipurpose fields) will occur on Parcel 1 in Claremont. Practices at the two all-purpose athletic fields will occur on Parcels 5 and 6 in Upland. A total of 60 players and coaches and 100 spectators would be in attendance for the baseball games. A total of 20 players and coaches would be involved in practice at the softball field. A total of 85 players and coaches would be involved in practice at the football field. In addition, 208 vehicles would be entering or exiting the various parking lots.

The Weekend Game Day (Fall) scenario includes activities occurring simultaneously during a “worst case” hour. Recreational games at the Pitzer College facilities (i.e., the basketball court, the tennis court, the volleyball court, and the two multipurpose fields) will occur on Parcel 1 in Claremont. Practices at the two all-purpose athletic fields will occur on Parcels 5 and 6 in Upland. Approximately five home Saturday football games are anticipated to occur at the project site. It is assumed that 1,500 spectators will be in attendance for the football games. Games typically begin at 1PM and end around 4PM. Some night games (starting at 7PM) may also occur. The project traffic study identified that the football game would include up to 170 players and coaches on the field. In addition, it is assumed that 689 vehicles would be entering or exiting the various parking lots.

The Weekend Game Day (Spring) scenario includes activities occurring simultaneously during a “worst case” hour. Recreational games at the Pitzer College facilities (i.e., the basketball court, the tennis court, the volleyball court, and the two multipurpose fields) will occur on Parcel 1 in Claremont. Practices at the two all-purpose athletic fields will occur on Parcels 5 and 6 in Upland. Simultaneous baseball and softball games (with 100 spectators at the baseball game and 75 spectators at the softball game) are assumed on a spring weekend. The two all-purpose athletic fields are assumed to add 100 spectators each with a combined attendance potential of 375 spectators. The spring sports schedule indicates a total of 11 Saturday game dates plus three Sunday Spring game dates. Of those 14 dates, seven dates have only one field with scheduled play, four dates have two fields with spectators with gameplay, one date has play scheduled on three fields with spectators, and one day has play for four sports simultaneously. Baseball

games will include 60 players and coaches on the field and softball games will include 40 players and coaches on the field. In addition, 331 vehicles are assumed to be entering or exiting the various parking lots.

It is noted that other athletic or recreational activities will also take place at the project site. These include track and field events, activities at the golf practice area, activities at the archery range, and activities at the Argentinean paddle tennis courts. These activities have not been included in the analyzed scenarios because they produce less noise at the nearby sensitive receptors than the activities listed in the scenarios due to lower anticipated crowd sizes and/or greater distances from the sensitive receptors.

The primary noise sources on game days are the spectators and the public address systems. From measurements obtained at other sporting events it was possible to estimate the average noise level due to each spectator. This noise level could then be scaled up or down according to the number of spectators stated in each operational scenario to estimate the noise levels due to that scenario. The noise levels used in the analysis for the various recreational and sporting activities were estimated based on measurements obtained of similar activities conducted as part of previous studies.

As they were not included on the Conceptual Master Site Plan, a number of assumptions have been made about the public address (PA) systems at the football, baseball, and softball stadiums. For the purposes of the analysis, it was assumed that one loudspeaker would be positioned at a height of 15 feet above the spectator stands on both sides of each field and centrally located in front of the stands, and that they would only be used on game days. Thus, it was assumed that each field had two loudspeakers. It was further assumed that each loudspeaker produces an average noise level of 57.6 dBA at a distance of 500 feet to the side of the loudspeaker (i.e., at a right angle to the direction that the loudspeaker is aimed).

It was further assumed in the analyses that bullhorns would not be permitted on the project site, that portable PA systems would not be used at games held on Parcels 5 and 6, and that the use of air horns by spectators would be prohibited. It is understood that the use of these sources will noticeably increase the noise levels at the project site.

The results of the analyses are presented in Table 4.9.19 (Typical Practice and Game Noise) for typical ground level receptors in the surrounding areas.

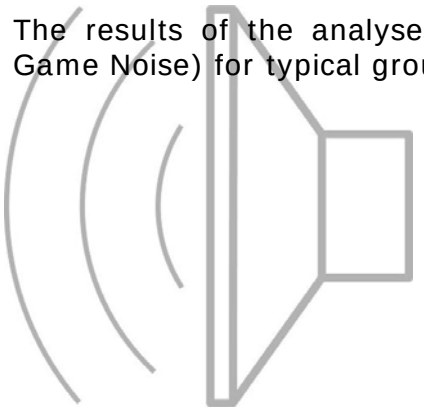


**Table 4.9.19**
**Typical Practice and Game Noise**

| Receptors | Estimated Average Project Noise Levels[1] (dBA) | | | |
|---|---|---|---|---|
| | Weekday Practice | Weekday Game | Fall Weekend Game | Spring Weekend Game |
| ***City of Claremont*** | | | | |
| Nearest Residence | <38 / <39 | <47 / <47 | < 52 / <52 | <52 / <52 |
| Pitzer College Dorms | 50 / 51 | 55 / 57 | 56 / 57 | 58 / 60 |
| Claremont McKenna College Dorms | 46 / 47 | 55 / 55 | 57 / 59 | 60 / 61 |
| The Children's School | 44 | 51 | 55 | 58 |
| Retail Center on Foothill | 45 | 49 | 51 | 51 |
| Retail Center at NW corner of Foothill Boulevard and Claremont Boulevard | 43 | 49 | 50 | 52 |
| ***City of Upland*** | | | | |
| Condominiums on Arrow Route | 49 / 51 | 53 / 55 | 58 / 58 | 61 / 63 |
| Retail Center on Arrow Route | 48 | 55 | 58 | 60 |
| Businesses on Monte Vista Avenue | 42 | 49 | 54 | 53 |
| Business Park at NE corner of Foothill Boulevard and Monte Vista Avenue | 39 | 46 | 50 | 49 |

Note:
[1] 1st Floor / 2nd Floor

Source: Wieland Acoustics, 2015

Located to the southwest of the project is a preschool and student housing apartments. To the west are the Claremont-McKenna College and Pitzer College campuses. Homes and apartments are located south of the project site in the College Park development. The facilities nearest the project site include student housing, a baseball field, a parking lot, and vacant land. The closest sensitive land uses to the project is existing Pitzer College classroom buildings to the west adjacent to the project site. The closest sensitive receptors are approximately 500 ft from the baseball field or the softball field. It should be noted that the student housing, unlike traditional residences, is part of the college environment and noise from college activities are expected to be part of the living environment. Also, the existing baseball, softball, and football/track fields are currently located closer to the existing noise-sensitive land uses than where they are proposed to be located on the project site. By relocating these sports fields to the new location on the project site, the ambient noise surrounding these land uses would be potentially lower compared to the existing conditions. Furthermore, because the preschool does not operate on Saturday, it would not be impacted by noise associated with the fall football games.

In order to assess the potential impact of the proposed project, the estimated noise levels identified in Table 4.9.19 were compared to the noise standards for the cities of Claremont and Upland. For the receptors in Claremont, the assessment was made relative to the City's base ambient noise level (BANL) provided in Table 4.9.5. The same approach was applied to the majority of the receptors in the City of Upland. However, the City of Upland Municipal Code also allows the use of the actual measured ambient noise level if it is higher than the BANL. This approach was used to assess project noise impacts at the condominiums on Arrow Route.

The measured ambient noise levels measured at the offset of the condominiums adjacent to Arrow Route in the City of Upland are higher than the City's daytime BANL of 55 dBA. Therefore, at this location, the actual ambient noise level was used to assess the impact of the proposed project. Specifically, for weekday games and practices, which will occur between 3:30 PM and 6:30 PM, the actual measured ambient noise level ranged from 58.2 to 60.1 dBA, with an average of 59.6 dBA. Therefore, for weekday games and practices a BANL of 59.6 dBA has been used to assess potential noise impacts at the condominiums.

Similarly, weekend games in the fall would typically occur between 1:00 PM to 4:00 PM. The actual measured ambient noise levels between 1:00 PM and 4:00 PM ranged from 58.2 dBA to 59.6 dBA, with an average of 59.0 dBA. Therefore, for fall weekend games in the afternoon a BANL of 59.0 dBA has been used to assess potential impacts at the condominiums.

Weekend games in the spring would typically occur at any time between 7:00 AM and 7:00 PM. During these hours the actual measured ambient noise level ranged from 56.3 to 60.5 dBA, with an average of 58.8 dBA. Therefore, for spring weekend games a BANL of 58.8 dBA has been used to assess potential impacts at the condominiums.

Weekday practice day, weekday game day, and fall weekend game day activities are not expected to generate noise levels that increase the ambient level by 3 dB or more at any noise receptor in the project's vicinity. Therefore, the impact of these project scenarios is less than significant. It is noted that the weekday game day scenario is expected to increase the ambient noise level by more than 3 dB at the Pitzer College dormitories and the fall weekend game day activities are expected to increase the ambient noise level by more than 3 dB at the Pitzer College and Claremont McKenna College dormitories; however, this is not considered to be a significant impact because the project applicant operates these properties and will have the authority to halt or modify the schedule of activities at the project site if it determined that such activities would be disruptive to the dormitories.

Spring weekend game activities are expected to generate noise levels that increase the ambient level by 3 dB or more at the homes on Arrow Route in Upland when games are occurring simultaneously; therefore, the impact of this project scenario is potentially significant.

Mitigation was considered that would require that the project applicant regulate the schedule and crowd size at the project site during spring weekend game days. In order to reduce simultaneous baseball and softball game day noise impacts, spectators at the baseball game would need to be limited to 100 people and spectators at the softball game would need to be limited to 75 people. Games could occur simultaneously on the baseball field, the softball field, and the all-purpose fields if spectators are limited to 100 at the baseball field, 75 at the softball field, and 50 at the all-purpose fields if the PA systems at the baseball and softball fields are adjusted so that combined average sound power level is 110 dBA or less.

Baseball games occur during the day, between 11:00 AM and 3:00 PM, and double-headers (days when two games are played) are common. Softball games also occur during the day at similar times with double-headers similarly as common. During the 2015 season, there were only three Saturdays when both the baseball team and the softball team were playing at home, on February 14th, March 21st, and April 11th. Therefore, based on current scheduling practices, relatively few occurrences of simultaneous baseball and softball games are expected to occur in a year. After consideration of this mitigation, it was found to be infeasible because there is no way for the project proponent to monitor and enforce the scheduling or event admittance practices of Claremont-Mudd-Scripps Athletics, particularly at the all-purpose fields which are for intramural club sports. Additional mitigation is considered below to reduce operational noise impacts; however, because mitigation to reduce impacts to less than significant is infeasible, impacts remain significant and unavoidable.

In addition to noise from event spectators, use of the PA system will also expose receptors to excessive noise levels. At this time it is unknown the type or location of future PA systems; therefore, Mitigation Measure 4.9.A-1 has been incorporated requires that the project applicant obtain a building permit from the City of Upland prior to installing the public address systems. The PA systems can be installed to reduce and minimize noise levels through selection of PA systems with limited output and through the placement of the system speakers. Because the type and placement of speakers is unknown at this time and there is no certainty that the PA system can be designed to both be effective for sporting events while not exposing surrounding uses to excessive noise levels, impacts will remain significant and unavoidable after consideration of feasible mitigation.

Other feasible mitigation includes Mitigation Measure 4.9.A-2 that requires all games and practices between the hours of 10:00 PM and 7:00 AM be prohibited, and Mitigation Measure 4.9.A-3 requires that site maintenance only be permitted between the hours of 7:00 AM and 8:00 PM Monday through Saturday. These measures will help reduce and minimize operational noise impacts.

**IMPACT 4.9.B**

***The proposed project would result in less than significant impacts related to exposure of persons to excessive groundborne vibration.***

Vibration is the movement of mass over time. Vibration can impact people, structures, and sensitive equipment.[5] The primary concern related to vibration and people is the potential to annoy those working and residing in the area. Vibration with high enough amplitudes can damage structures (such as crack plaster or break windows). Groundborne vibration can also disrupt the use of sensitive medical and scientific instruments such as electron microscopes. Common sources of vibration within communities include construction activities and railroad operations.

There are no railroads within the project vicinity that could expose users of the proposed future sports facilities to substantial vibration. Activities associated with the future sports facilities proposed in the Master Site Plan and Site Plan do not

cause vibration; therefore, no long-term, operational impact related to vibration could occur.

Based on the Federal Transportation Authority (FTA) "Transit Noise and Vibration Impact Assessment" and depending on the building category of the nearest buildings adjacent to the potential pile driving area, the potential construction vibration damage criteria vary. For example, for a building that is constructed with reinforced concrete with no plaster, the Federal Transit Administration (FTA) guidelines show that a vibration level of up to 102 velocity decibels (VdB), an equivalent to 0.5 in/sec in RMS, is considered safe and would not result in any construction vibration damage. For a non-engineered timber and masonry building, the construction vibration damage criterion is 94 VdB (0.2 in/sec in RMS). The RMS values for building damage thresholds referenced above are shown in Table 4.9.20 (Vibration Threshold Criteria), taken from the "Transportation- and Construction-induced Vibration Guidance Manual".

**Table 4.9.20**
**Vibration Threshold Criteria**

| Structure and Condition | Maximum PPV (in/sec) | |
|---|---|---|
| | **Transient Sources[1]** | **Continuous/Frequent Intermittent Sources[2]** |
| Extremely fragile historic buildings, ruins, ancient monuments | 0.12 | 0.08 |
| Fragile buildings | 0.20 | 0.10 |
| Historic and some old buildings | 0.50 | 0.25 |
| Older residential structures | 0.50 | 0.30 |
| New residential structures | 1.00 | 0.50 |
| Modern industrial/commercial buildings | 2.00 | 0.50 |

Source: Caltrans Transportation- and Construction-Induced Vibration Guidance Manual, June 2004.
[1] Transient sources create a single, isolated vibration event, such as blasting or drop balls.
[2] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Bulldozers and other heavy-tracked construction equipment generate approximately 92 VdB of ground-borne vibration when measured at 50 ft, based on Transit Noise and Vibration Impact Assessment. This level of ground-borne vibration exceeds the threshold of human perception, which is around 65 VdB. Based on the California Department of Transportation's "Transportation-Related Earthborne Vibration, Technical Advisory" the vibration level at 100 ft is approximately 6 VdB lower than the vibration level at 50 ft. Vibration at 200 ft from the source is more than 6 VdB lower than the vibration level at 100 ft, or more than 12 VdB lower than the vibration level at 50 ft. Every doubling of distance from 50 ft results in the reduction of the vibration level by 6 VdB; therefore, receptors at 100 and 200 ft from the construction activity may be exposed to ground-borne vibration up to 86 and 80 VdB, respectively.

The existing structures in the project vicinity, including Pitzer College and commercial buildings to the west, north, east, and south, are located at least 100 ft from the project site that would be exposed to ground-borne vibration below 86 VdB. Therefore, construction on the project site would result in the exposure of

persons to excessive ground-borne vibration or ground-borne noise levels. However, this range of vibration levels would be below the 102 VdB threshold considered by the FTA to be safe for buildings constructed with current building standards. Table 4.9.21 (Vibration Source Amplitudes for Construction Equipment) lists the vibration source amplitudes for construction equipment. At a distance of 50 ft or more, vibration level associated with a large bulldozer or a loaded truck would be reduced to 0.0415 in/sec or lower. Compared to the thresholds identified in Table 4.9.20, level of vibration would not result in any building damage to commercial buildings and/or institutional structures in the project vicinity. Impacts related to groundborne vibration would be less than significant.

**Table 4.9.21**
**Vibration Source Amplitudes for Construction Equipment**

| Equipment | Reference PPV at 25 ft (in/sec) |
|---|---|
| Pile Driver (Impact), Typical | 0.644 |
| Pile Driver (Sonic), Typical | 0.170 |
| Vibratory Roller | 0.210 |
| Large Bulldozer | 0.089 |
| Caisson Drilling | 0.089 |
| Loaded Trucks | 0.076 |
| Jackhammer | 0.035 |
| Small Bulldozer | 0.003 |
| Crack-and-Seat Operations | 2.4 |
| Sources: Federal Transit Administration 2006 (except Hanson 2001 for vibratory rollers) and Caltrans 2000 for crack-and-seat-operations. | |

**IMPACT 4.9.D**

***Temporary and periodic noise impacts related to construction activities in the City of Upland and City of Claremont would be less than significant with mitigation incorporated and implementation of existing regulations.***

Short-term noise impacts would be associated with grading and paving on site during construction of the proposed project; however, construction-related short-term noise levels from grading and paving the project site would be similar to existing ambient noise levels in the project area from active landfill operations today (which include on-going filling, grading, dumping, and compacting activities). Moreover, once construction of the project is completed, such grading activities would cease.

Two types of short-term noise impacts could occur during the construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the site for the proposed project would temporarily cause noise on access roads leading to the site. Noise generated from trucks hauling materials and debris to and from the site would be no different than trucks that currently haul debris to the existing landfill, therefore this would not be a new source of noise and in fact would cease once construction activities were completed. Furthermore, the average effect of construction traffic on ambient

noise levels would be less than 3 dBA and therefore would not be substantial. Finally, traffic noise on public streets is exempt from local government regulations. Short-term construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

The second type of short-term noise impact is related to noise generated during grading and paving on the project site. Construction is completed in discrete steps, each of which has its own mix of equipment, and consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site, and therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Table 4.9.22 lists typical construction equipment noise levels recommended for noise impact assessments, based on a distance of 50 ft between the equipment and a noise receptor. Typical noise levels range up to 96 dBA $L_{max}$ at 50 ft during the noisiest construction phases. At 100 ft, this noise level drops by 6 dBA to 90 dBA $L_{max}$. The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels, because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3 or 4 minutes at lower power settings. However, as noted earlier, earthmoving activities related to landfill activities currently occur on an on-going basis at the project site, and grading activities would not be expected to substantially increase noise levels.

**Table 4.9.22**
**Typical Construction Equipment Noise Levels**

| Type of Equipment | Range of Maximum Sound Levels Measured (dBA at 50 ft) | Suggested Maximum Sound Levels for Analysis (dBA at 50 ft) | Maximum Sound Levels at 70 ft (dBA) |
|---|---|---|---|
| Pile Drivers, 12,000 to 18,000 ft-lb/blow | 81–96 | 93 | 90 |
| Rock Drills | 83–99 | 96 | 93 |
| Jack Hammers | 75–85 | 82 | 79 |
| Pneumatic Tools | 78–88 | 85 | 82 |
| Pumps | 74–84 | 80 | 77 |
| Scrapers | 83–91 | 87 | 84 |
| Haul Trucks | 83–94 | 88 | 85 |
| Cranes | 79–86 | 82 | 79 |
| Portable Generators | 71–87 | 80 | 77 |
| Rollers | 75–82 | 80 | 77 |
| Dozers | 77–90 | 85 | 82 |
| Tractors | 77–82 | 80 | 77 |
| Front-End Loaders | 77–90 | 86 | 83 |
| Hydraulic Backhoe | 81–90 | 86 | 83 |
| Hydraulic Excavators | 81–90 | 86 | 83 |
| Graders | 79–89 | 86 | 83 |
| Air Compressors | 76–89 | 86 | 83 |

| | | | |
|---|---|---|---|
| Trucks | 81–87 | 86 | 83 |
| Source: Noise Control for Buildings and Manufacturing Plants, Bolt, Beranek & Newman, 1987 | | | |

Table 4.9.23 (Estimated Combined Average Noise Level During Each Construction Phase) identifies the estimated number and type of equipment that will be used during each construction phase, as well as an analysis of the estimated overall average construction noise levels during each phase.

**Table 4.9.23**
**Estimated Combined Average Noise Level During Each Construction Phase**

| Construction Phase & Equipment | Typical Maximum Noise Level at 50 ft. | Usage Factor[1] | Average Equipment Noise Level @ 50' w. Usage Factor |
|---|---|---|---|
| ***Site Improvements – Site Preparation*** | | | |
| 3 dozers | 86.5 dBA | 0.4 | 82.5 dBA |
| 4 tractors/loaders/backhoes | 90.0 dBA | 0.4 | 86.0 dBA |
| *Combined* | | | *87.6 dBA* |
| ***Site Improvements – Grading*** | | | |
| 1 dozer | 81.7 dBA | 0.4 | 77.7 dBA |
| 3 tractors/loaders/backhoes | 88.7 dBA | 0.4 | 84.7 dBA |
| 1 grader | 85.0 dBA | 0.4 | 81.0 dBA |
| 1 excavator | 80.7 dBA | 0.4 | 76.7 dBA |
| *Combined* | | | *87.2 dBA* |
| ***Site Improvements – Grading*** | | | |
| 1 grader | 85.0 dBA | 0.4 | 81.0 dBA |
| 1 dozer | 81.7 dBA | 0.4 | 77.7 dBA |
| 2 scrapers | 86.6 dBA | 0.4 | 82.6 dBA |
| 2 tractors/loaders/backhoes | 87.0 dBA | 0.4 | 83.0 dBA |
| 2 excavators | 83.7 dBA | 0.4 | 79.7 dBA |
| *Combined* | | | *88.2 dBA* |
| ***Site Improvements – Building Construction*** | | | |
| 1 crane | 80.6 dBA | 0.16 | 72.6 dBA |
| 2 forklifts | 77.7 dBA | 0.4 | 73.7 dBA |
| 2 tractors/loaders/backhoes | 87.0 dBA | 0.4 | 83.0 dBA |
| *Combined* | | | *83.8 dBA* |
| ***Site Improvements – Building Construction*** | | | |
| 1 crane | 80.6 dBA | 0.16 | 72.6 dBA |
| 3 forklifts | 79.4 dBA | 0.4 | 75.4 dBA |
| 1 generator set | 80.6 dBA | 0.5 | 77.6 dBA |
| 3 tractors/loaders/backhoes | 88.7 dBA | 0.4 | 84.7 dBA |
| 1 welder | 74.0 dBA | 0.4 | 70.0 dBA |
| *Combined* | | | *86.2 dBA* |
| ***Site Improvements – Architectural Coating*** | | | |
| 1 air compressor | 77.7 dBA | 0.4 | 73.7 dBA |
| *Combined* | | | *73.7 dBA* |
| ***Site Improvements – Paving*** | | | |
| 1 paver | 77.2 dBA | 0.5 | 74.2 dBA |
| 4 cement and mortar mixers | 86.0 dBA | 0.5 | 83.0 dBA |
| 1 roller | 80.0 dBA | 0.2 | 73.0 dBA |
| 1 tractors/loaders/backhoes | 84.0 dBA | 0.4 | 80.0 dBA |
| *Combined* | | | *85.4 dBA* |
| ***Site Improvements – Paving*** | | | |
| 2 pavers | 80.2 dBA | 0.5 | 77.2 dBA |
| 2 rollers | 83.0 dBA | 0.2 | 76.0 dBA |
| 2 paving equipment | 80.2 dBA | 0.5 | 77.2 dBA |

| Construction Phase & Equipment | Typical Maximum Noise Level at 50 ft. | Usage Factor[1] | Average Equipment Noise Level @ 50' w. Usage Factor |
|---|---|---|---|
| *Combined* | | | *81.6 dBA* |
| ***Site Improvements – Paving*** | | | |
| 1 paver | 77.2 dBA | 0.5 | 74.2 dBA |
| 1 cement and mortar mixer | 80.0 dBA | 0.5 | 77.0 dBA |
| 1 roller | 80.0 dBA | 0.2 | 73.0 dBA |
| 1 tractors/loaders/backhoes | 84.0 dBA | 0.4 | 80.0 dBA |
| 1 paving equipment | 77.2 dBA | 0.5 | 74.2 dBA |
| *Combined* | | | *83.5 dBA* |
| ***Roadway Improvements – Site Preparation*** | | | |
| 1 grader | 85.0 dBA | 0.4 | 81.0 dBA |
| 1 tractor | 84.0 dBA | 0.4 | 80.0 dBA |
| *Combined* | | | *83.5 dBA* |
| ***Roadway Improvements – Paving*** | | | |
| 1 paver | 77.2 dBA | 0.5 | 74.2 dBA |
| 4 cement and mortar mixers | 86.0 dBA | 0.5 | 83.0 dBA |
| 1 roller | 80.0 dBA | 0.2 | 73.0 dBA |
| 1 tractors/loaders/backhoes | 84.0 dBA | 0.4 | 80.0 dBA |
| *Combined* | | | *85.4 dBA* |

Notes:
[1] Percentage of time equipment is operating at noisiest mode in most used period on site.

Source: Wieland Acoustics, 2015

The City of Claremont's Municipal Code states that noise associated with construction, repair, remodeling or grading of any real property is exempt from the provisions of the Municipal Code noise ordinance, provided that these activities take place between the hours of 7 a.m. and 8 p.m. weekdays and Saturdays, excluding national holidays, and the noise levels, as measured on residential properties, do not exceed 65 dBA for a cumulative period of more than 15 minutes in any hour, 70 dBA for a cumulative period of more than 10 minutes in any one hour, 79 dBA for a cumulative period of more than 5 minutes in any one hour or 80 dBA at any time. Based on the estimated combined construction noise levels identified in Table 4.9.23, project construction will not generate noise levels in excess of standards established in the City of Claremont Noise Ordinance and impacts will be less than significant.

The closest off-site receptor locations within the City of Claremont include the Pitzer College to the west and commercial uses to the north. Project construction is expected to increase the ambient noise level by more than 10 dB at the college dormitories; however, this is not considered to be a significant impact because Pitzer College and will have the authority to halt, reschedule, or alter construction activities if they are disruptive. Measure 4.9.D-1 requires the construction contractor to put into effect noise abatement measures to the extent feasible to minimize construction noise levels at nearby properties. With implementation of Mitigation Measure 4.9.D-1, temporary construction-related noise impacts to these uses would be reduced. In addition, none of these adjacent uses are within 100 ft of the project construction area. As stated previously, sound levels decrease approximately 6 dBA for each doubling of distance from the source. The closest noise-sensitive uses to the southwest include a children's school and student

housing apartments, which are more than 100 ft from the project boundary. Therefore, these adjacent uses would not be exposed to construction noise exceeding 85 dBA $L_{max}$ when construction activities occur near the project boundary. Construction of the proposed project would not result in the exposure of adjacent uses to noise levels exceeding the maximum construction noise level of 85 dBA $L_{max}$ specified by the City of Claremont, and the impact associated with earthmoving equipment is considered less than significant.

The City of Upland in its Municipal Code states that construction, repair, or demolition activities are limited to between the hours of 7:00 a.m. and 6:00 p.m. of any working day, except Sundays and federal holidays. No specific noise level limits have been adopted by the City of Upland to regulate construction related noise; therefore, for purposes of this analysis, the City of Claremont noise level standard for construction activities will be used. Because project construction will only occur during the hours permitted by Code, it will not generate noise levels in excess of standards established in the City of Upland Noise Ordinance, and the impact is less than significant. However, project construction is anticipated to produce average noise levels that exceed the ambient by 10 dBA or more at the condominiums on Arrow Route. Therefore, project construction will result in a substantial temporary or periodic increase in ambient noise levels at this location; impacts will be significant without implementation of mitigation. Mitigation Measure 4.9.D-1 requires the construction contractor to put into effect noise abatement measures to the extent feasible to minimize construction noise levels at nearby properties. With implementation of Mitigation Measure 4.9.D-1, impacts will be less than significant.

**IMPACT 4.9.E**

***Noise impacts to students, staff, and visitors utilizing the future sports fields due to operations at Cable Airport would be less than significant.***

The proposed future sports facilities would accommodate students and staff on the project site that is located within the 60 to 65 dBA noise contour of Cable Airport. Students and staff could be exposed to single-event noise increases caused by aircraft departures from the airport, particularly because most activities associated with the proposed sports facilities would occur outside. A 65 dBA noise level exposure to institutional uses is within the noise level standards established in the Upland and Claremont General Plan Noise Elements and the Upland noise ordinance (the Claremont Municipal Code does not establish an enforcement standard for the project's zoning district); therefore, future use of the proposed sports facilities would not expose persons to excessive noise levels associated with operation of Cable Airport and impacts would be less than significant.

## Standard Conditions

**Chapter 9.40**

**City of Upland.** Construction and property maintenance activities identified on the Master Site Plan shall comply with the provisions of Chapter 9.40 (Unnecessary Noise) of the Upland Municipal Code.

**Section 16.154.020**

**City of Claremont.** Construction and property maintenance activities identified on the Site Plan shall comply with the provisions of Section 16.154.020 (Noise and Vibration Standards) of the Claremont Municipal Code.

## *Mitigation Measures*

**MITIGATION 4.9.A-1**

Prior to issuance of occupancy permits for the baseball field and/or the softball field, the project applicant shall obtain a valid permit from the City of Upland prior to installing the public address systems at the project site. Through the permitting process, the type, location, and operation of future proposed public address systems will be evaluated and designed to minimize noise at surrounding receptors.

**MITIGATION 4.9.A-2**

Scheduled games and practices shall not be permitted the project site between the hours of 10:00 PM and 7:00 AM. All games and practices at the project site shall be scheduled to allow sufficient time for all participants and spectators to leave the site by 10:00 PM. Participants and spectators of the scheduled games and practices shall not be permitted to be on site prior to 7:00 AM.

**MITIGATION 4.9.A-3**

Site maintenance work shall only be permitted between the hours of 7:00 AM and 8:00 PM Monday through Saturday.

**MITIGATION 4.9.D-1**

To minimize construction noise levels at the nearby properties, the construction contractor shall, to the extent practical, put into effect the following noise abatement measures:

a. Construction activities shall only occur during the hours permitted by the Municipal Codes for the cities of Claremont and Upland.

b. No construction equipment shall be used that generates a noise level in excess of 85 dBA at a distance of 100 feet from the equipment. If construction equipment is anticipated to generate noise in excess of 85 dBA at 100 feet, temporary solid noise barriers or berms shall be erected between construction equipment and sensitive off-site receptors where feasible.

c. Construction storage areas shall be located away from sensitive receptors. Where this is not possible, the storage of waste materials, earth, and other supplies shall be positioned in a manner that will function as a noise barrier to the closest sensitive receivers.

d. All construction and demolition equipment shall be fitted with properly sized mufflers.

e. Noisy construction equipment items shall be located as far as practicable from the adjacent properties.

f. In order to minimize the time during which any single noise-sensitive receptor is exposed to construction noise, construction shall be completed as rapidly as possible.

g. The quietest construction equipment owned by the contractor shall be used. The use of electric powered equipment is typically quieter than diesel, and hydraulic powered equipment is quieter than pneumatic power. If compressors powered by diesel or gasoline engines are to be used, they shall be contained or have baffles to help abate noise levels.

h. All construction equipment shall be properly maintained. Poor maintenance of equipment typically causes excessive noise levels.

i. Noisy equipment shall be operated only when necessary, and shall be switched off when not in use.

j. Notice shall be posted prior to construction identifying the location and dates of construction, and the name and phone number of a contact person at the Claremont University Consortium in case of complaints. The notice shall encourage the residents to call the contact person rather than the police in case of complaint. The notice shall inform residents of any changes to the schedule. The designated contact person shall be on site throughout the project construction with a mobile phone. If a complaint is received, the contact person shall log all complaints and take whatever reasonable steps are necessary to resolve the complaint.

k. No idling of construction equipment or trucks for extended periods.

## Level of Significance with Mitigation Incorporated

Impact 4.9.A would be significant and unavoidable with incorporation of Mitigation Measures 4.9.A-1 through 4.9.A-3. Impact 4.9.D would be reduced to less than significant levels with incorporation of Mitigation Measure 4.9.D-1. All other impacts would be less than significant.

## References


[1] Wieland Acoustics Noise and Vibration Consultants. Environmental Noise Study, Claremont University Consortium. April 2015

[2] West Valley Planning Agency Airport Land Use Commission. Cable Airport Comprehensive Land Use Plan. December 1981

[3] City of Upland. General Plan. Noise Element. 1986

[4] City of Claremont. General Plan. Noise Element. 2013

[5] California Department of Transportation. Transportation- and Construction-Induced Vibration Guidance Manual. June 2004

# Public Services 4.10

This section will discuss the adequacy of Upland and Claremont's fire and police facilities to serve the project site while maintaining existing service goals. As identified in the project Initial Study (Appendix B), no impacts to schools, parks, or other public facilities would occur; these facilities will not be discussed. One comment related to fire and police services was submitted by the San Bernardino local Agency Formation Commissions during the circulation of the Notice of Preparation. That comment is addressed below.

## *Existing Conditions*

### Upland Fire Protection Services

Fire protection and emergency medical services are provided to the City of Upland by the Upland Fire Department. The nearest fire station that will provide first response to the project site is the Benson Fire Station (No. 163) located at 1350 North Benson Avenue, approximately two miles northeast of the project site. This station is equipped with a 1,500 gallon per minute (GPM) "quint" and one 1,500 GPM reserve pumper.[1] A quint is a firefighting vehicle that serves both as an engine and a ladder truck. Fire Station 163 is staffed 24-hours a day by at least a battalion chief, fire captain, fire engineer, and firefighter paramedic. The Upland Fire Department responds to over 2,000 reported fires annually with approximately 400 of those meeting reportable fire criteria (uncontrolled burning). The Upland Fire Department is a participant in the California Master Mutual Aid Agreement that includes all counties and almost all cities in the state. All parties to the agreement are required to provide resources and facilities to any other party to combat the impacts of disasters such as floods, fires, and earthquakes. Although the Upland Fire Department is only equipped to handle structure fires, the availability of statewide assistance means that additional resources are available to the Department to handle larger events. The Upland Fire Department has established a service response goal of four minutes for 90 percent of all emergency calls and eight minutes for 90 percent of any full alarm fires, based on the National Fire Protection Agency (NFPA) 1710 standards.[2] Currently, the average response time to emergency calls is 7:21 minutes.[3]

### Upland Police Protection Services

Police protection services are provided to the City of Upland by the Upland Police Department. The Upland Police Department is located at 1499 West 13th Street, approximately two miles northeast of the project site. The Department consists of 70 sworn officers, for an officer to 1,000 residents ratio of 0.93 [70 / (75,417 / 1,000) = 0.93].[4] The Department includes five motorcycle officers and 23 patrol units. The Upland Police Department classifies incidents based on the following priority ranks:

**Priority 1:** High Priority (Emergency, Serious Crime in Progress)
**Priority 2:** Medium Priority (Non-Emergency)
**Priority 3:** Low Priority (Report Calls)

**Priority 4:** Lowest Priority (Abandoned Vehicles)

The Upland Police Department has established a service response goal of less than six minutes for Priority 1 incidents.

### Claremont Fire Protection Services

Fire protection and emergency medical services are provided to the City of Claremont by the Los Angeles County Fire Department. The project site is located within the Battalion 2 response section of the County with Fire Station No. 101 located at 606 West Bonita Avenue, located approximately two miles west of the project site. Station 101 is equipped with one Type-I pumper and a paramedic rescue squad. The service goal for Station 101 is to arrive at the furthest point in the Station's district within seven minutes; however, average response times are between three and five minutes.[5] Under an existing automatic aid agreement, Upland will also provide a fire engine to incident responses in the area bound by Foothill Boulevard, Mills Avenue, and Pomello Drive, directly north of the project site.[6]

### Claremont Police Protection Services

The Claremont Police Department provides police protection services to the City of Claremont. The Claremont Police Department is located at 570 West Bonita Avenue, approximately two miles west of the project site. The Department consists of 34 sworn officers for an officer to 1,000 residents ratio of 0.95 [34 / (35,920 / 1,000) = 0.95].[7] [8] The Department has established a desired service goal of 1.21 officers per 1,000 residents. In 2013, the Claremont Police Department responded to 24,255 calls for service with an average response time to priority calls of 3 minutes 55 seconds.[9] In addition to public polices services, the Claremont Colleges have a Campus Safety Department, which is operated through the Claremont University Consortium (CUC). The Campus Safety Department adds staff as demand requires and as considered by the Council of Presidents of The Claremont Colleges.

## *Thresholds of Significance*

The project could result in a potentially significant impact if it would:

A. Result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.
B. Result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives.

## Environmental Impacts

**IMPACT 4.10.A 4.10.B**

***Police or fire protection facilities would not need to be constructed to serve the proposed sports facilities; impacts would be less than significant***

The proposed subdivision, Master Site Plan, Site Plan, and development do not contain any housing component or other feature that could result in population growth. The proposed sports fields would provide for an additional three to five jobs on-site. The proposed sports facilities would primarily replace existing facilities located west of the project site, on the west side of Claremont Boulevard. Without a substantial population or employment increasing component, the project could not have a direct effect on the service goals of either jurisdiction's police or fire protection services; therefore, no new facilities would need to be constructed to maintain the current service levels provided by the servicing police and fire departments. Indirectly, the proposed sports fields are growth inducing because the facilities proposed on the Claremont McKenna College campus include expanded student housing as part of the CMC Master Plan (see Section 6.2 for further discussion of Growth Inducing Impacts). Maximum growth as a result of the implementation of the CMC Master Plan includes 250 additional students and approximately 138 jobs.

The project site is located in an area currently serviced by two fire stations and two police stations within two miles east and west of the project site; therefore, the service area of fire and police protection services would not need to be expanded to serve the future sports facilities. Additionally, the proposed subdivision, Master Site Plan, Site Plan, and development agreements do not include any component that utilizes distinctly hazardous materials or include any other special feature that would require either jurisdiction's fire department to purchase specialized equipment to handle any potential accidents. Finally, the project development agreements specify that a "Public Safety Plan" would be prepared prior to occupancy of any cross-border facilities to ensure that fire, police, and emergency services are provided to the project in a logical and efficient manner in coordination with the City of Upland, the City of Claremont, San Bernardino County, and Los Angeles County. Considering the project is located within the service boundaries of existing fire and police protection services, the proposed project does not include any component that could require specialized emergency responses, and includes the preparation of a "Public Safety Plan", impacts related to the expansion of fire, police, of emergency services would be less than significant.

### Scoping Comment, San Bernardino County LAFCO

D.1 The San Bernardino County Local Agency Formation Commission (LAFCO) commented that confusion regarding the provision of emergency services to the project site could occur due to the multi-jurisdictional nature of the project. Fire and police services can be provided to the project site by both jurisdictions and based on existing mutual and automatic aid agreements,

either jurisdiction can support the other in responding to emergencies at the project site. Furthermore, as discussed above, the proposed sports facilities would not require any expansion of existing emergency service facilities or service areas.

## Mitigation Measures

None required

## Level of Significance with Mitigation Incorporated

Impacts 4.10.A and 4.10.B would be less than significant and no mitigation is required

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[1] Upland Fire Department. Fire Stations. http://www.uplandpl.lib.ca.us/asp/Site/Fire/Stations/index.asp [June 24, 2014]
[2] National Fire Protection Agency. Standard 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments. 2010
[3] Deputy Captain Dave Corbin. Upland Fire Department. Personal Communication. September 4, 2014
[4] City of Upland. Annual Budget Fiscal Year 2014-15. June 2014
[5] Captain Vincent Scott. Los Angeles County Fire Department Station 101. Personal Communication. August 22, 2014
[6] City of Claremont. Final Program Environmental Impact Report. 2005
[7] Claremont Police Department. Department Services. www.ci.claremont.ca.us/ps.departmentservices.cfm?ID=1894 [June 24, 2014]
[8] California Department of Finance. E-4 Population Estimates for Cities, Counties, and the State, 2011-2014. January 2014
[9] Claremont Police Department. Annual Report 2013.

# Transportation and Traffic 4.11

This section will discuss traffic increases on local and Congestion Management Program roadways, pedestrian and vehicular safety at the intersection of Claremont Boulevard at Ninth Street, and alternative transportation. This discussion is primarily based on the project traffic study prepared by Linscott, Law, and Greenspan Engineers that has been attached as Appendix L.[1] As discussed in the project Initial Study (Appendix B), no impacts related to emergency access would occur and impacts related to changes in air traffic patterns were found to be less than significant; therefore, these topics will not be discussed. No comments were received regarding traffic and transportation during circulation of the Notice of Preparation.

## *Existing Conditions*

### Regional Circulation

**Interstate 10 (San Bernardino Freeway)** is a west-east oriented freeway that provides four mainline lanes and one high occupancy vehicle (HOV) lane in each direction. Eastbound and westbound ramps are located at Indian Hill Boulevard, Monte Vista Avenue and Central Avenue approximately 1.25 miles south of the project site. The San Bernardino Freeway is a designated Congestion Management Program (CMP) facility in both San Bernardino and Los Angeles Counties.[2] [3]

**State Route 210 (Foothill Freeway)** is a west-east oriented freeway that provides four eastbound mainline travel lanes and three westbound mainline travel lanes. A high occupancy vehicle (HOV) lane is provided in each direction. Eastbound and westbound ramps are located at Baseline Road (east of Monte Vista Avenue/Padua Avenue) and Towne Avenue approximately one mile northeast and three miles northwest of the project site, respectively. The Foothill Freeway is a designated CMP facility in both San Bernardino and Los Angeles Counties.

### Local Circulation

**Claremont Boulevard** is a north-south oriented secondary arterial with a raised median that bounds the west side of the project site. Claremont Boulevard includes two travel lanes in both directions. Parking is generally permitted on both sides of the road and the posted speed limit in the vicinity of the project is 45 miles per hour (mph). It should be noted that in the future, the City of Claremont may remove the on-street parking that is currently located within the bike lanes along Claremont Boulevard since the street lacks sufficient right-of-way for separate parking and bike lanes, particularly north of Ninth Street.

**Foothill Boulevard** is a west-east oriented four-lane highway with raised median that bounds the north side of the project site and is a CMP designated roadway in both San Bernardino and Los Angeles Counties. Currently, portions of Foothill Boulevard within Upland are under the jurisdiction of Upland where parking is restricted on both sides of Foothill Boulevard. In the City of Claremont, parking is permitted along both sides of Foothill Boulevard between Indian Hill Boulevard and

Claremont Boulevard. Posted speed limits are 40 mph west of Monte Vista Avenue and 45 mph east of Monte Vista Avenue. It should be noted that with a unanimous vote of approval by the Claremont City Council in May 2012, Foothill Boulevard, from Towne Avenue to the County Line (near Monte Vista Avenue), has been acquired from Caltrans and is now under the jurisdiction of the City of Claremont. It should also be noted that the City of Claremont is currently in the process of developing a Master Plan for the entire Foothill Boulevard corridor within the City of Claremont. All future improvements to Foothill Boulevard will be required to be consistent with this Master Plan.

**Monte Vista Avenue** is a north-south oriented six-lane highway with a raised median. This roadway bounds the east side of the project site. Parking is prohibited on either side of the roadway and posted speed limits are 45 mph north of Arrow Route and 35 mph south of Arrow Route. Monte Vista Avenue is a designated San Bernardino County CMP facility south of Arrow Highway.

**Arrow Route** is a west-east oriented four-lane roadway with a raised median and bounds the south side of the project site. Posted speed limits on this roadway are 45 mph. This roadway becomes Sixth Street in Claremont and reduces to a two-lane undivided roadway.

**Indian Hill Boulevard** is a north-south oriented secondary arterial located approximately one mile west of the project site. There are two travel lanes in both directions north of Foothill Boulevard and one travel lane in both directions south of Foothill Boulevard. Indian Hill Boulevard provides Class II bicycle facilities between Baseline Road and Butler Court. Parking is prohibited on both sides of Indian Hill Boulevard south of Foothill Boulevard. Posted speed limit is 30 mph from Foothill Boulevard to First Street.

**Mills Avenue** is a north-south oriented secondary arterial located approximately one-quarter mile west of the project site. North of Foothill Boulevard, parking is available on both sides of Mills Avenue,the speed limit is posted as 40 mph, and Class II bicycle facilities are provided along both sides of the street. South of Foothill Boulevard, the Mills Avenue alignment extends through the Harvey Mudd College Campus as a pedestrian and non-vehicular spine, and becomes a local street between Platt Boulevard and Ninth Street. From Sixth Street south to First Street, Mills Avenue is a two-lane local street. Parallel parking is provided at both curbs in that segment south of Sixth Street.

**Central Avenue** is a north-south oriented four-lane divided roadway north of Arrow Route and a five-lane divided roadway south of Arrow Route. This roadway is located approximately one-half mile east of the project site and has a posted speed limit of 40 mph with no parking on both sides.

**Sixth Street** west of Claremont Boulevard and within the City of Claremont is a two-lane, undivided roadway oriented in the east-west direction. Immediately east of Claremont Boulevard in San Bernardino, Sixth Street is known as Arrow Route, a four-lane roadway divided by a raised median. According to the City of Claremont's

General Plan, Sixth Street is classified as a collector roadway. Between Claremont Boulevard and College Avenue, parking is permitted on both sides of the roadway. East of College Avenue, parking is not permitted on either side of the roadway and Class II (on-street) bike lanes are provided instead. The speed limit is 25 mph from College Avenue to College Way, 30 mph from College Way to Mills Avenue, and 35 mph from Mills Avenue to Claremont Boulevard.

**Harrison Avenue/Fifth Street** is a two-lane, undivided roadway oriented in the west-east direction. It is located southwest of the Project site. According to the City of Claremont's General Plan, Harrison Avenue/Fifth Street is classified as a collector roadway. Parking is generally permitted on both sides of this roadway within the vicinity of the Project. The speed limit on Harrison Avenue/Fifth Street is 25 mph.

**Ninth Street** is a west-east oriented two-lane roadway that intersects Claremont Boulevard on the west boundary of the project site. This is a private roadway that provides access to The Claremont Colleges campuses and does not provide for public through-traffic.

**College Avenue** is a two-lane, undivided roadway oriented in the north-south direction approximately 0.7 miles west of the project site. Parking is permitted on both sides of College Avenue. The posted speed limit on College Avenue north of Sixth Street is 30 miles per hour and 25 miles per hour south of Sixth Street. With the exception of a Class III "sharrow" (indicating a shared lane for vehicles and bike lane) between Sixth Street and Bonita Avenue, College Avenue provides Class II bicycle facilities.

**Brooks Avenue** is a two-lane, undivided roadway oriented in the north-south direction. Brooks Avenue extends only from First Street north to Sixth Street. Brooks Avenue is owned by Claremont McKenna College between Sixth Street and Hardwood Place. Parking is permitted on both sides of Brooks Avenue. The speed limit on Brooks Avenue is 25 miles per hour.

**Baseline Road** is a four-lane roadway that extends in the east-west direction north of State Route 210. It is located north of the project site. According to the City of Claremont General Plan, Baseline Road is classified as a major arterial. Parking is not permitted on either side of this roadway within the vicinity of the project. The posted speed limits on Baseline Road are 45 mph from Towne Avenue to Claremont's easterly boundary, and 40 mph in Upland. Baseline Road provides Class II bicycle facilities.

**First Street** is generally a two-lane roadway with dual two-way left turn lanes. It is located approximately 0.3 miles south of the project site. According to the City of Claremont's General Plan, First Street is classified as a secondary arterial east of Indian Hill Boulevard. East of College Avenue, First Street consists of two travel lanes with Class II bike lanes, which are part of the Citrus Regional Bikeway, and a two-way left turn lane. Parking is permitted on the north side of First Street, east of College Avenue, and along the north and south sides of First Street east of

Columbia Avenue. Parking is not permitted on the south side of First Street, between College Avenue and Columbia Avenue. The posted speed limit on First Street is 40 miles per hour.

**Arrow Highway** is a four-lane, divided roadway oriented in the west-east direction. It is located approximately 0.5 miles south of the project site. According to the City of Claremont's General Plan, Arrow Highway is classified as a secondary arterial. Parking is permitted on both sides of this roadway within the vicinity of the project. The posted speed limit on Arrow Highway is 40 mph. Class II bike facilities are provided along both sides of the street west of Indian Hill Boulevard and east of Cambridge Avenue.

## Existing Level of Service

Level of service (LOS) is a qualitative approach for analyzing roadway segment and intersection performance in terms of driver discomfort, frustration, fuel consumption, and lost travel time. At intersections, LOS is defined by delay at the intersection due to traffic controls (i.e. traffic signals and stop signs), geometries, traffic volumes, and incidents. Actual delay is compared to the reference delay for the intersection to demonstrate total delay that is translated into the intersection LOS.

For this analysis, total delay is attributed to traffic control delay with a reference delay estimated under ideal conditions (i.e. no traffic controls, no geometric delay, no incidents, and no other vehicles). Table 4.11.1 (Level of Service Criteria for Signalized Intersections) summarizes the quantitative and qualitative descriptions of LOS at traffic signal controlled intersections. Table 4.11.2 (Level of Service Criteria for Unsignalized Intersections) summarizes LOS at unsignalized intersections.

**Table 4.11.1**
**Level of Service Criteria for Signalized Intersections**

| LOS | Control Delay (sec/vehicle) | Description |
|---|---|---|
| A | <=10 | Progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay. |
| B | 10-20 | Good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher average delays. |
| C | 20-35 | Average traffic delays that result in fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping at this level is substantial, though many still pass through the intersection without stopping. |
| D | 35-55 | Long traffic delays where the influence of congestion becomes more noticeable. Longer delays may result from a combination of unfavorable progression, long cycle lengths, |

| | | |
|---|---|---|
| | | or high volume-to-capacity (V/C) ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. |
| E | 55-80 | Very long traffic delays with poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. |
| F | >80 | Severe congestion generally caused by arrival flow rates exceeding the capacity of the intersection, high V/C ratios, many individual cycle failures, poor progressions, and long cycle lengths. |
| Source: Caltrans 2000 | | |

The project traffic impact analysis includes existing AM peak hour (7:00AM to 9:00AM) and PM peak hour (4:00PM to 6:00PM) operating conditions for 21 intersections in the project vicinity. AM and PM peak hour evaluations are required by both Upland and Claremont and represent an analysis of the worst operating conditions during the day. Existing AM and PM peak hour traffic volumes at the key existing study intersections evaluated in this report were collected in April 2009, March 2010, April 2010, September 2010, October 2010, December 2011, April 2013, and October 2013 by National Data and Surveying Services. It should be noted that an ambient growth rate of one percent (1%) per year was applied to the Year 2009, 2010, 2011, and 2013 counts to bring them to baseline Year 2014. The counts were performed to gain insight as to the existing variation in daily versus weekend traffic due to the presence (and number) or lack of scheduled events. Analysis of intersection operation is based on the "Highway Capacity Manual" and manual vehicular movement counts. Table 4.11.3 (Existing Weekday Intersection Operating Conditions) summarizes LOS at the 21 intersections in the project vicinity during a weekday (Monday through Friday). Intersections were chosen based on input from the City of Upland and the City of Claremont, proximity to the project site, and application of the 50-trip threshold criteria contained in the San Bernardino County and Los Angeles County CMP.

**Table 4.11.2**
**Level of Service Criteria for Unsignalized Intersections**

| LOS | Control Delay (sec/vehicle) | Description |
|---|---|---|
| A | <=10 | Little or No Delay |
| B | 10-15 | Short Traffic Delays |
| C | 15-25 | Average Traffic Delays |
| D | 25-35 | Long Traffic Delays |
| E | 35-50 | Very Long Traffic Delays |
| F | >50 | Severe Congestion |
| Source: Caltrans 2000 | | |

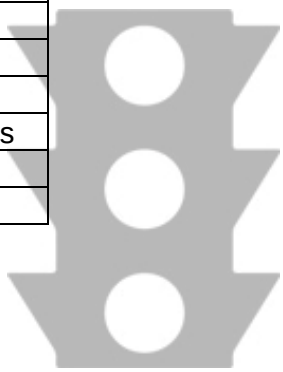

**Table 4.11.3**
**Existing Weekday Intersection Operating Conditions**

| Intersection | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|
| | Delay | LOS | Delay | LOS |
| Monte Vista @ Baseline | 44.2 | D | 64.2 | E |
| SR-210 @ Baseline | **110.5** | **F** | 73.2 | E |
| Monte Vista @ Claremont | 30.9 | C | 32.5 | C |
| Indian Hill @ Foothill | 38.3 | D | **82.2** | **F** |
| Mills @ Foothill | 30.2 | C | 25.1 | C |
| Claremont @ Foothill | 29.3 | C | 33.1 | C |
| Monte Vista @ Foothill | 29.2 | C | 29.4 | C |
| Central @ Foothill | 29.7 | C | 47.1 | D |
| Claremont @ Ninth | 11.6 | B | 16.4 | C |
| Indian Hill @ Harrison/Fifth | 16.9 | B | 17.2 | B |
| College @ Sixth | 9.7 | A | 11.4 | B |
| Mills @ Sixth | 8.3 | A | 8.7 | A |
| Claremont @ Sixth | 29.5 | C | 30.3 | C |
| College Park @ Arrow Route | 13.0 | B | 11.4 | B |
| Monte Vista @ Arrow Route | 25.6 | C | 26.3 | C |
| Indian Hill @ First | 14.0 | B | 19.0 | B |
| Claremont @ First | 17.1 | B | 23.1 | C |
| Claremont @ Arrow Highway | 24.3 | C | 30.2 | C |
| Source: Linscott, Law & Greenspan 2014 | | | | |

Of the 21 study area intersections, six were selected for focused analysis during the weekend due to proximity to the project site. It should be noted that the weekend counts are based on Saturday AM and PM peak hour traffic counts. The weekend AM hour is the sum of the peak consecutive 15-minutes between 10:00AM and 1:00PM and coincides with the arrival pattern of scheduled games on the weekend. The weekend PM peak hour is the sum of the peak consecutive 15-minutes between 3:00PM and 5:00PM and coincides with the departure pattern of those same games. These were collected in April 2011 by National Data and Surveying Services. Existing weekend traffic volumes and operating conditions are summarized in Table 4.11.4 (Existing Weekend Intersection Operating Conditions).

**Table 4.11.4**
**Existing Weekend Intersection Operating Conditions**

| Intersection | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|
| | Delay | LOS | Delay | LOS |
| Claremont @ Foothill | 28.1 | C | 27.2 | C |
| Monte Vista @ Foothill | 27.9 | C | 26.5 | C |
| Claremont @ Ninth | 11.5 | B | 10.8 | B |
| Claremont @ Sixth | 28.7 | C | 28.5 | C |
| College Park @ Arrow Route | 11.5 | B | 11.9 | B |
| Monte Vista @ Arrow Route | 25.9 | C | 25.0 | C |
| Source: Linscott, Law & Greenspan 2014 | | | | |

### Alternative Transportation

Foothill Transit provides bus service to the project vicinity. Existing bus stops are located at the intersection of Claremont Boulevard at Sixth Street, Ninth Street, and Foothill Boulevard. Foothill Transit Routes 187, 197, 292, 480, 492, 690, and 855 serve the project vicinity and connect the project site to Metro Rail services at the Claremont Transit Center, Pomona Transit Center, and Montclair Transit Centers.

Dedicated bicycle lanes are located on Claremont Boulevard. No sidewalks are located immediately bounding the project site. Sidewalks in the project vicinity are available on the south side of Arrow Route, west side of Claremont Boulevard, and in limited areas on the north side of Foothill Boulevard. Other sidewalks are located on Sixth Street west of Claremont Boulevard, on Claremont Boulevard north of Foothill Boulevard and south of Sixth Street, and on Foothill Boulevard west of Claremont Boulevard and east of Monte Vista Avenue.

## *Regulatory Framework*

### Senate Bill 743

Senate Bill 743 (SB 743), which was signed into law by the Governor on September 27, 2013, requires the State Office of Planning and Research (OPR) to prepare and develop proposed revisions to the *State CEQA Guidelines* that will establish new criteria for determining the significance of transportation impacts under CEQA. SB 743 requires the new criteria to "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." It also states that alternative measures of transportation impacts may include "vehicle miles travels, vehicle miles traveld per capita, automobile trip generation rates, or automobile trips generated." SB 743 stipulates that, upon certification of the revised *Guidelines* by the Secretary of the State Natural Resources Agency, automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment under CEQA.[4]

OPR released a Preliminary Discussion Draft of their proposed revisions to the *Guidelines* on August 6, 2014. This document is currently being circulated for public comment. Subdivision (b)(1) of the proposed revisions states that "Generally, transportation impacts of a project can be best measured using vehicle miles traveled." The Discussion Draft analyzes various issues that may be considered when determining the significance of a project's vehicle miles traveled (VMT), including the following:

- How to measure VMT, including the use of efficiency metris such as per capita VMT, per employee VMT, etc.
- How to define the "region". The Discussion Draft suggests using the area covered by the metropolitan planning organization (MPO) or regional transportation planning agency (RTPA) within which the project is located.
- Criteria that may qualify a project for being considered less than significant, including the following:

- Having VMT lower than the regional average
- Being located within one-half mile of either an existing major transit stop or an existing high quality transit corridor
- Being consistent with an adopted Sustainable Communities Strategy (SCS)

As of November 2014, the proposed revisions have been circulated for public review and comment, and may be revised before they are certified by the Secretary of the State Natural Resources Agency. It is therefore not clear which metrics and methodology for measuring transportation impacts will be adopted in the final revisions, and the impact analysis methodology used in this EIR is based on and is consistent with the current *State CEQA Guidelines*, which is also used by the Cities of Claremont and Update as its on CEQA checklist.

### San Bernardino County Congestion Management Program

The 2007 CMP for San Bernardino County is a state-mandated program intended to address regional congestion by linking transportation, land use, and air quality decisions. The CMP includes a deficiency plan that is designed to implement strategies that either fully mitigate congestion or provide measurable improvement to congestion and air quality.

The System Level of Service Element defines the CMP roadway system, establishes traffic LOS standards on the system and prescribes procedures for computing traffic levels of service. The baseline LOS standard is LOS E or the LOS established in 1992 (whichever is furthest from LOS A) for any roadway segment or intersection. If a segment or intersection has been assigned a LOS F standard because the segment or intersections LOS in 1992 was F, the CMP establishes a 10 percent degradation threshold in V/C to classify the segment as deficient.

### Los Angeles County Congestion Management Program

The Los Angeles County CMP is administered by Los Angeles County Metropolitan Transportation Authority (MTA). The CMP identifies and establishes a system for monitoring regional transportation facilities. This information is used to link local land use decisions and their impacts on regional transportation and air quality, and to develop partnerships among transportation decision makers to find solutions that serve the region. Local jurisdictions, such as Claremont, are required to participate in the CMP to receive their portion of state gas tax revenue.

The LOS standard in Los Angeles County is LOS E, except where base year LOS is worse than E. In such cases, the base year LOS is the standard. 1992 has been established as the base year for Los Angeles County. Caltrans and local jurisdictions conducted traffic counts at designated monitoring locations along the system in order to determine the base year LOS. Currently, the ramp at Baseline Road and the Foothill Freeway is operating deficiently at LOS F during the AM peak hour and the intersection of Indian Hill Boulevard at Foothill Boulevard is operating deficiently at LOS F during the PM peak hour.

## Upland Level of Service Standard

The City of Upland has established a minimum acceptable LOS D for intersections during peak hours; therefore, the intersection of Monte Vista Avenue at Foothill, Boulevard, Central Avenue at Foothill Boulevard, and Monte Vista at Arrow Route are subject to this standard. Upland has not established a standard for those intersections that are already operating deficiently; therefore, an industry standard of an increase of one second/vehicle or more at a deficient intersection will be used to define an exceedance of the LOS standard. Currently, all study intersections within Upland are operating properly with LOS D or better.

## Upland General Plan Circulation Element

The Circulation Element establishes Goal 3 that seeks "to accommodate alternative modes of transportation to the private automobile in the City [of Upland], including non-motorized transportation (bicycle and pedestrian), public transportation, and recreational trails".[5] This goal is supported by seven strategies that include implementation of the City of Upland's 1995 Bicycle and Pedestrian Facilities Master Plan and requires sidewalks for all new development. The Bicycle and Pedestrian Facilities Master Plan classifies Foothill Boulevard and Arrow Route as Class II/III bike lanes, meaning that upon full improvement, the roadway should have either a minimum 4-6 foot dedicated bike lane (Class II) or a shared vehicle/bicycle right-of-way with signage (Class III).[6] Monte Vista Avenue is also classified as a Class II bike lane and currently includes a dedicated bike lane on both sides of the street. San Antonio Flood Control Channel, east of the project site, is classified as a Class 1 bikeway meaning that a bicycle only, 8 foot minimum dedicated path is planned for the future.

## Upland Municipal Code

Section 3.44.030 (Street and Traffic Facilities Development Impact Fees) establishes fee requirements at issuance of all building permits for new development to pay for related transportation system improvements.[7]

## Claremont Level of Service Standard

The City of Claremont has established a standard of LOS D or better for secondary arterials and LOS E for major arterials. Monte Vista Avenue at Baseline Road, the Foothill Freeway at Baseline Road, Monte Vista Avenue at Claremont Boulevard, Indian Hill Boulevard at Foothill Boulevard, Mills Avenue at Foothill Boulevard, and Claremont Boulevard at Foothill Boulevard are subject to the LOS E standard. Claremont Boulevard at Ninth Street, Claremont Boulevard at Sixth Street, Harrison Avenue/Fifth Street at Indian Hill Boulevard, and Claremont Boulevard at First Street are subject to the LOS D standard. Any intersection currently operating deficiently is required to maintain the existing level of service after consideration of new project traffic. Currently, the ramp at Baseline Road and the Foothill Freeway is operating deficiently during the AM peak hour and the intersection of Indian Hill Boulevard at Foothill Boulevard is operating deficiently during the PM peak hour.

### Claremont General Plan Community Mobility Element

The Claremont General Plan Community Mobility Element establishes Goal 4-3 to "establish and maintain a comprehensive system of pedestrian ways and bicycle routes that provides viable options to travel by automobile".[8] Policies designed to support this include installation of sidewalks where missing and implementation of the City of Claremont's bike plan. The City of Claremont's bike plan classifies Foothill Boulevard, Claremont Boulevard, and Sixth Street as Class II Bike Lanes. Claremont Boulevard and Sixth Street currently have existing bike lanes.

### Claremont Municipal Code

Chapter 16.200 (Transportation Impact Fees) of the Claremont Municipal Code establishes transportation fee requirements to fund improvements to the City of Claremont's transportation and circulation system caused by new development. Non-residential development projects are required to pay transportation impact fees prior to issuance of building permits unless a separate agreement is executed between the applicant and the City of Claremont.[9] Additionally, any educational institution (including the Claremont Colleges) that experiences a net increase in student enrollment is required to pay a transportation impact fee unless a separate agreement is executed between the City of Claremont and the institution. Per agreement with the City of Claremont, The Claremont Colleges (excepting the Keck Graduate Institute) pay an annual transportation impact fee based on full-time equivalent (FTE) student enrollment.

## *Thresholds of Significance*

The project could result in potentially significant impacts if it would:

A. Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
B. Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.
C. Substantially increase hazards due to a design feature or incompatible uses.
D. Conflict with policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

## Environmental Impacts

**IMPACT 4.11.A**

***Impacts on the performance of the local and regional transportation system due to increased traffic generation from the proposed sports fields in consideration of cumulative traffic increase over the long-term and short-term construction-related impacts would be less than significant with implementation of existing regulations and mitigation measures***

### Short-Term Traffic Generation

Construction of the proposed off-site improvements on Claremont Boulevard, Foothill Boulevard, Arrow Route, and Monte Vista Avenue are likely to temporarily obstruct thru traffic lanes and could therefore temporarily impact traffic flow in the project vicinity. Traffic could be temporarily delayed due to installation of the traffic signal on Claremont Boulevard and striping of the bike lane on Foothill Boulevard. Traffic could be delayed on Monte Vista Avenue and Arrow Route due to construction of sidewalks and other improvements.

In order to forecast the potential construction related trips, the following assumptions have been made:

- A five-day work week (Monday through Friday)
- Construction activity would occur between the hours of 7:00 AM and 6:00 PM based on the City of Upland Municipal Code requirements.
- Based on CalEEMod defaults, a maximum of 20 construction-related employees would be on the project site at a time Monday through Friday from 7:00 AM to 6:00 PM.
    - 10 employees (50%) would arrive before the AM peak commuter period (7:00 AM to 9:00 AM)
    - 10 employees (50%) would arrive during the AM peak commuter period (7:00 AM to 9:00 AM)
    - 10 employees (50%) would depart during the PM peak commuter period (4:00 PM to 6:00 PM)
    - 10 employees (50%) would depart before or after the PM peak commuter period (4:00 PM to 6:00 PM)
- The City of Claremont states in its Municipal Code that construction activities are restricted within Claremont to the hours of 7:00 AM to 8:00 PM weekdays and Saturdays, excluding national holidays
- The City of Upland states in its Municipal Code that construction activities within Upland are limited to between the hours of 7:00 AM to 6:00 PM of any working day, except Sundays and federal holidays

With a total of 20 employees on-site during the construction period; 40 total daily construction worker trips would be generated with each worker making two trips a day. 10 AM peak hour employee trips (10 inbound and 0 outbound) and 10 PM peak hour employee trips (0 inbound and 10 outbound) would occur and the remaining 10 AM employee trips (10 inbound and 0 outbound) and 10 PM employee

trips (0 inbound and 10 outbound) would occur outside the 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM commuter periods.

It is anticipated that a majority of the construction-related traffic would utilize Claremont Boulevard, Monte Vista Avenue, Foothill Boulevard, Arrow Route, the SR-210 Freeway and the I-10 Freeway to gain access to the project site. Project construction-related trips associated with materials and equipment traveling to and from the project site may result in minor "off-peak" traffic additions and temporary/short-term impacts due to construction vehicles using the street system in the immediate project area. This activity is typically expected to occur in non-commuter hours, and thus would have a negligible impact on key intersections of this study.

Traffic impacts to the adjacent roadway network associated with project construction activities are concluded to be non-significant, minimal and not long-term. Therefore, aside from the temporary condition that would occur as a result of construction-related traffic (e.g., construction materials, construction workers, etc.); nominal impacts resulting from construction traffic are anticipated.

Nevertheless, to reduce the impact of construction-related traffic, the implementation of a Construction Management Plan would be required to minimize traffic impacts upon the local circulation system in the area. At a minimum, the plan would include following:

- Ingress/egress for the construction traffic would be via Driveway 3 located along Claremont Boulevard and/or Driveway 5 on Arrow Route (see Exhibit 4.11-2, Master Site Plan)
- Prohibit construction traffic on local and residential streets
- Provide traffic control for any lane closure, detour, or other disruption to traffic circulation
- Identify the routes that construction vehicles shall utilize for the delivery of construction materials
- Require the Applicant to keep all material handling routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The Applicant shall clean adjacent streets of any material which may have been spilled, tracked or blown onto adjacent streets or areas. Material handling shall be in compliance with all National Pollutant Discharge Elimination System (NPDES) permit regulations.
- Hauling or transport of oversize loads shall be allowed between the hours of 9:00 AM and 11:30 AM only, Monday through Friday, unless approved otherwise by the approving jurisdiction's City Engineer. Hauling or transport may be permitted/required during nighttime hours, weekends or Federal holidays, at the discretion of the approving jurisdiction's City Engineer. An approved Haul Route Permit shall be required from the appropriate City.
- Hauling or transport trucks entering or exiting public streets shall at all times yield to public traffic.
- If hauling operations cause any damage to existing pavement, street, curb and/or gutter along the haul route, the applicant shall be fully responsible for

repairs. The repairs shall be completed to the satisfaction of the City Engineer having jurisdiction.

- All construction-related parking and staging of vehicles shall be kept out of the adjacent public roadways and shall occur on-site.
- An interim construction parking plan shall be submitted and approved by the approving jurisdiction's City Engineer.
- The Plan shall meet standards established in the current California Manual on Uniform Traffic Control Device (MUTCD) as well as Cities of Claremont and Upland requirements.

The requirement for preparation of Construction Management Plan has been incorporated as Mitigation Measure 4.11.A-1. Implementation of the previously identified measures in a Construction Management Plan would ensure that temporary construction traffic impacts would be less than significant.

## Long-Term Traffic Generation

Decreased performance of a circulation system can result in a variety of potential impacts. Decreased performance occurs when traffic congestion increases and the existing circulation system is not sized appropriately to accommodate the traffic.

The Claremont Colleges East Campus would be used to support the needs of an otherwise existing college community and population for general recreation, physical education, team practice, and scheduled team play while recognizing further that approval and implementation of the colleges individual Master Plans are likely to incrementally add to that population. The primary user group would be Claremont-Mudd-Scripps (CMS) Athletics (made up by Claremont McKenna College, Harvey Mudd College, and Scripps College) whose activities would be focused to the project's CMC venues as replacements for other existing play fields. Pitzer facility usage and the two CUC southern all-purpose athletic fields would be for general recreation and would not involve league play.

It should be noted that the team play schedules of CMS Athletics are already in place with those activities now occurring at other fields on the colleges' campus. On that basis, the forecasts that follow have been constructed to be conservative estimates of the traffic that would be redirected to these new facilities. The project football/track and field venue (which would also support lacrosse play), baseball, and softball fields would have expanded seating capacity at each, and the project traffic forecasts consider those expanded capacities (rather than historical attendance levels) in their derivation.

Traffic volumes expected to be generated by the proposed project during the weekday AM and PM peak commuter peak hours, throughout a daily weekday, and during peak arrival and departure hours for a 100 percent bleacher occupied Saturday league play were derived using a trip forecasting process specifically tailored to consider the key individual components of the project plan. A total Saturday 24-hour forecast was also derived. That process included:

- Identification of the East Campus project components that could be meaningful traffic generators in their own right. These include the Pitzer facilities treated as two multi-purpose fields with ancillary/support components of overlapping or limited traffic generation potential, the three distinct spectator venues of the CMC portion (football/track and field, baseball and softball), and the external trip generation potential of support facilities/buildings on the CMC portion of the project site. The CMC golf practice, archery range, and paddle tennis courts are concluded to have very limited potential for added external project traffic beyond the forecasts developed below. The CUC all-purpose athletic fields are treated as an external traffic generator.
- Adaptation and use of trip generation rates for project components considered in the Eighth Edition of Trip Generation, published by the Institute of Transportation Engineers (ITE) (2008). While a ninth Edition of Trip Generation is available, the Eighth Edition commuter peak hour rates for "Soccer Complex" Land Use Code: 488 are slightly more conservative than in the Ninth Edition, and weekday daily trip rates are the same in both Editions. The "General Office Building" Land Use Code: 710 weekday daily and commuter peak hour rates of the Eighth and Ninth Editions are identical (have equal trip rates).
- The football/track and field venue, as well as the baseball and softball fields, are not specifically considered by ITE. Instead, trip forecasting for these components was carried out in a series of analysis permutations that considered historical practice schedules, combined current CMS Athletics game schedules (by day of week and time of day) for play on those fields, team and coaching staff totals, increased (rather than historical) game attendance with further distinction between weekday versus weekend characteristics, walking versus vehicular traffic proportions, and typical average auto occupancies for the latter.
- The CUC all-purpose athletic fields are also not considered by ITE. Instead a forecasting basis similar to that for CMS Athletics was used.
- While these venues are largely replacement in nature, current weekday box score data for baseball and softball indicate relatively low spectator attendance levels during weekday games (football games have much greater overall attendance, but only occur on Saturday), typically beginning early to mid afternoon, and ending no later than 4:00PM or 5:00PM. Due to relatively modest weekday spectator attendance, the existing weekday traffic related to CMS and/or Claremont Colleges Club Sports games is also concluded to be small, particularly during the commuter peak hours. On that basis, and as a conservative measure, any potential "credit" arising from existing sports activities during the collection of traffic counts used in this study has been ignored.

Using this methodology, four trip generation scenarios were developed to represent the range of traffic activity thresholds for the East Campus. These scenarios are framed around the usage patterns of the three primary fields (football/track and field, baseball, and softball) and two CUC all-purpose athletic fields, but also include a traffic element for Pitzer facility usage as well CMC support facilities that may not

be tied to activity on the fields. Those scenarios are discussed in detail in the following sections. Table 4.11.5 (Project Traffic Generation) identifies the traffic generation from the four scenarios.

Weekday Practice

Baseball and softball are spring sports, and taken together with spring football practice or track and field as well as Club Sports (all-purpose athletic fields) practice activity, their combined practice and weekday play schedules in the presence of other East Campus activities would exceed that of other sports at other times of the year. As such, they have been used to define a "Practice Day" weekday scenario. That other activities would not include scheduled games with visiting teams, but as a worst case could include spring football practice or track and field practice (both have team and coaching squads totaling roughly 100 participants; other sport squad totals are much less). Practices start about mid-afternoon (thus having no AM peak hour component) and typically end at or after 6:00PM. As a conservative measure, this scenario assumes that any and all vehicular traffic related to practices throughout the complex would exit the site during the weekday PM commuter hour peak. Review of CMS Athletics and Club Sports schedules indicates that the "Practice Day" scenario would typically occur on four out of five spring weekdays.

Weekday Games

Building on the above weekday scenario, the "Game Day" scenario further includes traffic activity from visiting teams and a "full-house" (500 spectators) event on either the baseball or softball field. As a worst case, this scenario further assumes that the "full-house" games on the baseball and softball fields are assumed to be simultaneous, where both games would end and their traffic would exit the site during the PM commute peak hour. While the Weekday "Game Day" scenario assumes 500 spectators at either a baseball or softball game, it is worth noting that actual, historical weekday attendance levels for these sports are on the order of one-fourth to one-eighth of the planned 500-seat capacity. Those actual attendance levels may be influenced by the weekday/workday character of the event as well as the reality that weekday afternoon games are underway when other Claremont Colleges students are still in class, and thus not able to attend the game.

Another practical consideration is the "blended" game schedule for baseball, softball, track and field events, and rugby (all-purpose athletic fields) which indicates only 13 dates with weekday baseball, softball, or track and field events scheduled (rugby games are usually on weekends). Eleven of those dates have only one of the three named sports scheduled for a game or meet. Two of the 13 dates have a game for two sports, and no dates have a game or meet for all three sports. On that basis, the frequency of this spring-driven scenario is no more than one day per week. While limited, spring scheduling could result in the simultaneous use of both fields. To the extent that the combined attendance of the two events is 500 spectators or less, than the Weekday "Game Day" scenario and analysis remains valid. Spring traffic levels as described above are expected to be greater than their fall weekday counterpart, and thus are used as the basis of the Weekday: Game Day scenario.

Fall Weekend Games

On a weekend, traffic activity related to the approximately five home Saturday football games would dominate as the basis of the traffic impact analysis. This study assumes a "full house" of the 3,500 spectator seating capacity at that field. Games are typically at 1:00PM and end around 4:00PM. Some night games (7:00PM start) may also occur, but since evening traffic on the surrounding street system is less than during the afternoon, the afternoon football game is the focal point of the fall weekend games traffic impact analysis.

Spring Weekend Games

Simultaneous baseball and softball games (both with a "full house" of 500 spectators each) would dominate the Saturday picture on a spring weekend. The two rugby fields are assumed to add 100 spectators each based on capacity. With a combined attendance potential of 1,200 spectators, this spectator level is roughly one-third of the potential of its football counterpart. But while home CMS football games occur only five times in a season, review of the spring sports schedule indicates a total of 11 Saturday game dates plus three Sunday spring game dates. Of those 14 dates, seven dates have only one field with scheduled play, four dates have two spectator fields with game play, one date has play schedule on all three spectator fields, and one day has play for four sports simultaneously. It is noted that the third "game" is track and field, whose arrival and departure patterns would fall outside the peak arrival and departure hours of concurrent baseball and softball events, thus isolating the "full house" games of the latter two as the defining scenario for the spring weekend analysis.

**Table 4.11.5**
**Project Traffic Generation**

| Scenario | Daily | AM / Arrival Peak | PM / Departure Peak |
|---|---|---|---|
| Weekday Practice | 272 | 15 | 91 |
| Weekday Games | 504 | 15 | 207 |
| Fall Weekend Game | 1,558 | 515 | 689 |
| Spring Weekend Game | 760 | 279 | 331 |
| Source: Linscott, Law & Greenspan 2014<br>Note: arrival and departure trips for weekend games | | | |

Due to the long-term phasing of the sports fields identified in the Master Site Plan, Site Plan, and development agreements and the variable funding for development of all facilities within a 10-15 year timeframe, circulation system performance has been analyzed under existing traffic conditions and under forecasted conditions for the year 2020 and the year 2030. Forecasted traffic in the project vicinity includes general volume increase (one percent per year for forecasted year 2020 conditions and 2.3 percent per year for forecasted 2030 conditions) and the addition of 42 other development and planning projects that are currently being entitled or are preparing for or currently under construction as identified by Upland, Claremont, and Montclair. Existing and projected traffic volumes are increased by the project traffic generation to determine if any of the study intersections would operate below

the established LOS standards which would identify a potentially significant impact. Tables 4.11.6 through 4.11.9 summarize the existing local and regional traffic conditions at the study intersections with the project traffic included. Year 2020 and 2030 cumulative traffic plus project traffic are summarized in Tables 4.11.10 through 4.11.11 and Tables 4.11.12 through 4.11.13, respectively.

With the year 2030 condition being more distant into the future, it is reasonable to expect that the growth of area traffic volumes would result in greater average delay values (in absence of mitigation) in year 2030 than in year 2020. A comparison of results for the Weekday: Game Day + Project scenarios confirms this to be generally true with the exceptions being the AM peak hour for the Claremont Boulevard at Sixth Street/Arrow Route, Monte Vista Avenue at Foothill Boulevard, and Central Avenue at Foothill Boulevard intersections. PM peak hour exceptions would be Claremont Boulevard at First Street/Huntington Drive, Project Driveway 1 at Foothill Boulevard, and College Park Drive/Project Driveway 5 at Arrow Route. An exception for both AM and PM peak hours would be the intersection of Monte Vista Avenue at Arrow Route. These differences are typically not large, are accurate given the basis and internal calculation specifics of delay calculation procedures, and reflect not only the total volume at an intersection, but the weighted average of delay across all turning and through movements at that intersection.

For example, the AM “Plus Project” delay for Central Avenue at Foothill Boulevard is reported as 35.3 seconds per vehicle (s/v) in year 2020 and 34.0 s/v in year 2030. The project traffic impact analysis indicates that the difference in signal cycle length is only five seconds in between both horizons, and that through traffic on westbound Foothill Boulevard is the dominant movement. Volumes are forecast to grow by approximately 37 percent between the two horizons; however, when considered with cumulative volumes at the intersection and further optimization of green times for each movement so as to minimize overall intersection delay, the average delay per westbound vehicle is reduced slightly between year 2020 and year 2030. When combined with the weighted delays for all other movements, in this case, the overall intersection delay is reduced by 1.3 s/v. A similar characteristic is inherent to the results for the other named locations analyzed in the traffic impact analysis. To summarize, total volumes on individual intersection movements do not typically grow proportionally over time and to the extent that movements with the lowest relative delay experience the greatest traffic increase, the weighted overall delay can result in this type of decrease.

**Table 4.11.6**
**Weekday Practice + Existing Traffic Volumes**

| Intersection | Project Contribution (s/v) | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | AM | PM | Delay | LOS | Delay | LOS |
| Monte Vista @ Baseline | 0.2 | 3.3 | 44.4 | D | 67.5 | E |
| SR-210 @ Baseline | 0.4 | 0.3 | **110.9** | **F** | 73.5 | E |
| Monte Vista @ Claremont | 0.1 | 0.4 | 31.0 | C | 32.9 | C |
| Indian Hill @ Foothill | 0.1 | 0.2 | 38.4 | D | **82.4** | **F** |
| Mills @ Foothill | 0.0 | 0.1 | 30.2 | C | 25.2 | C |
| Claremont @ Foothill | 0.0 | 0.3 | 29.3 | C | 33.4 | C |
| Foothill @ North Driveway | 0.0 | 0.0 | 0.0 | A | 0.0 | A |
| Monte Vista @ Foothill | 0.0 | 0.1 | 29.0 | C | 29.5 | C |
| Central @ Foothill | 0.0 | 0.2 | 29.5 | C | 47.3 | D |
| Claremont @ Northwest Driveway | 0.0 | 10.1 | 0.0 | A | 10.1 | A |
| Claremont @ Ninth | 8.7 | 8.3 | 20.3 | C | 24.7 | C |
| Claremont @ Southwest Driveway | 0.0 | 10.0 | 0.0 | A | 10.0 | A |
| Indian Hill @ Harrison/Fifth | 0.0 | 0.1 | 16.9 | B | 17.3 | B |
| College @ Sixth | 0.0 | 0.1 | 9.7 | A | 11.5 | B |
| Mills @ Sixth | 0.0 | 0.1 | 8.3 | A | 8.8 | A |
| Claremont @ Sixth | 0.0 | 0.0 | 29.5 | C | 30.3 | C |
| College Park @ Arrow Route | 1.1 | 0.5 | 14.1 | B | 11.9 | B |
| Monte Vista @ Arrow Route | 0.0 | 0.0 | 25.6 | C | 26.3 | C |
| Indian Hill @ First | 0.0 | 0.1 | 14.0 | B | 19.1 | B |
| Claremont @ First | 0.1 | 0.0 | 17.2 | B | 23.1 | C |
| Claremont @ Arrow Highway | 0.0 | 0.0 | 24.3 | C | 29.4 | C |
| Source: Linscott, Law & Greenspan 2014 | | | | | | |

**Table 4.11.7**
**Weekday Games + Existing Traffic Volumes**

| Intersection | Project Contribution (s/v) | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | AM | PM | Delay | LOS | Delay | LOS |
| Monte Vista @ Baseline | 0.2 | 9.2 | 44.4 | D | 73.4 | E |
| SR-210 @ Baseline | 0.4 | 0.2 | **110.9** | **F** | 73.4 | E |
| Monte Vista @ Claremont | 0.1 | 1.1 | 31.0 | C | 33.6 | C |
| Indian Hill @ Foothill | 0.1 | 0.4 | 38.4 | D | **82.6** | **F** |
| Mills @ Foothill | 0.0 | 0.2 | 30.2 | C | 25.3 | C |
| Claremont @ Foothill | 0.0 | 0.8 | 29.3 | C | 33.9 | C |
| Foothill @ North Driveway | -- | -- | 0.0 | A | 0.0 | A |
| Monte Vista @ Foothill | 0.0 | 0.3 | 29.0 | C | 29.7 | C |
| Central @ Foothill | 0.0 | 0.6 | 29.5 | C | 47.7 | D |
| Claremont @ Northwest Driveway | -- | -- | 0.0 | A | 10.4 | B |
| Claremont @ Ninth | 8.7 | 7.9 | 20.3 | C | 24.3 | C |
| Claremont @ Southwest Driveway | -- | -- | 0.0 | A | 10.0 | B |
| Indian Hill @ Harrison/Fifth | 0.0 | 0.3 | 16.9 | B | 17.5 | B |
| College @ Sixth | 0.0 | 0.2 | 9.7 | A | 11.6 | B |
| Mills @ Sixth | 0.0 | 0.1 | 8.3 | A | 8.8 | A |
| Claremont @ Sixth | 0.0 | 0.1 | 29.5 | C | 30.4 | C |
| College Park @ Arrow Route | 1.1 | 0.0 | 14.1 | B | 10.4 | B |
| Monte Vista @ Arrow Route | 0.0 | 0.0 | 25.6 | C | 26.3 | C |
| Indian Hill @ First | 0.0 | 0.2 | 14.0 | B | 19.2 | B |
| Claremont @ First | 0.1 | 0.0 | 17.2 | B | 23.1 | C |
| Claremont @ Arrow Highway | 0.0 | 0.0 | 24.3 | C | 29.4 | C |
| Source: Linscott, Law & Greenspan 2014 | | | | | | |

**Table 4.11.8**
**Fall Weekend Game + Existing Traffic Volumes**

| Intersection | Project Contribution (s/v) | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | AM | PM | Delay | LOS | Delay | LOS |
| Claremont @ Foothill | 3.1 | 1.5 | 31.2 | C | 28.7 | C |
| Monte Vista @ Foothill | 0.2 | 0.5 | 28.1 | C | 27.0 | C |
| Claremont @ Ninth | 12.2 | 11.6 | 23.7 | C | 22.4 | C |
| Claremont @ Sixth | 0.1 | 0.3 | 28.8 | C | 28.8 | C |
| College Park @ Arrow Route | 0.0 | 7.2 | 10.8 | B | 19.1 | B |
| Monte Vista @ Arrow Route | 1.4 | 0.3 | 27.3 | C | 25.3 | C |
| Source: Linscott, Law & Greenspan 2014 | | | | | | |

**Table 4.11.9**
**Spring Weekend Game + Existing Traffic Volumes**

| Intersection | Project Contribution (s/v) | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | AM | PM | Delay | LOS | Delay | LOS |
| Claremont @ Foothill | 1.5 | 0.5 | 29.6 | C | 27.7 | C |
| Monte Vista @ Foothill | 0.1 | 0.1 | 28.0 | C | 26.6 | C |
| Claremont @ Ninth | 11.5 | 11.7 | 23.0 | C | 22.5 | C |
| Claremont @ Sixth | 0.0 | 0.1 | 28.7 | C | 28.6 | C |
| College Park @ Arrow Route | 0.0 | 3.7 | 11.1 | B | 15.6 | B |
| Monte Vista @ Arrow Route | 0.7 | 0.4 | 26.6 | C | 25.4 | C |
| Source: Linscott, Law & Greenspan 2014 | | | | | | |

**Table 4.11.10**
**Weekday Practice + Year 2020 Traffic Volumes**

| Intersection | Project Contribution (s/v) | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | AM | PM | Delay | LOS | Delay | LOS |
| Monte Vista @ Baseline | 0.5 | 4.0 | **122.5** | **F** | **160.4** | **F** |
| SR-210 @ Baseline | 0.5 | 0.5 | **237.1** | **F** | **158.1** | **F** |
| Monte Vista @ Claremont | 0.7 | 1.3 | 60.8 | E | 50.4 | D |
| Indian Hill @ Foothill | 0.0 | 0.3 | 50.7 | D | **161.6** | **F** |
| Mills @ Foothill | 0.0 | 0.1 | 43.6 | D | 29.8 | C |
| Claremont @ Foothill | 0.2 | 1.3 | 36.4 | D | 57.7 | E |
| Foothill @ North Driveway | 0.7 | 11.1 | **95.5** | **F** | **493.0** | **F** |
| Monte Vista @ Foothill | 0.0 | 0.3 | 37.6 | D | 44.7 | D |
| Central @ Foothill | 0.0 | 0.5 | 35.3 | D | **76.3** | **E** |
| Claremont @ Northwest Driveway | -- | -- | 0.0 | A | 11.5 | B |
| Claremont @ Ninth | 0.0 | 0.1 | 19.8 | B | 21.9 | C |
| Claremont @ Southwest Driveway | -- | -- | 0.0 | A | 11.4 | B |
| Indian Hill @ Harrison/Fifth | 0.0 | 0.1 | 17.5 | B | 19.1 | B |
| College @ Sixth | 0.0 | 0.2 | 11.6 | B | 15.3 | C |
| Mills @ Sixth | 0.1 | 0.0 | 9.5 | A | 10.1 | B |
| Claremont @ Sixth | 0.0 | 0.3 | 34.1 | C | 37.1 | D |
| College Park @ Arrow Route | 1.0 | 0.2 | 18.4 | B | 16.1 | B |
| Monte Vista @ Arrow Route | 0.0 | 0.2 | 28.8 | C | 30.5 | C |
| Indian Hill @ First | 0.0 | 0.1 | 16.8 | B | 24.9 | C |
| Claremont @ First | 0.0 | 0.1 | 19.9 | B | 30.1 | C |
| Claremont @ Arrow Highway | 0.0 | 0.0 | 24.6 | C | 31.3 | C |
| Source: Linscott, Law & Greenspan 2014 | | | | | | |

**Table 4.11.11**
**Weekday Games + Year 2020 Traffic Volumes**

| Intersection | Project Contribution (s/v) | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | AM | PM | Delay | LOS | Delay | LOS |
| Monte Vista @ Baseline | 0.5 | 11.0 | **122.5** | **F** | **167.4** | **F** |
| SR-210 @ Baseline | 0.5 | 0.5 | **237.1** | **F** | **158.1** | **F** |
| Monte Vista @ Claremont | 0.7 | 3.3 | 60.8 | E | 52.4 | D |
| Indian Hill @ Foothill | 0.0 | 0.6 | 50.7 | D | **161.9** | **F** |
| Mills @ Foothill | 0.0 | 0.3 | 43.6 | D | 30.0 | C |
| Claremont @ Foothill | 0.2 | 2.4 | 36.4 | D | 58.8 | E |
| Foothill @ North Driveway | 0.7 | 22.7 | **95.5** | **F** | **504.6** | **F** |
| Monte Vista @ Foothill | 0.0 | 0.8 | 37.6 | D | 45.2 | D |
| Central @ Foothill | 0.0 | 1.6 | 35.3 | D | **77.4** | **E** |
| Claremont @ Northwest Driveway | -- | -- | 0.0 | A | 11.9 | B |
| Claremont @ Ninth | 0.0 | 22.0 | 19.8 | B | 22.0 | C |
| Claremont @ Southwest Driveway | -- | -- | 0.0 | A | 11.4 | B |
| Indian Hill @ Harrison/Fifth | 0.0 | 0.2 | 17.5 | B | 19.2 | B |
| College @ Sixth | 0.0 | 0.5 | 11.6 | B | 15.6 | C |
| Mills @ Sixth | 0.1 | 0.1 | 9.5 | A | 10.2 | B |
| Claremont @ Sixth | 0.0 | 0.7 | 34.1 | C | 37.5 | D |
| College Park @ Arrow Route | 1.0 | 0.4 | 18.4 | B | 16.3 | B |
| Monte Vista @ Arrow Route | 0.0 | 0.4 | 28.8 | C | 30.7 | C |
| Indian Hill @ First | 0.0 | 0.1 | 16.8 | B | 24.9 | C |
| Claremont @ First | 0.0 | 0.3 | 19.9 | B | 30.3 | C |
| Claremont @ Arrow Highway | 0.0 | 0.0 | 24.6 | C | 31.3 | C |
| Source: Linscott, Law & Greenspan 2014 | | | | | | |

**Table 4.11.12**
**Weekday Practice + Year 2030 Traffic Volumes**

| Intersection | Project Contribution (s/v) | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | AM | PM | Delay | LOS | Delay | LOS |
| Monte Vista @ Baseline | 0.8 | 4.2 | **239.7** | **F** | **247.6** | **F** |
| SR-210 @ Baseline | 0.7 | 0.2 | **298.7** | **F** | **186.7** | **F** |
| Monte Vista @ Claremont | 0.5 | 1.0 | **82.9** | **F** | 55.9 | E |
| Indian Hill @ Foothill | 0.1 | 0.0 | 79.8 | E | **194.7** | **F** |
| Mills @ Foothill | 0.0 | 0.3 | 60.9 | E | 36.9 | D |
| Claremont @ Foothill | 0.1 | 2.2 | 39.5 | D | 76.0 | E |
| Foothill @ North Driveway | 0.7 | 8.1 | **99.7** | **F** | **407.4** | **F** |
| Monte Vista @ Foothill | 0.0 | 0.7 | 34.4 | C | 52.7 | D |
| Central @ Foothill | 0.0 | 0.6 | 34.0 | C | **93.6** | **F** |
| Claremont @ Northwest Driveway | -- | -- | 0.0 | A | 11.8 | B |
| Claremont @ Ninth | 0.0 | 0.0 | 21.0 | C | 23.8 | C |
| Claremont @ Southwest Driveway | -- | -- | 0.0 | A | 11.7 | B |
| Indian Hill @ Harrison/Fifth | 0.0 | 0.1 | 18.6 | B | 20.7 | C |
| College @ Sixth | 0.0 | 0.4 | 12.7 | B | 19.8 | C |
| Mills @ Sixth | 0.0 | 0.1 | 9.5 | A | 10.3 | B |
| Claremont @ Sixth | 0.0 | 0.3 | 33.2 | C | 37.8 | D |
| College Park @ Arrow Route | 1.2 | 0.1 | 18.6 | B | 15.9 | B |
| Monte Vista @ Arrow Route | 0.0 | 0.1 | 27.3 | C | 28.3 | C |
| Indian Hill @ First | 0.0 | 0.1 | 17.4 | B | 30.2 | C |
| Claremont @ First | 0.0 | 0.1 | 20.1 | C | 30.1 | C |
| Claremont @ Arrow Highway | 0.0 | 0.0 | 25.4 | C | 34.6 | C |
| Source: Linscott, Law & Greenspan 2014 | | | | | | |

**Table 4.11.13**
**Weekday Games + Year 2030 Traffic Volumes**

| Intersection | Project Contribution (s/v) | | AM Peak Hour | | PM Peak Hour | |
|---|---|---|---|---|---|---|
| | AM | PM | Delay | LOS | Delay | LOS |
| Monte Vista @ Baseline | 0.8 | 10.6 | **239.7** | **F** | **254.0** | **F** |
| SR-210 @ Baseline | 0.7 | 0.4 | **298.7** | **F** | **186.9** | **F** |
| Monte Vista @ Claremont | 0.5 | 1.9 | **82.9** | **E** | 56.8 | E |
| Indian Hill @ Foothill | 0.1 | 0.0 | 79.8 | E | **194.6** | **F** |
| Mills @ Foothill | 0.0 | 0.8 | 60.9 | E | 37.4 | D |
| Claremont @ Foothill | 0.1 | 5.3 | 39.5 | D | 79.1 | E |
| Foothill @ North Driveway | 0.7 | 17.7 | **99.7** | **F** | **417.0** | **F** |
| Monte Vista @ Foothill | 0.0 | 1.6 | 34.4 | C | 53.6 | D |
| Central @ Foothill | 0.0 | 1.7 | 34.0 | C | **94.7** | **F** |
| Claremont @ Northwest Driveway | -- | -- | 0.0 | A | 12.2 | B |
| Claremont @ Ninth | 0.0 | 0.1 | 21.0 | C | 23.9 | C |
| Claremont @ Southwest Driveway | -- | -- | 0.0 | A | 11.8 | A |
| Indian Hill @ Harrison/Fifth | 0.0 | 0.2 | 18.6 | B | 20.8 | C |
| College @ Sixth | 0.0 | 0.9 | 12.7 | B | 20.3 | C |
| Mills @ Sixth | 0.0 | 0.2 | 9.5 | A | 10.4 | B |
| Claremont @ Sixth | 0.0 | 0.7 | 33.2 | C | 38.2 | D |
| College Park @ Arrow Route | 1.2 | 0.3 | 18.6 | B | 16.1 | B |
| Monte Vista @ Arrow Route | 0.0 | 0.2 | 27.3 | C | 28.4 | C |
| Indian Hill @ First | 0.0 | 0.1 | 17.4 | B | 30.2 | C |
| Claremont @ First | 0.0 | 0.2 | 20.1 | C | 30.2 | C |
| Claremont @ Arrow Highway | 0.0 | 0.0 | 25.4 | C | 34.5 | C |
| Source: Linscott, Law & Greenspan 2014 | | | | | | |

The results of the *spring* and *fall weekend games plus existing* traffic conditions level of service analysis indicate that none of the key study intersections would be significantly impacted by the addition of the proposed project traffic, thus no mitigation measures will be required. All intersections are forecast to operate at acceptable levels of service for the *spring* and *fall weekend games plus existing* traffic conditions. The traffic study found that intersections would operate deficiently under existing conditions and by years 2020 and 2030. The traffic study identifies planned improvements and required improvements that would reduce impacts at these intersections, listed herein and further explained in the following sections.

Proposed Improvements

The following planned improvements are included as part of the project, per the project description. These proposed improvements would be constructed in conjunction with the project development and were included in the background traffic conditions.

**Claremont Boulevard at Project Driveway 2 (9):** Construction of the east leg of the intersection to provide one inbound lane and one outbound lane would be required. The intersection would be designed for stop-controlled approach on Project Driveway 2 (Northwest Driveway) and would provide one right-turn-only lane. The northbound approach on Claremont Boulevard would be modified to provide one through lane and one shared through-right turn lane. The existing southbound approach on Claremont Boulevard that provides two through lanes would be maintained.

**Claremont Boulevard at Ninth Street/Project Driveway 3 (10):** The northbound approach on Claremont Boulevard would be modified to provide a shared through-right turn lane while maintaining the existing one through lane and one left-turn lane. The southbound approach on Claremont Boulevard would be modified by providing a left-turn lane while maintaining the existing through lane and constructing one shared through-right turn lane. Construction of the east leg of the intersection to provide one inbound lane and one outbound lane designed for stop-controlled approach on Project Driveway 3 (West Driveway) and one shared left through-right lane. The west leg would need to be re-striped to include eastbound through movement. A traffic signal with crosswalks and pedestrian signals and push buttons would be constructed. Additionally, fencing and landscaping would be installed along the project frontage to encourage students to cross Claremont Boulevard at signalized intersection crosswalks and discourage midblock crossings. *Note that although traffic volumes would not technically warrant a traffic signal at this intersection in the immediate future, the project includes construction of this signal by opening day due to the significant pedestrian activity expected at this location* (see Impact 4.11.C in this section for further discussion).

**Claremont Boulevard at Project Driveway 4 (11):** Construction of the east leg of the intersection to provide one inbound lane and one outbound lane designed for stop-controlled approach and one right-turn only lane. The northbound approach on Claremont Boulevard would be modified to provide one through lane and one shared through-right turn lane. The existing southbound approach on Claremont Boulevard that provides two through lanes would be maintained.

**Project Driveway 1 at Foothill Boulevard (14):** If and when the north driveway is constructed to provide access to the project, construction of the south leg of the intersection to provide one inbound lane and one outbound lane and align future project driveway with that of the future Claremont Commons driveway to the north would be required. The intersection would be designed with stop-controlled approaches on both the Project Driveway 1 (North Driveway) and the Claremont Commons driveway. One shared left through-right lane for both the Project Driveway 1 and the Claremont Commons driveway approaches would be provided. A five-phase traffic signal will be installed at this intersection. The eastbound approach on Foothill Boulevard would be modified to provide one left-turn lane, one through lane and one shared through-right turn lane. The westbound approach on Foothill Boulevard would be modified to provide one left-turn lane, one through lane, and one shared through-right turn lane.

**College Park Drive/Project Driveway 5 at Arrow Route (15):** Construction the north leg of the intersection to provide one inbound lane and one outbound lane aligned with College Park Drive at the existing traffic signal. The existing traffic signal would be modified and designed for 5-phase operation with protected eastbound and westbound left-turn phasing on Arrow Route. The eastbound approach would be modified by providing a left-turn lane, while maintaining the existing through lane, and one shared through-right turn lane. The westbound approach would be modified to provide a shared through-right turn lane, while maintaining the existing one through lane, and one left-turn lane. The south leg would be re-striped to include northbound through movement.

Required Improvements

Improvements required to minimize impacts to study area intersections are summarized in Table 4.11.14 (Required Improvements Summary). Fair-share impact fees to be paid at proposal of future development components have been incorporated into the project as standard conditions and mitigation. The results of the traffic analysis indicate that the following would be impacted by the proposed sports facilities but would be mitigated to less than significant levels with mitigation incorporated:

- Two intersections would be impacted by the project under *weekday practice plus existing* traffic conditions
- Two intersections would be impacted by the project under *weekday games plus existing* traffic conditions
- Five intersections would be impacted by the project under *weekday practice plus year 2020* traffic conditions
- Five intersections would be impacted by the project under *weekday games plus year 2020* traffic conditions
- Six intersections would be impacted by the project under *weekday practice plus year 2030* traffic conditions
- Six intersections would be impacted by the project under *weekday games plus year 2030* traffic conditions

The LOS tables in the traffic impact analysis isolate those intersections and scenarios that will result in delay values that exceed the applicable jurisdiction's criteria and therefore require mitigation to avoid potentially significant impacts. Identification of specific mitigations for traffic-related impacts, by intersection, is an iterative procedure that generally involves testing the potential benefits of physical improvement measures and doing so by further optimizing signal cycle lengths and green times for each movement at the intersection. The latter essentially reflects what a signal controller does at the intersection and further recognizes that cycle lengths would not necessarily remain constant between the year 2020 and year 2030 scenarios.

Using Central Avenue at Foothill Boulevard as an example, the AM peak hour results do not require mitigation but the cumulative setting of the PM peak hour does so in both year 2020 and year 2030 scenarios. Focusing to the year 2030

value with a Weekday: Game Day value of 94.7 s/v of average delay, the average delay is improved to an acceptable level of 42.2 s/v (LOS D) by an operational improvement that facilitates pedestrian crossing of Foothill Boulevard parallel to the dominant northbound movement. Currently, the intersection is split-phased in the north-south direction, meaning that the green indication for all northbound movements occurs simultaneously and does so independently from the southbound green. Those pedestrian crossings now occur in parallel to the much smaller volumes on the southbound movement.

In timing signals, the crossing times of pedestrians are considered and may exceed the green time of vehicular traffic making the parallel movement. Such is the case for Central Avenue at Foothill Boulevard; the southbound pedestrian times (28 seconds) are well in excess of the southbound traffic movement needs that now occur simultaneously. A pairing of these pedestrian crossings with the northbound green indication requiring crosswalk relocation is the basis of the mitigation at this intersection.

While the mitigation for other key intersections may vary, the overall process described herein was generally followed for each. Inherent to this approach is an evaluation of cycle lengths in combination with identified changes/improvements in lane geometry. Additionally, the delay calculations of this study take a very conservative approach and presume that every signal cycle will experience a “pedestrian call” on each crossing leg via the pedestrian push button, thus extending the green times to match the potentially greater needs of pedestrian crossing times versus those of vehicular traffic.

All remaining intersections are forecast to operate at acceptable levels of service for all scenarios. The improvements summarized in Table 4.11.14 have been identified to address the traffic impacts at the intersections significantly impacted by the proposed sports facilities.

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**Table 4.11.14**
**Required Improvements Summary**

| Direction | Improvement | Existing | | 2020 | | 2030 | |
|---|---|---|---|---|---|---|---|
| | | Practice | Game | Practice | Game | Practice | Game |
| NB | Left-Turn | 1 | 1 | 20, 1 | 20, 1 | 20, 1 | 20, 1 |
| | Right-Turn | | | 1 | 1 | 1 | 1 |
| | Through-Lane | | | | | | |
| EB | Left-Turn | | | | | | |
| | Right-Turn | | | 1 | 1 | 1 | 1 |
| | Through-Lane | | | | | | |
| SB | Left-Turn | | | | | 1 | 1 |
| | Right-Turn | 20 | 20 | 20 | 20 | 20 | 20 |
| | Through-Lane | | | 4 | 4 | 4 | 4 |
| WB | Left-Turn | | | 16 | 16 | 16 | 16 |
| | Right-Turn | | | | | | |
| | Through-Lane | | | | | 20 | 20 |
| Relocate Pedestrian Crosswalk | | | | | 21 | | 21 |
| New Traffic Signal* | | | | 14 | 14 | 14 | 14 |
| Modify Existing Traffic Signal | | 20, 1 | 20, 1 | 16, 20, 1 | 16, 20, 1 | 16, 20, 17, 1 | 16, 20, 17, 1 |
| Roadway Modification | | 20 | 20 | 16, 20 | 16, 20 | 16, 20 | 16, 20 |

Source: Linscott, Law & Greenspan 2014
* Includes crosswalks and pedestrian push-buttons

<u>Intersections</u>
1 – Indian Hill @ Foothill
14 – Foothill @ North Driveway (only required if/when development on TTM 18989, Parcel 1 occurs)
16 – Monte Vista @ Baseline
17 – Monte Vista @ Claremont
20 – SR210 @ Baseline
21 – Central @ Foothill

With future potential improvements, all impacted intersections would operate at an acceptable LOS. Table 4.11.15 (Mitigated Intersection Operations) summarizes the operation of impacted intersections with the improvements in this section implemented.

**Table 4.11.15**
**Mitigated Intersection Operations (LOS)**

| Intersection | Existing | | 2020 | | 2030 | |
|---|---|---|---|---|---|---|
| | AM | PM | AM | PM | AM | PM |
| Monte Vista @ Baseline | -- | -- | D | D | E | E |
| SR-210 @ Baseline | D | D | E | C | E | E |
| Monte Vista @ Claremont | -- | -- | -- | -- | C | D |
| Indian Hill @ Foothill | D | E | D | E | D | E |
| Foothill @ North Driveway | -- | -- | B | B | B | B |
| Central @ Foothill | -- | -- | C | D | C | D |
| Source: Linscott, Law & Greenspan 2014 | | | | | | |

The approval of future sports facilities would be subject to each jurisdiction's traffic impact fee ordinances and "fair-share" payments for future traffic improvements as identified in the project traffic analysis. Table 4.11.16 (Worst-Case Improvement Costs) summarizes the traffic impact study estimates of the worst-case (Year 2020) "fair-share" percentage and dollar contributions from build-out of the Master Site Plan, Site Plan, and development agreements. These improvement estimates include roadway modification costs on the southbound approach of SR-210 at Baseline road and the northbound approach of Monte Vista Avenue at Baseline Road. It should be noted that the fair-share costs are preliminary and are subject to being updated to reflect revised projected costs as determined by the City Engineer at the time the fair share payment is collected.

**Table 4.11.16**
**Worst-Case Improvement Costs**

| Intersection | | Improvement Cost | Fair Share Contribution | |
|---|---|---|---|---|
| | | | % | Cost |
| 1 | Indian Hill @ Foothill | $305,000 | 1.76 | $5,368.00 |
| 14 | Foothill @ North Driveway# | $250,000 | 50.00 | $125,000.00 |
| 16 | Monte Vista @ Baseline | $525,000 | 3.74 | $19,635.00 |
| 20 | SR-210 @ Baseline | $655,000 | 2.79 | $14,647.50 |
| 21 | Central @ Foothill* | $25,000 | 2.65 | $662.50 |
| | | | TOTAL | $413,487.50 |
| | | | **Fair Share Requirement** | **$165,313.00** |

Source: Linscott, Law & Greenspan 2014
# Int 7 shall be required if and when the North Driveway is constructed
* Int 9 is the only intersection in the City of Upland, all others located in the City of Claremont

These estimated fee percentages were calculated using the California Department of Transportation (Caltrans) "Guide for the Preparation of Traffic Impact Studies" and payment of fees would be due prior to issuance of building permits. These requirements for "fair share" payment have been identified as Mitigation Measure 4.11.A-2 to ensure their implementation. Upland currently collects fees pursuant to the San Bernardino County CMP and transfers applicable payments to Los Angeles County for improvements at State Route 210 and Baseline Road. With implementation of traffic impact fee ordinances, the proposed sports facilities would not conflict with the established performance standards of the local or regional circulation system and impacts would be less than significant with mitigation incorporated.

In order for the traffic analysis to remain valid under all traffic scenarios, attendance at weekday games must not exceed 500 spectators or the resulting traffic would result in traffic volumes beyond those analyzed in the project study; therefore, Mitigation Measure 4.11.A-3 will be incorporated. Mitigation Measure 4.11.A-3 requires the implementation of a traffic management strategy to ensure that impacts resulting from weekday game traffic do not exceed those anticipated in the project traffic study. This is accomplished by ensuring that exiting traffic from multiple events is not released simultaneously onto adjoining streets if the combined attendance at the events exceeds 500 spectators. This is equal to no more than 129 vehicles in during one PM peak hour per the project traffic study. This is implemented by scheduling the events to end at different times so that traffic from both events is not released during the same peak PM hour. With implementation of Mitigation Measure 4.11.A-3, impacts associated with excessive weekday game traffic would be less than significant.

**IMPACT 4.11.B**

***The project would not conflict with the Los Angeles County or San Bernardino County Congestion Management Programs; impacts would be less than significant***

The Congestion Management Program (CMP) is a state-mandated program that was enacted by the State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system. The project site and its key intersections are located in two jurisdictions, Los Angeles and San Bernardino counties. Los Angeles County and San Bernardino County each have their own CMP and respective guidelines. Those guidelines are discussed in further detail, below.

## Los Angeles County

As required by the 2010 Congestion Management Program (CMP) for Los Angeles County, a traffic impact assessment has been prepared to determine the potential impacts on designated monitoring locations on the CMP highway system. The analysis has been prepared in accordance with procedures outlined in the 2010 Congestion Management Program for Los Angeles County, County of Los Angeles Metropolitan Transportation Authority.

## Intersections

The following CMP intersection monitoring locations in the project vicinity have been identified:

- Intersection No. 08, Indian Hill Boulevard at Arrow Highway
- Intersection No. 09, Indian Hill Boulevard at Baseline Road
- Intersection No. 11, Indian Hill Boulevard at Foothill Boulevard

The CMP traffic impact assessment guidelines require that intersection-monitoring locations must be examined for potential CMP traffic impacts if the proposed project would add 50 or more trips to a CMP monitoring location during either the AM or PM weekday peak hours. Based on the project traffic volumes and distribution, the proposed project is not forecast to add 50 or more trips during the AM or PM peak hours at the CMP monitoring intersections. Therefore, when considering Los Angeles County CMP criteria, no further review of the potential impacts at the CMP intersection monitoring locations is required for either project trip threshold.

## Freeways

Two CMP freeway-monitoring locations in the project vicinity have been identified as follows:

- Segment No. 1021, I-10 Freeway, west of Indian Hill Boulevard
- Segment No. 1064, SR-210 Freeway, east of Indian Hill Boulevard

The CMP guidelines require that freeway-monitoring locations must be examined for CMP traffic impacts if the proposed project would add 150 or more trips (in either direction) during either the AM or PM weekday peak hours. Based on the project traffic volumes and distribution, the proposed project would not add 150 or more trips (in either direction) during either the AM or PM weekday peak hours to the CMP freeway monitoring locations. Therefore, when considering Los Angeles County CMP criteria, no further review of potential CMP traffic impacts to freeway monitoring locations is required.

## Transit Impact Review

The project trip generation was adjusted by values set forth in the LA County CMP (i.e., person trips equal 1.4 times vehicle trips, and transit trips equal 3.5 percent of the total person trips) to estimate project-related transit trip generation. Pursuant to the CMP guidelines, the proposed project (Weekday: Game Day) is forecast to generate 2 transit trips (1 inbound and 1 outbound) during the AM peak hour and 11 transit trips (1 inbound and 10 outbound) during the PM peak hour. Over a 24-hour period the proposed project is forecast to generate 25 daily weekday transit trips.

It is anticipated that the existing transit service in the project area would be able to accommodate the project generated transit trips. Foothill Transit Lines 187, 197, 292, 480, 492, 690 and 855 currently serve the surrounding vicinity. Therefore, given the number of transit trips generated by the project and the existing transit

routes in the project vicinity, it is concluded that the existing public transit system would not be significantly impacted by the proposed project.

### San Bernardino County

The CMP for San Bernardino County also requires a traffic impact assessment to determine potential impacts at designated monitoring locations on the CMP system. The analysis has been performed according to the 2007 Update for the Congestion Management Program for San Bernardino County, San Bernardino Associated Governments, December, 2007.

### Intersections

The following CMP intersection monitoring locations in the project vicinity have been identified:

- Central Avenue and Foothill Boulevard
- Monte Vista Avenue and Foothill Boulevard

The CMP traffic impact assessment guidelines require that intersection-monitoring locations must be examined for potential CMP traffic impacts if the proposed project would add 50 or more trips to a CMP monitoring location during either the AM or PM weekday peak hours. Based on the project traffic volumes and generation, the proposed project is not forecast to add 50 or more trips during the AM or PM peak hours at the CMP monitoring intersections. Therefore, when considering San Bernardino County CMP criteria, no further review of the potential impacts at the CMP intersection monitoring locations is required for either project trip threshold.

### Freeways

Two CMP freeway-monitoring locations in the project vicinity have been identified:

- I-10 Freeway, east of the Los Angeles County Line
- I-210 Freeway, east of the Los Angeles County Line

The CMP guidelines require that freeway-monitoring locations must be examined for CMP traffic impacts if the proposed project would add 250 or more trips during either the AM or PM weekday peak hours. Based on the project traffic volumes and generation, the proposed project would not add 250 or more trips during either the AM or PM weekday peak hours to the CMP freeway monitoring locations, which is the threshold for preparing a traffic impact assessment. Therefore, when considering San Bernardino County CMP criteria, no further analysis of potential CMP traffic impacts to freeway monitoring locations is required.

**IMPACT 4.11.C**

***Safety hazards associated with students crossing the street from the existing Claremont McKenna and Pitzer Colleges to access the project site would be less than significant with mitigation incorporated***

The project does not include any roadway design features, such as sharp curves, that could result in a safety hazard. The project is not a use that utilizes vehicles that could cause a safety hazard due to incompatibility with on-road traffic, such as tractors. No safety hazards related to roadway design or incompatible uses would occur.

The proposed sports facilities include parking lots to serve the Claremont McKenna and Pitzer Colleges as well as students, staff, and visitors utilizing the sports fields and ancillary facilities. With the existing colleges located directly west of the project site on the west side of Claremont Boulevard, it is anticipated that some students would walk from the other campuses to the proposed sports facilities and vice-versa. Currently, the only crosswalks available to access the project site from the existing colleges are at Foothill Boulevard and Arrow Route; there is no crosswalk at Ninth Street. The City of Claremont has identified traffic safety issues resulting from students crossing local roadways without using crosswalks. Moving the sports fields to the east side of Claremont Boulevard would likely exacerbate this issue and could result in potentially significant impacts to the life and safety of students and drivers on Claremont Boulevard. Table 4.11.17 (Estimated Student Crossings) summarizes the estimated number of students that would cross Claremont Boulevard after completion of the East Campus facilities. The summary notes that the greatest pedestrian traffic would occur during a “full house” football game at approximately 1,400 to 1,750 pedestrians prior to start and after completion of the game. These crossings would be distributed among the three crossings with Claremont Boulevard at Foothill Boulevard, Ninth Street, and Sixth Street with the Ninth Street intersection serving as the primary crossing.

**Table 4.11.17**
**Estimated Student Crossings**

| Scenario | Pedestrians per Hours |
|---|---|
| Weekday Peak Hour | 120-240 |
| Weekday Non-Peak Hour | < 50 |
| Weekday Before/After Practice | < 75 |
| Weekday Before/After Game | 125-265 |
| Weekend Spring Before/After Single Game | 265 |
| Weekend Spring Before/After Concurrent Games | 500 |
| Weekend Fall Before/After Football Game | 1,400-1,750 |
| Source: Linscott, Law & Greenspan 2011 | |

The first phase of construction for the project includes installation of a traffic signal at the intersection of Claremont Boulevard and Ninth Street. This signal would include crosswalks and pedestrian signals to provide additional pedestrian access to

the project site from the colleges and vice-versa. This would improve safety for persons crossing Claremont Boulevard between the colleges and the project site. Additionally, the project proposes fencing and landscaping along the entire site perimeter. This would discourage students from illegally crossing the street because entrance to the East Campus would only be available at crosswalks and driveways. These project features have been incorporated as Mitigation Measure 4.11.C-1. Impacts related to pedestrian safety would be less than significant with mitigation incorporated.

**IMPACT 4.11.D**

***The proposed off-site improvements would improve pedestrian and bicycle mobility in the project vicinity and would not conflict with Foothill Transit services in the area; impacts would be less than significant***

The project includes off-site improvements to all surrounding streets to include sidewalks, landscaping, utilities undergrounding, and street lights. This would improve pedestrian mobility in the project vicinity where currently there are no sidewalks on the project-side of surrounding streets. The project also includes striping of a Class II bike lane along Foothill Boulevard and Claremont Boulevard and installation of signage for a Class III bike route on Arrow Route as part of the proposed off-site improvements that would improve bicycle mobility in the area. Existing off-site parking may be prohibited in the future on Claremont Boulevard north of Sixth Street, to avoid conflicts caused by parking located within bike lanes. Arrow Route would include a Class III bikeway that would provide signage installed on the sidewalk indicating that travel lanes are shared by both motorists and bicyclists pursuant to the Upland Bicycle and Pedestrian Facilities Master Plan. These improvements support the goals of the Upland and Claremont General Plan policies that seek to improve non-motorized transportation in both cities. These improvements would be a benefit to the community.

There are two existing Foothill Transit bus stops located on the east side of Claremont Boulevard, one at the intersection with Ninth Street and one at the intersection with Sixth Street. There are two additional bus stops located on the west side of Claremont Boulevard at the intersection of Ninth Street and the intersection of Foothill Boulevard. These bus stops are demarcated with a sign but are not improved with a shelter or bench. In order to construct the proposed driveway at this intersection providing access to the proposed parking lots on the west side of the project site, the Ninth Street bus stop would need to be relocated. The project proposes to improve this bus stop by constructing a shelter and installing a bench in conjunction with the improvements to Claremont Boulevard. This is a benefit to bus transit in the area. Impacts to existing alternative transit services would be less than significant.

## *Standard Conditions*

**Section 3.44.030**

**City of Upland.** Prior to issuance of building permits within the City of Upland, the project proponent for sports facilities identified on the Master Site Plan shall submit traffic impact fees pursuant to the City of Upland Municipal Code.

**Chapter 16.200**

**City of Claremont.** Prior to issuance of building permits in the City of Claremont, project proponent shall submit traffic impact fees pursuant to the City of Claremont Municipal Code and the agreement between The Claremont Colleges and the City of Claremont, which provides for the annual payment of impact fees based on increases in FTE student enrollment.

## *Mitigation Measures*

**MITIGATION 4.11.A-1**

Prior to issuance of grading permits, the project proponent shall submit a Construction Management Plan for review and approval by the approving jurisdiction's City Engineer to minimize short-term impacts from construction vehicles. The Construction Management Plan shall include the following:

- Ingress/Egress for the construction traffic would be via Driveway 3 located along Claremont Boulevard and/or Driveway 5 on Arrow Route
- Prohibit construction traffic on local and residential streets
- Provide traffic control for any lane closure, detour or other disruption to traffic circulation
- Identify the routes that construction vehicles shall utilize for the delivery of construction materials
- Require the Applicant to keep all material handling routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The Applicant shall clean adjacent streets of any material which may have been spilled, tracked or blown onto adjacent streets or areas. Material handling shall be in compliance with all National Pollutant Discharge Elimination System (NPDES) permit regulations.
- Hauling or transport of oversize loads shall be allowed between the hours of 9:00 AM and 11:30 AM only, Monday through Friday, unless approved otherwise by the approving jurisdiction's City Engineer. Hauling or transport may be permitted/required during nighttime hours, weekends or Federal holidays, at the discretion of the approving jurisdiction's City Engineer. An approved Haul Route Permit shall be required from the appropriate City.
- Hauling or transport trucks entering or exiting public streets shall at all times yield to public traffic.
- If hauling operations cause any damage to existing pavement, street, curb and/or gutter along the haul route, the applicant shall be fully responsible for repairs. The repairs shall be completed to the satisfaction of the City Engineer having jurisdiction.
- All constructed-related parking and staging of vehicles shall be kept out of the adjacent public roadways and shall occur on-site.
- The Plan shall meet standards established in the current California Manual on Uniform Traffic Control Device (MUTCD) as well as Cities of Claremont and Upland requirements.

**MITIGATION 4.11.A-2**

Prior to issuance of building permits, the project proponent shall pay development impact fees to the approving jurisdiction in accordance with local municipal code requirements and the project traffic study to implement "fair-share" improvements at impacted intersections in order to reach acceptable operating levels of service. Required fair-share payments are summarized in Table 4.11.16 of the project Environmental Impact Report. "Fair-share" payments for improvements at the intersection of Foothill Boulevard at the project's North Driveway shall only be required if and when the project proponent constructs the North Driveway.

**MITIGATION 4.11.A-3**

Prior to issuance of occupancy permits for the baseball and/or softball field, the project proponent shall submit a traffic management strategy to the City of Upland Development Services Director and to the City of Claremont Community Development Director identifying the measures that shall be implemented by Claremont McKenna College if attendance during simultaneous baseball and softball games exceeds 500 spectators to ensure that no more than 129 vehicles are permitted to exit the project site during one PM peak hour to ensure that impacts resulting from weekday game traffic do not exceed those anticipated in the project traffic study.

**MITIGATION 4.11.C-1**

Prior to approval of street improvement plans for Claremont Boulevard, the project proponent shall submit landscape plans for review and approval by the City of Claremont Community Development Director. The landscape plans shall include perimeter fencing and landscaping to encourage students to cross Claremont Boulevard at intersection crosswalks.

## *Level of Significance with Mitigation Incorporated*

Impacts 4.11.A and 4.11.C would be less than significant with implementation of existing regulations and mitigation incorporated. All other impacts would be less than significant.

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[1] Linscott, Law & Greenspan Engineers. Traffic Impact Analysis, Claremont Colleges Sports Complex. September 2014
[2] San Bernardino County. Congestion Management Program. 2007
[3] Los Angeles County. Congestion Management Program. 2010
[4] Governor's Office of Planning and Research, August 2014
[5] City of Upland. General Plan. Circulation Element. 2003
[6] City of Upland. Bicycle and Pedestrian Facilities Master Plan. April 1995
[7] City of Upland. Municipal Code. Section 3.44.030. September 9, 2014
[8] City of Claremont. General Plan. Community Mobility Element. 2009
[9] City of Claremont. Municipal Code. Chapter 16.200. September 9, 2014

# Utilities and Service Systems 4.12

This section will analyze the availability of infrastructure capacity for water, wastewater, storm drain, and solid waste services to meet the needs of the project and each system's current and future obligations. The following analysis is partly based on the project "Public Utilities Infrastructure Reports" prepared by KPFF Consulting Engineers in December 2003 and 2007 (attached as Appendices M and N). As identified in the Initial Study (Appendix B), no impacts related to wastewater treatment requirements, or compliance with federal, state, and local solid waste regulations were identified; therefore, these topics are not discussed below. Comments related to utilities and service systems were submitted during the public scoping process by the Inland Empire Utilities Agency, the San Bernardino County Local Agency Formation Commission, and the San Bernardino County Public Works Department. Those comments are addressed below.

## *Existing Conditions*

### Water Services

The City of Upland provides water to customers within its jurisdiction. The City of Upland water supplies consist of local groundwater, and surface water purchases and imports from Metropolitan Water District (MWD).[1] Groundwater is extracted from the Cucamonga Basin, Six Basins, and Chino Basin with the majority being pumped from the Cucamonga Basin. On average the City of Upland water supply consists of 70 to 75 percent local groundwater and surface water supplies and 25 to 30 percent imported water. Supplies in 2009 consisted of approximately 19,263 acre feet (AF) of groundwater, 1,742 AF of surface water fed from San Antonio Creek, and 2,263 AF of MWD imported water for a total of 23,657 acre feet per year (AFY). The City of Upland maintains a 10-inch steel water main under Arrow Route between College Park Drive and Monte Vista Avenue with a stub that connects to the north side of Arrow Route.[2] Recycled water currently is not available to the project site, but is available in other portions of the City of Upland and the region.

Golden State Water Company (GSWC) provides water to the majority of the City of Claremont, including the project site. GSWC water supply for the "Claremont System" includes groundwater from Six Basins and Chino Basin and imported water from Three Valleys Municipal Water District (TVMWD).[3] Between 2000 and 2004, an average of 7,040 AFY was pumped from the nineteen active wells in Six Basins and one well in Chino Basin 4,578 AFY was allocated to the Claremont System from TVMWD. Estimated water usage in 2010 includes 6,971 AFY purchased from TVMWD and 8,007 AFY pumped from groundwater resources. Recycled water is not available in the Claremont System. GSWC maintains an 8-inch polyvinyl chloride (PVC) water main under Foothill Boulevard between Claremont Boulevard and Monte Vista Avenue.[4] According to the engineering plans prepared for the proposed project, GSWC also maintains a 12-inch water main under Arrow Route.

The City of Claremont is currently in the process of purchasing the Claremont Water System from GSWC. On November 4, 2015 City of Claremont voters approved the issuance of revenue bonds to finance the purchase by 71 percent from GSWC.[5]

Through the public hearing process, the City Council determined that the acquisition is in the public's interest and unanimously approved the Resolutions of Necessity. On December 2014, the City filed an Eminent Domain complaint in the Los Angeles Superior Court.

The Inland Empire Utilities Agency (IEUA) provides recycled water to the southwest portion of San Bernardino County, including portions of Upland. Currently, there are no recycled water facilities within 0.5 miles of the project site.[6] The nearest recycled water main is located under San Bernardino Avenue, approximately 1.5 miles to the south of the project site.

## Wastewater Services

The City of Upland Public Works Department maintains sewer mains within its jurisdiction. Existing off-site sewer mains in the project vicinity include an 8-inch vitrified clay pipe (VCP) under Monte Vista Avenue between Foothill Boulevard and Arrow Route and a sewer stub for an 8-inch VCP under College Park Drive to the north side of Arrow Route.[7] Wastewater treatment is provided to Upland by the Inland Empire Utilities Agency (IEUA). The Inland Empire Utilities Agency (IEUA) provides municipal and industrial wastewater collection for over 700,000 people within a 242 square mile area of western San Bernardino County. IEUA currently operates four reclamation facilities and two bio-solids treatment facilities.[8] The project vicinity is served by the IEUA Regional Plant No. 5 (RP-5), the Carbon Canyon Water Reclamation Facility (CCWRF), and Regional Plant No. 2 (RP-2).[9] RP-5 and the CCWRF currently process approximately 17.2 million gallons of wastewater per day (MGD).[10] Biosolids from these facilities are sent to RP-2 for processing.

The City of Claremont maintains sewer mains within its jurisdiction. Two sewer mains currently exist within the project vicinity. One is located on the Pitzer College campus immediately west of the project site. The other is located under Sixth Street, approximately 2,000 FT from the southwest corner of the project site. The developer is required to provide sewer flow data at manhole locations selected by the City of Claremont. The submitted information will be utilized in the City's sewer model to determine if the additional flow from the project can be accommodated. If the additional flow cannot be accommodated, the developer shall be responsible for the necessary upgrades to the system. Wastewater treatment is provided by the Los Angeles County Sanitation District (LASD) No. 21.[11] Wastewater is treated at the Pomona Water Reclamation Plant (WRP). The Pomona WRP serves approximately 130,000 people and provides primary, secondary, and tertiary treatment for approximately 13 MGD of wastewater with a total capacity of 15 MGD.[12] Approximately 8 MGD of the recycled water is used throughout the region while the remainder is used for groundwater recharge in the San Gabriel River; however, there is no recycled water distribution system in place to serve Claremont or the project site.

## Storm Drains

The project vicinity is completely urbanized with a fully developed storm drainage system. Curb and gutters are constructed on all streets around the perimeter of the project site to convey drainage to multiple side inlets in the area and eventually to subsurface storm drains. The City of Upland maintains a 30-inch storm drain under College Park Drive with a stub that runs from the north to the south side of Arrow Route.[13] Curb inlets at the corner of Monte Vista Avenue convey water to a storm drain under Monte Vista Avenue. Storm drains are also located under Foothill Boulevard that drain flows from the intersection of Monte Vista Avenue and Foothill Boulevard onto the project site. Westerly flows on Foothill Boulevard from that point flow down Claremont Boulevard and past First Street until being discharged into San Antonio Creek. Westerly flows on Arrow Route away from the College Park Intersection follow the same drainage pattern and flow south on Claremont Boulevard before discharging into the creek. Westerly flows on Arrow Route from east of Monte Vista drain into the storm drain located under College Park Boulevard. Regional flood control is managed by the San Bernardino County Flood Control District. Storm drains in the vicinity drain to San Antonio Creek, including approximately 425 FT to the east of the southeast corner of the project site and others south of the project area.[14] San Antonio Creek drains a watershed of approximately 17,331 acres to the Santa Ana River. In Claremont, storm drains are located on the north side of Foothill Boulevard, west of Claremont Boulevard, on Mills Avenue at Sixth Street.

## Solid Waste Services

The City of Upland contracts with Burrtec Waste Industries for commercial and residential solid waste disposal. The majority of Upland's solid waste is disposed of at the Mid-Valley Sanitary Landfill (SLF).[15] Upland disposed of 24,770 tons of solid waste at Mid-Valley SLF, approximately 47 percent of Upland's total solid waste disposal in 2013. The landfill site totals 498 acres of which 408 acres is permitted for disposal activities.[16] The Mid-Valley SLF is currently permitted to receive 7,500 tons of waste per day. The total estimated permitted capacity of Mid-Valley SLF is 101.3 million cubic yards (CY). Based on the permitted daily acceptance rate, the estimated closure date of the Mid-Valley SLF is April of 2033. Other landfills serving Upland include Colton SLF, Puente Hills SLF, San Timoteo SLF, and Victorville SLF. The City of Claremont contracts with Republic Services for solid waste disposal serves.[17] Beginning on January 1, 2011, an agreement with San Bernardino County went into effect permitting Republic Services to dispose of Claremont's solid waste at the Mid-Valley SLF for the next 20 years. In the past, other landfills serving Claremont include Puente Hills SLF, Colton SLF, Lancaster Landfill and Recycling Center, Mid-Valley SLF, and Victorville SLF.

The Class III landfill that is currently being operated on the project site is used for construction and demolition (C&D) disposal for projects located on The Claremont Colleges campuses (see Exhibit 4.12.1, Landfill Location). The existing landfill does not recycle C&D wastes; however, a variety of C&D recycling, disposal, and processing facilities exist in the vicinity of the project site, in both San Bernardino

and Los Angeles counties. Table 4.12.1 (C&D Recycling Facilities) summarizes the facilities within the area and the materials that are accepted.

**Table 4.12.1**
**C&D Recycling Facilities**

| Facility | Distance (mi) | Appliances | Asphalt | Carpet | Concrete | Gravel | Green Waste | Sand | Soil | Metal | Cardboard | Pallets | Plastic | Wood |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| R E Schaefer Recycling | 4 | | X | | X | X | | X | X | | | | | |
| Mission Recycling/West Coast Recycling | 5 | X | | X | | | | | | | | | | |
| Tamco Steel | 11 | | | | | | | | | X | | | | |
| Artesia Sawdust Products | 13 | | X | | X | | | | | | | | | X |
| West Valley Materials Recovery | 14 | | X | | X | | | | | | | | | X |
| Advanced Steel Recovery | 16 | | | | | | | | | X | | | | |
| Haven Diversion | 19 | | | | X | X | X | X | X | | | X | | X |
| Irwindale Iron & Metal | 19 | | | | | | | | | X | | | | |
| L B Crushing | 20 | | X | | X | X | | X | X | | | | | |
| Puente Hills MRF | 24 | X | | X | | | | | | X | X | X | X | X |
| Hi Waste Disposal | 27 | X | | | | | | | | X | X | | X | |
| Source: CalRecycle 2015 | | | | | | | | | | | | | | |

## *Regulatory Framework*

### Upland Municipal Code

The Upland Municipal Code includes regulations for the provision, maintenance, and financing of water, sewer, storm drain, and solid waste services and systems:[18]

- Section 3.44.040 (Storm Drain Development Impact Fee) establishes the need and requirement for payment of storm drain impact fees upon issuance of building permits for all new development within the City of Upland.
- Chapter 13.04 (Municipal Water System – Connections to Mains) identifies when a project proponent is required to pay fees for the previous construction of existing water mains for any permit required to connect to the municipal water service.
- Chapter 13.08 (Municipal Water System – Connection Fees) establishes the need and requirement for payment of connection fees for acquiring water, acquiring water rights, acquiring water stock, and constructing or improving

any part of the City of Upland water system for any request to connect to the municipal water system.

- Chapter 13.24 (Sewers) establishes impact fees for new development for the construction of wastewater interceptor, treatment, and disposal facilities. These fees are utilized for improvements of regional wastewater treatment facilities. This chapter also identifies the need for and authority to collect sewer connection fees.
- Chapter 13.28 (Solid Waste and Recyclables Collection Services) establishes the requirement that the City of Upland franchise solid waste hauler (Burrtec Waste Industries) must provide disposal and recycling services to any commercial entity within the City of Upland upon payment of service fees. This chapter also establishes regulations for the collection, storage, and transport of solid waste within the City of Upland.
- Chapter 13.32, Article II (Use of the Community Sewer System) establishes the need for collections of sewer utility rates for users of the system for the acquisition, construction, reconstruction, maintenance, and operation of sewage facilities. Rates include an IEUA Pass-Through Fee for sewage treatment and disposal services and an Upland fee for operation and maintenance of local sewer lines.
- Chapter 15.36 (Water Facilities Acquisition and Expansion Fee) establishes the need and requirement for payment of impact fees for acquiring water, acquiring water rights, acquiring water stock, and constructing or improving any part of the City of Upland water system upon issuance of building permits for any new development, addition, or redevelopment.
- Section 16.16.030 (Improvements) identifies required improvements for any subdivision. This includes requirements for adequate water, sanitary sewer, and storm drain prior to approval of final tract or parcel map.

The Upland Municipal Code also includes regulations and guidelines for the conservation of water and use of recycled water:

- Chapter 13.16 (Water Conservation) establishes mandatory year-round water conservation provisions and emergency moderate-, high-, and severe-shortage stage conservation. These provisions include limiting sidewalk and other hard-surface washing, irrigation time limits, washing of vehicles, and commercial water usage. Shortage stages are declared by the City Council when water demand exceeds or threatens to exceed safe-yield supplies.
- Section 13.20.070 (Landscape Guidelines) promotes use of water conservation features in landscaping such as native and drought tolerant plant groups and irrigation techniques such as use of automatic controllers and run-off design.
- Chapter 13.22 (Regulations for the Availability and Use of Recycled Water) establishes regulations for the connection and use of recycled water. The provisions require that the Public Works Department make a determination on the economic and technical feasibility of providing recycled water to any subdivision, development, or redevelopment proposal. Based on the determination, the Public Works Department may require connection to and use of recycled water services. Recycled water is permitted for a variety of

uses including landscape irrigation and sanitary uses (such as flushing toilets). This chapter also establishes the need for and authority to collect connection and impact fees for the construction, maintenance, and administration of the recycled water system.

## Claremont Municipal Code

The Claremont Municipal Code includes regulations for the provision, maintenance, and financing of water, sewer, storm drain, and solid waste services and systems:[19]

- Chapter 3.29 (Utility Users' Tax) establishes the authority of the City of Claremont to collect taxes for the use of telephone, electricity, natural gas, cable, and water within the City of Claremont. Low-income families are exempt from the users' tax.
- Chapter 8.08 (Garbage and Solid Waste) establishes regulations for the collection, storage, and transport of solid waste within the City of Claremont.
- Title 13 (Sewers) establishes sewer regulations for the City of Claremont. These regulations include requirements for connection, collection of connection fees, collection of service fees, and prohibition on discharges.
- Chapter 17.016 (Required Subdivision Improvements) includes requirements for adequate water, sanitary sewer, and storm drain prior to approval of final tract or parcel map. This includes approval of the fire flow requirements by the Los Angeles County Fire Department.
- Chapter 17.162 (Storm Drainage Fees) requires payment of fees in conjunction with subdivision or development for the cost of off-site improvements to the City of Claremont storm drain system.

The Claremont Municipal Code also includes Chapter 8.30 (Water Conservation) that establishes a water conservation and supply shortage program. The program identifies permanent water conservation requirements and Level 1 through Level 3 water shortage requirements when demand is up to ten, twenty, and thirty percent above supply, respectively. Water conservation and shortage measures include limits on watering hours and days, watering duration, and surface washing.

## Staged Mandatory Water Conservation and Rationing

Golden State Water Company (GSWC) is the project's water purveyor in the City of Claremont. It receives its water from the TVMWD which has reduced allocation to GSWC due to drought conditions and court-ordered pumping restrictions, as of July 1, 2009. To compensate for the reduced allocation, GSWC has implemented Stage 2 mandatory and voluntary conservation and rationing provisions (Schedule 14), approved by the California Public Utilities Commission (CPUC). Schedule 14 rationing requirements request that all customers reduce water usage in order for GSWC to reach historical 2004 to 2006 average usage rates minus ten percent. Additionally, mandatory "special conditions" are also imposed that include restricting vehicle washing, landscape irrigation, and hardscape washing. Penalties currently are not assessed on customers who use more water than allocated.

## Water Conservation in Landscaping Act

Section 65591 et al of the Government Code requires all local jurisdictions to adopt a water efficient landscape ordinance. The ordinance is to address water conservation through appropriate use and grouping of plants based on environmental conditions, water budgeting to maximize irrigation efficiency, storm water retention, and automatic irrigation systems. Failure to adopt a water efficiency ordinance requires a local jurisdiction to enforce the provisions of the State's model water efficiency ordinance. In 2009, the Department of Water Resources (DWR) updated the Model Water Efficient Landscape Ordinance pursuant to amendments to the 1991 Act. These amendments and the new model ordinance went into effect on January 1, 2010. The amended Act is applicable to any new commercial, multi-family, industrial, or tract home project containing 2,500 square feet (SF) or more of landscaping. All applicable landscape plans are required to include calculations verifying conformance with the maximum applied water allowance, and must be prepared and stamped by a licensed Landscape Architect. The City of Upland has adopted a water efficient landscape ordinance, Chapter 17.26 of the Upland Municipal Code, pursuant to the latest requirements of the State and also has irrigation conservation guidelines, as discussed previously in this Section. The City of Claremont has adopted its water efficiency in landscaping ordinance pursuant to State requirements.

## Executive Order B-29-15

On April 1, 2015 the Governor issued an Executive Order B-29-15 declaring a Drought Emergency in the State of California mandating a reduction in potable water use of 25 percent statewide. As a result of this order, the State Water Resources Control Board (Water Board) has mandated the City of Upland reduce potable water use by 36 percent. Additionally, Department of Water Resource is expected to prepare updates to the Model Water Efficient Landscape Ordinance to promote the values and benefits of landscaping practices that integrate and go beyond the conservation and efficient use of water.

## California Building Standards Commission Emergency Rulemaking

In response to the drought declaration Emergency Building Standards are being developed and adopted to implement increased outdoor irrigation efficiency.

Based on future regulations that may be adopted by the Federal Government, State of California, County of San Bernardino or City of Upland after approval of the Project to address statewide drought conditions which future regulations are not currently addressed in the Project's Final Environmental Impact Report, prior to issuance of a grading permit, the City's Public Works Department will review any such new regulations and the City's current Urban Water Management Plan and confirm that the City continues to have an adequate water supply to serve the Project. The Project will comply with all applicable water conservation measures imposed by the State or City.

### California Green Building Standards

The 2013 California Green Building Standards Code (CALGREEN) went into effect on January 1, 2014.[20] The purpose of this update to the California Building Code (CBC) is to improve public health, safety, and general welfare by enhancing the design and construction of buildings using concepts to reduce negative impacts or produce positive impacts on the environment. The CALGREEN regulations cover planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and environmental quality. Many of the new regulations have the effect of reducing greenhouse gas emissions from the operation of new buildings. These new regulations require a minimum 50 percent recycling of construction and demolition debris.

## *Thresholds of Significance*

A significant impact could occur if the project would:

A. Require or result in the construction of new water or wastewater treatment facilities or the expansion of existing facilities that the construction of could cause significant environmental effects.
B. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities that the construction of could cause significant environmental effects.
C. Require new or expanded water supply entitlements due to lack of existing entitlements or resources.
D. Result in the determination by the wastewater treatment provider that it would have inadequate capacity to serve the planning area based on projected demand and the provider's existing commitments.
E. Be served by landfills with insufficient capacity to accommodate the project's disposal needs.

## Environmental Impacts

**IMPACT 4.12.A**

***Expansion of water distribution and wastewater collection facilities in Upland would not be required and no impact would occur; expansion of water distribution and wastewater collection facilities in Claremont is not anticipated and impacts would be less than significant***

### City of Upland

Water distribution and wastewater collection services for facilities on Parcels 1, 2, 3, 4, 5, and 6 of TTM 18989 would be provided by the City of Upland. Regional wastewater collection and treatment would be provided by Inland Empire Utilities Agency. Water would be needed for irrigating the baseball field, softball field, football/track field, archery range, recreation fields, landscaping in the parking lot and on existing slopes, and in other portions of the east side of the project site. Irrigation would also be required in the parkways along Monte Vista Avenue and portions of Foothill Boulevard and Arrow Route. Wastewater discharges would come from the proposed restroom facilities located near the parking lot and the team rooms, coach's offices, locker rooms, janitor's closet, and drinking fountains.

The existing water main located under Arrow Route was constructed with a stub for connection to the project site. Similarly, the sewer main under College Park Drive was constructed with a stub for connection to the project site. According to the project public utilities report, these service lines were installed with the intent to serve the project site; therefore, expansion of these facilities is not anticipated in order to serve the project site. Future development of the proposed sports facilities and development on the parcels not included on the Master Site Plan and Site Plan are subject to review during entitlement approvals to ensure that adequate wastewater and water facilities exist. Future development is also subject to the fee requirements of the Upland Municipal Code for connection and the maintenance of water and sewer facilities. Considering that expansion of wastewater and water facilities serving the Upland portion of the site would not be required, and that payment of fees would ensure the operational and maintenance demands on water and wastewater facilities caused by the project are met, no impact to the environment related to the expansion of facilities in Upland would occur. Water distribution and wastewater conveyance facilities would be identified prior to issuance of precise grading permits or construction permits.

### City of Claremont

Water distribution services to Parcels 1 through 3 of TTM 70243 would be provided by GSWC. Wastewater collection services would be provided by the City of Claremont at the local level and regionally by the Los Angeles County Sanitation District No. 21. Water would be needed to irrigate the baseball field, multi-purpose fields, and golf practice area. Water would also be needed to irrigate landscape in the proposed parking lots and other on-site landscaping as well as off-site

landscaping in the parkway of Claremont Boulevard and portions of Arrow Route and Foothill Boulevard. According to the project utilities report, GSWC was consulted regarding connection to the 8-inch water main located under Foothill Boulevard. GSWC confirmed that the 8-inch main would have adequate capacity to serve project water demand and fire flow requirements. Two sewer options exist within Claremont to serve the western portion of the project site. Considering the nominal amount of wastewater discharges (approximately 702 gallons per day as detailed in Table 4.12.5) anticipated from the site (see Impact 4.12.D below), it is unlikely that either sewer main would need to be expanded to serve the project; however, the developer is required to provide sewer flow data at manhole locations selected by the City of Claremont and will be responsible for any necessary upgrades to the system that are identified. Should the sewer flow data provided by the developer indicate the need for upgraded sewer facilities, upgrades will result in temporary lane closures to remove the existing sewer main and install the new sewer main. The street would be paved and reopened after installation of the new main. This may be conducted simultaneously with the improvements of adjacent roadways. Future development of the proposed sports facilities and development on the parcels not included on the Master Site Plan and Site Plan are subject to review during entitlement approvals to ensure that adequate wastewater and water facilities exist. Future development is also subject to the fee requirements of the Claremont Municipal Code for the maintenance of water and sewer facilities. Sewer flow data could show that existing sewer facilities require upgrade. Considering that expansion of wastewater and water facilities serving the Claremont portion of the site is not anticipated and that payment of fees would ensure the operational and maintenance demands on water and wastewater facilities caused by the project are met, impacts to the environment related to the expansion of facilities in Claremont would be less than significant. Water distribution and wastewater conveyance facilities would be identified prior to issuance of precise grading permits or construction permits.

### Scoping Comment, Inland Empire Utilities Agency

B.2 IEUA requested that they be notified of any connection to any IEUA sewer lines. Future development of the project site within the City of Upland that would discharge to IEUA facilities would be routed to IEUA for evaluation consistent with the City of Upland's current development review standards.

**IMPACT 4.12.B**

***Impacts to the Upland or Claremont storm drain systems would be less than significant***

According to the Federal Emergency Management Agency Flood Map Service Center, the project site is located in Zone X, which is determined to be outside of the 0.2% annual chance floodplain.[21] The proposed subdivision, Master Site Plan, Site Plan, and development agreements include a retention basin in the southwest portion of the site. This retention basin would be designed to retain all on-site drainage from the future sports facilities up to and including the 100-year flood (1% annual flood). The project preliminary hydrology report indicates that the

100-year (24-hour) frequency storm would generate a maximum flow rate of 189.16 cubic feet per second and a maximum volume of 2,433,753 cubic feet (see Appendix O).[22] This amount of storm water is estimated to require retention up to 90,000 cubic yards. Flows in excess of the 100-year flood would spread to the area proposed for the football/track field to the east of the retention basin. The proposed retention basin and football field area is proposed to hold approximately 125,000 cubic yards and therefore would be sufficient in retaining the 100-year, 24-hour flood. Flood waters would reach a height of 1,217 AMSL after a 100-yr, 24-hour storm. This would be 14 feet above the elevation of the retention basin and eight feet above the elevation of the football field. The 100-yr, 24-hour storm would be completely contained within the retention basin and football field. The retention basin and football field would remain flooded until waters percolate into the soil. It should be noted that although the retention basin, football field (including bleachers), and equipment storage building would be affected by flood waters during the 100-year storm, no habitable or other structures would be impacted. Based on the proposed project design, no expansion or improvement to the Upland or Claremont storm drain systems would be required due to the future development of the proposed sports facilities.

The project also includes three parcels in Upland are not included in the Master Site Plan or Site Plan (see Exhibit 3.3 (Master Site Plan). Considering the existing drainage pattern of the site, it is anticipated that future development on these parcels would also drain to the proposed retention basin. The retention basin may need to be incrementally expanded in the future to accommodate development on those parcels. Minor storm drain improvements (such as construction of new curb and gutter) are not anticipated to be required to support future development of the remaining parcels because these improvements are currently constructed around the project site. Drainage and retention facilities would be identified prior to issuance of precise grading permits or construction permits.

Pursuant to Section 8.28.050 (Stormwater Pollution Control Measures for Development Planning and Construction Activities) of the Claremont Municipal Code, the proposed project shall be “designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention and/or rainfall harvest and use.” As discussed above, the proposed retention basin, located south of the proposed softball field, would be designed to retain all on-site drainage from the future sports facilities up to and including the 100-year flood. Although a significant amount of the proposed impervious surfaces are located within the boundaries of the City of Claremont, runoff from these surfaces will be directed to the detention basin within the City of Upland and not to either City’s storm drainage system. Therefore, consistent with Section 8.28.050 of the Claremont Municipal Code, the project site has been designed to control runoff volume to the maximum extent feasible by including a retention basin. The detention basin has been designed to be consistent with stormwater drainage requirements for both the City of Claremont and City of Upland. Therefore, the proposed project would be consistent with stormwater runoff requirements for both the City of Claremont and the City of Upland.

Impacts to any storm drain system from the subdivision, Master Site Plan, Site Plan, or the development agreement would be less than significant.

**IMPACT 4.12.C**

***Expanded water supplies would not be required to serve the proposed sports facilities; impacts would be less than significant***

A water supply assessment is not required for the proposed subdivision, Master Site Plan, Site Plan, or development agreements pursuant to Section 10910-10915 of the State Water Code (SB 610) because it does not propose residential development of more than 500 dwelling units, employ more than 1,000 persons, propose floor space of more than 500,000 square feet, or meet any other provisions of the Water Code requiring a project specific water assessment. Furthermore, the project is not subject to a "sufficient water supply" determination as required by SB 221 because the project does not propose a subdivision of more than 500 dwelling units and would not increase service connection in the City of Upland or within the service area of Golden State Water District by more than ten percent.

On January 17, 2014, after the driest year in recorded state history, California Governor Edmund D. Brown Jr. proclaimed a State of Emergency in California. In the declaration, Governor Brown directed state officials to assist those such as farmers and those who are economically impacted by dry conditions. State agencies were also directed to use less water and hire more firefighters. In addition, a greatly expanded water conservation public awareness campaign was initiated. On April 25, 2014, the Governor proclaimed a continued State of Emergency due to the ongoing drought. On September 18, 2014, Governor Brown issued Executive Order B-26-14 to provide water to families in dire need of water as extreme drought conditions continue. This order makes funding available through the California Disaster Assistance Act to provide water for drinking and sanitation to households currently without running water. On December 22, 2014, Governor Brown issued Executive Order B-28-14, extending the waiver of CEQA and Water Code section 13247 in Paragraph 9 of the January 17, 2014 Proclamation and Paragraph 19 of the April 25, 2014 Proclamation. On April 1, 2015, Governor Brown issued Executive Order B-29-15, mandating substantial water reductions in the state of California. This Executive Order includes actions that will save water, increase enforcement to prevent wasteful water use, streamline the state's drought response, and invest in new technologies that will make California more drought-resilient. Pursuant to Directive 2 of Executive Order B-29-15, the State Water Resources Control Board shall impose restrictions on potable urban water usage through February 28, 2016. The proposed project is scheduled to begin demolition activities in Spring 2017. However, as a worst case analysis, Table 4.12.2 (Executive Order B-29-15 Consistency) summarizes the Directives of Executive Order B-29-15 and project consistency with each of those Directives.

**Table 4.12.2**
**Executive Order B-29-15**

| Directive | Project Consistency |
|---|---|
| 1. Orders and provisions contained in January 17, 2015 Proclamation, April 25, 2014 Proclamation, and Executive Orders B-26-14 and B-28-14 remain in effect except as modified herein. | **Not applicable.** Water districts are subject to all orders and provisions contained in previous Proclamations and Executive Orders. |
| SAVE WATER | |
| 2. The State Water Resources Control Board (Water Board) shall impose restrictions to achieve a statewide 25% reduction in potable urban water usage through February 28, 2016. These restrictions will require water suppliers to California's cities and towns to reduce usage as compared to the amount used in 2013. These restrictions should consider the relative per capita water usage of each water suppliers' service area, and require that those areas with high per capita use achieve proportionally greater reductions than those with low use. The California Public Utilities Commission is requested to take similar action with respect to investor-owned utilities providing water service. | **Consistent.** This directive imposes restrictions on water suppliers to reduce potable water usage through February 28, 2016 and is not applicable at the project level. However, the proposed project will comply with all water conservation measures imposed by the water supplier, including the installation of low-flow fixtures and drought-tolerant landscaping. |
| 3. The Department of Water Resources (the Department) shall lead a statewide initiative, in partnership with local agencies, to collectively replace 50 million square feet of lawns and ornamental turf with drought tolerant landscapes. The Department shall provide funding to allow for lawn replacement programs in underserved communities, which will complement local programs already underway across the state. | **Not applicable.** This directive applies to the Department of Water Resources and local agencies and is not applicable at the project level. |
| 4. The California Energy Commission, jointly with the Department and the Water Board, shall implement a time-limited statewide appliance rebate program to provide monetary incentives for the replacement of inefficient household devices. | **Not applicable.** This directive applies to the Department of Water Resources and the Water Board and is not applicable at the project level. |
| 5. The Water Board shall impose restrictions to require that commercial, industrial, and institutional properties, such as campuses, golf courses, and cemeteries, immediately implement water efficiency measures to reduce potable water usage in an amount consistent with the reduction targets mandated by Directive 2 of this Executive Order. | **Consistent.** This directive requires that the Water Board impose restrictions on potable water usage. As an institutional use, the project will comply with all requirements and implement water efficiency measures. |
| 6. The Water Board shall prohibit irrigation with potable water of ornamental turf and public street medians. | **Consistent.** This directive does not apply at the project level. In addition, pursuant to the Executive Order Fact Sheet, this prohibition does not apply to new athletic |
| 7. The Water Board shall prohibit irrigation with potable water outside of newly constructed homes and buildings that is not delivered by drip or microspray systems. | |

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| | fields. All non-athletic field areas will be landscaped with drought-tolerant species and comply with all irrigation regulations imposed by the Water Board. |
| 8. The Water Board shall direct urban water suppliers to develop rate structures and other pricing mechanisms, including but not limited to surcharges, fees, water restrictions. The Water Board is directed to adopted emergency regulations, as it deems necessary, pursuant to Water Code section 1058.5 to implement this directive. The Water Board is further directed to work with state agencies and water suppliers to identify mechanisms that would encourage and facilitate the adoption of rate structures and other pricing mechanisms that promote water conservation. The California Public Utilities Commission is requested to take similar action with respect to investor-owned utilities providing water services. | **Not applicable.** This directive applies to water supplier rate structures and pricing mechanisms and not applicable at the project level. |
| INCREASE ENFORCEMENT AGAINST WATER WASTE | |
| 9. The Water Board shall require urban water suppliers to provide monthly information on water usage, conservation, and enforcement on a permanent basis. | **Not applicable.** This directive does not apply at the project level. However, the project can be conditioned to comply with the reporting requirements. |
| 10. The Water Board shall require frequent reporting of water diversion and use by water right holders, conduct inspections to determine whether illegal diversions or wasteful and unreasonable use of water are occurring, and bring enforcement actions against illegal diverters and those engaging in the wasteful and unreasonable use of water. Pursuant to Government Code sections 8570 and 8627, the Water Board is granted authority to inspect property or diversion facilities to ascertain compliance with water rights laws and regulations where there is cause to believe such laws and regulations have been violated. When access is not granted by a property owner, the Water Board may obtain an inspection warrant pursuant to the procedures set forth in Title 13 (commencing with section 1822.50) of Part 3 of the Code of Civil Procedure for the purposes of conducting an inspection pursuant to this direction. | **Not applicable.** This directive does not apply at the project level. |
| 11. The Department shall update the State Model Water Efficient Landscape Ordinance through expedited regulation. This updated Ordinance shall increase water efficiency standards for new and existing landscapes through more efficient irrigation systems, greywater usage, onsite storm water capture, and by limiting the portion of landscapes that can be covered in turf. It will also require reporting on the implementation and | **Not applicable.** This directive does not apply at the project level. The project does propose on-site storm water capture and recharge of storm water into the groundwater aquifer. |

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|---|---|
| enforcement of local ordinances, with requires reports due by December 31, 2015. The Department shall provide information on local compliance to the Water Board, which shall consider adopting regulations or taking appropriate enforcement actions to promote compliance. The Department shall provide technical assistance and give priority in grant funding to public agencies for actions necessary to comply with local ordinances. | |
| 12. Agricultural water suppliers that supply water to more than 25,000 acres shall include in their required 2015 Agricultural Water Management Plans a detailed drought management plan that describes the actions and measures the supplier will take to manage water demand during drought. The Department shall require those plans to include quantification of water supplies and demands for 2013, 2014, and 2015 to the extent data is available. The Department will provide technical assistance to water suppliers in preparing the plans. | **Not applicable.** This directive does not apply at the project level. |
| 13. Agricultural water suppliers that supply water to 10,000 – 25,000 acres of irrigated lands shall develop Agricultural Water Management Plans and submit the plans to the Department by July 1, 2016. These plans shall include a detailed drought management plan and quantification of water supplies and demands in 2013, 2014, and 2015, to the extent that data is available. The Department shall give priority in grant funding to agricultural water suppliers that supply water to 10,000 to 25,000 acres of land for development and implementation of Agricultural Water Management Plans. | **Not applicable.** This directive does not apply at the project level. |
| 14. The Department shall report to Water board on the status of the Agricultural Water Management Plan submittals within one month of receipt of those reports. | **Not applicable.** This directive does not apply at the project level. |
| 15. Local water agencies in high and medium priority groundwater basins shall immediately implement all requirements of the California Statewide Groundwater Elevation Monitoring Program pursuant to Water Code section 10933. The Department shall refer noncompliant local water agencies within high and medium priority groundwater basins to the Water Board by December 31, 2015, which shall consider adopting regulations or taking appropriate enforcement to promote compliance. | **Not applicable.** This directive does not apply at the project level. |
| 16. The California Energy Commission shall adopt emergency regulations establishing standards that improve the efficiency of water appliances, including toilets, urinals, and faucets available for sale and installation in new and existing buildings. | **Consistent.** This directive does not apply at the project level. However, the proposed project will comply with all efficiency requirements. |
| INVEST IN NEW TECHNOLOGIES | |
| 17. The CEC, jointly with the Department and the Water Board, shall implement a Water Energy Technology (WET) program to deploy innovative water management | **Not applicable.** This directive does not apply at the project level. However, |

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| technologies for businesses, residents, industries, and agriculture. This program will achieve water and energy savings and greenhouse gas reductions by accelerating use of cutting-edge technologies such as renewable energy-powered desalination, integrated on-site reuse systems, water-use monitoring software, irrigation system timing and precision technology, and on-farm precision technology. | the project will employ Water Smart irrigation technology to provide efficient irrigation practices. |
| STREAMLINE GOVERNMENT RESPONSE | |
| 18. The Office of Emergency Services and the Department of Housing and Community Development shall work jointly with counties to provide temporary assistance for persons moving from housing units due to a lack of potable water who are served by a private well or water utility with less than 15 connections, and where all attempts to find a potable water source have been exhausted. | **Not applicable.** This directive does not apply at the project level. |
| 19. State permitting agencies shall prioritize review and approval of water infrastructure projects and programs that increase local water supplies, including water recycling facilities, reservoir improvement projects, surface water treatment plants, desalination plants, stormwater capture, and greywater systems. Agencies shall report to the Governor's Office on applications that have been pending for longer than 90 days. | **Not applicable.** This directive does not apply at the project level. |
| 20. The Department shall take actions required to plan and, if necessary, implement Emergency Drought Salinity Barriers in coordination and consultation with the Water Board and the Department of Fish and Wildlife at locations within the Sacramento – San Joaquin delta estuary. These barriers will be designed to conserve water for use later in the year to meet state and federal Endangered Species Act requirements, preserve to the extent possible water quality in the Delta, and retain water supply for essential human health and safety uses in 2015 and in the future. | **Not applicable.** This directive does not apply at the project level. |
| 21. The Water Board and the Department of Fish and Wildlife shall immediately consider any necessary regulatory approvals for the purpose of installation of the Emergency Drought Salinity Barriers. | **Not applicable.** This directive does not apply at the project level. |
| 22. The Department shall immediately consider voluntary crop idling water transfer and water exchange proposals of one year or less in duration that are initiated by local public agencies and approved in 2015 by the Department subject to the criteria set forth in Water Code section 1810. | **Not applicable.** This directive does not apply at the project level. |
| 23. The Water Board will prioritize new and amended safe drinking water permits that enhance water supply and reliability for community water systems facing water shortages or that expand service connections to include existing residences facing water shortages. As the Department of Public Health's drinking water program | **Not applicable.** This directive does not apply at the project level. |

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| was transferred to the Water Board, any reference to the Department of Public Health in any prior Proclamation or Executive Order listed in Paragraph 1 is deemed to refer to the Water Board. | |
| 24. The California Department of Forestry and Fire Protection shall launch a public information campaign to educate the public on actions they can take to help to prevent wildfires including the proper treatment of dead and dying trees. Pursuant to Government Code Section 8645, $1.2 million from the State Responsibility Area Fire Prevention Fund (Fund 3063) shall be allocated to the California Department of Forestry and Fire Protection to carry out this directive. | **Not applicable.** This directive does not apply at the project level. |
| 25. The Energy Commission shall expedite the processing of all applications or petitions for amendments to power plant certifications issued by the Energy Commission for the purpose of securing alternate water supply necessary for continued power plant operation. Title 20, Section 1769 of the California Code of Regulations is hereby waived for any such petition, and the Energy Commission is authorized to create and implement an alternative process to consider such petitions. This process may delegate amendment approval authority, as appropriate, to the Energy Commission Executive Director. The Energy Commission shall give timely notice to all relevant local, regional, and state agencies of any petition subject to this directive, and shall post on its website any such petition. | **Not applicable.** This directive does not apply at the project level. |
| 26. For purposes of carrying out directives 2-9, 16-17, 20-23, and 25, Division 13 (commencing with Section 21000) of the Public Resources Code and regulations adopted pursuant to that Division are hereby suspended. This suspension applies to any actions taken by state agencies, and for actions taken by local agencies where the state agency with primary responsibility for implementing the directive concurs that local action is required, as well as for any necessary permits or approvals required to complete these actions. This suspension, and those specified in paragraph 9 of the January 17, 2014 Proclamation, paragraph 19 of the April 25, 2014 Proclamation, and paragraph 4 of Executive Order B-26-14, shall remain in effect until May 31, 2016. Drought relief actions taken pursuant to these paragraphs that are started prior to May 31, 2016, but not completed, shall not be subject to Division 13 (commencing with Section 21000) of the Public Resources Code for the time required to complete them. | **Not applicable.** This directive does not apply at the project level. |
| 27. For purposes of carrying out directive 20 and 21, Section 13247 and Chapter 3 of Part 3 (commencing with Section 85225) of the Water Code are suspended. | **Not applicable.** This directive does not apply at the project level. |
| 28. For actions called for in this proclamation in directive 20, the Department shall exercise any authority vested in | **Not applicable.** This directive does not apply at |

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| the Central Valley Flood Protection Board, as codified in Water Code Section 8521, et seq., that is necessary to enable these urgent actions to be taken more quickly than otherwise possible. The Director of the Department of Water Resources is specifically authorized, on behalf of the State of California, to request that the Secretary of the Army, on the recommendation of the Chief of Engineers of the Army Corps of Engineers, grant any permission required pursuant to Section 14 of the Rivers and Harbors Act of 1899 and codified in Section 48 of Title 33 of the United States Code. | the project level. |
| 29. The Department is directed to enter into agreements with landowners for the purposes of planning and installation of the Emergency Drought Barriers in 2015 to the extent necessary to accommodate access to barrier locations, land-side and water-side construction, and materials staging in proximity to barrier locations. Where the Department is unable to reach an agreement with landowners, the Department may exercise the full authority of Government Code Section 8572. | **Not applicable.** This directive does not apply at the project level. |
| 30. For purposes of this Executive Order, Chapter 3.5 (commending with Section 11340) of Part 1 of Division 3 of the Government Code and Chapter 5 (commending with section 25400) of Division 15 of the Public Resources Code are suspended for the development and adoption of regulations or guidelines needed to carry out the provisions in this Order. Any entity issuing regulations or guidelines pursuant to this directive shall conduct a public meeting on the regulations and guidelines prior to adopting them. | **Not applicable.** This directive does not apply at the project level. |
| 31. In order to ensure that equipment and services necessary for drought response can be procured quickly, the provisions of the Government Code and the Public Contract Code applicable to state contracts, including, but not limited to, advertising and competitive bidding requirements, are hereby suspended for directives 17, 20, and 24. Approval by the Department of Finance is required prior to the execution of any contract entered into pursuant to these directives. | **Not applicable.** This directive does not apply at the project level. |

## City of Upland

The primary need for water at the proposed sports facilities would be for irrigation of sports fields and landscaping, including off-site parkway landscaping. Water would also be required at restrooms, water fountains, and showers. Estimated water needs to serve build-out of the proposed facilities on the Upland portion of the site are summarized in Table 4.12.3 (Water Usage Estimates (Upland)). Water usage is based on the estimated number of plumbing fixtures to be installed at build-out of the proposed facilities and estimates for landscape irrigation based on estimated demand for existing sports fields at Claremont McKenna College. Each plumbing fixture is assigned a plumbing fixture unit (PFU) count per the UPC that represents its average water usage. By multiplying the number of fixtures by the

appropriate PFU, an estimate of usage in equivalent dwelling units (EDU) can be ascertained. One EDU is equivalent to 20 PFU and is equal to approximately 300 gallons per day (120 percent of estimated wastewater discharge).

Landscape irrigation requirements were calculated using the California Department of Water Resources (DWR) *Water Budget* Workbook that calculates the Maximum Applied Water Allowance (MAWA) for landscaping based on the requirements of the state water conservation in landscaping act.[23] This reflects the maximum allowable amount of water that is permitted to be used annually after consideration of effective precipitation (25 percent of annual rainfall). MAWA is calculated using the following equation:

$$MAWA = (ET_0 - Eppt) * 0.62 * [(0.70 * LA) + (0.30 * SLA)]$$

Where:

MAWA = Maximum Applied Water Allowance (gallons per year)
$ET_0$ = Reference Evapotranspiration for Locale (inches per year)
Eppt = Effective Precipitation (inches per year)
LA = Landscape Area (square feet)
SLA = Special Landscape Area (square feet)

It should be noted that Special Landscape Areas (SLA) areas include areas dedicated to active play such as parks, sports fields, and golf courses and allows for additional water to support these types of areas. The project includes approximately 36.2 acres of on- and off-site landscaping and field turf. Approximately 11.22 acres would be considered SLA under state regulations; however, to provide a conservative estimate of water demand, turf water demand is included as a high water use type plant. Assuming all non-turf landscaping are low water use plants, landscaping water demand in the Upland will be 83.18 AFY. Based on the Claremont-McKenna College water demand rate of 3.21 acre-feet per year per acre for existing fields, relocation of these fields will reduce landscape water demand from 116.84 AFY to 83.18 AFY, a 29 percent reduction in water demand.

**Table 4.12.3**
**Water Usage Estimates (Upland)**

| Structure | Fixture | QTY | PFU | Total |
|---|---|---|---|---|
| Restrooms | Toilet | 16 | 2.5 | 40.0 |
| | Sink | 16 | 1.5 | 24.0 |
| Ancillary | Toilet | 36 | 2.5 | 90.0 |
| | Sink | 36 | 1.5 | 54.0 |
| | Shower | 12 | 2.0 | 24.0 |
| | Mop Basin | 2 | 3.0 | 6.0 |
| | Laundry | 8 | 4.0 | 32.0 |
| | Fountains | 6 | 0.5 | 3.0 |
| Maintenance | Toilet | 1 | 2.5 | 2.5 |
| | Sink | 1 | 1.5 | 1.5 |
| | | | TOTAL PFU | 277.0 |
| | | | TOTAL EDU | 13.85 |
| | | | SUBTOTAL GPD | 4,155.00 |
| | | | SUBTOTAL AFY | 4.65 |
| Landscape Irrigation (ETWU) | | | | 83.18 |
| | | | **TOTAL AFY** | **87.83** |
| Source: Andreasen Engineers 2010, MIG\|Hogle-Ireland 2014 | | | | |

Water service to Parcels 1 through 6 of TPM 18989 would be provided by the City of Upland. The current Urban Water Management Plan (UWMP) for Upland estimates water demand and supply up to the year 2025. The UWMP estimates that 21,752 AFY of water will be needed in 2035 with the majority of the demand coming from residential units (75 percent).[24] Under normal conditions, the UWMP indicates that approximately 27,030 AFY would be available; therefore, it is anticipated that Upland would be able to meet long-term service demand. The UWMP also provides demand and supply estimates for single and multiple-year drought conditions to assess the reliability of water supplies. The UWMP indicates that approximately 98 percent of normal year supplies are reliable after a three year drought and makes the determination that the City of Upland would be able to meet 100 percent of its normal and dry year demand.

The project is estimated to require 87.83 AFY, within Upland's total water supply in 2035. Estimated water usage for the project site does not account for mandatory water conservation measures currently in place, including the state water conservation in landscaping provisions and the City of Upland mandatory water conservation and landscaping requirements. These regulations and guidelines would reduce future water usage at the project site primarily by minimizing irrigation needs in sports fields and on- and off-site landscaping. Furthermore, the project would be "double-piped" for future connection to an IEUA recycled water main that is planned to be extended to the area. This would reduce future water usage by approximately 98 percent. Considering the City of Upland's existing water conservation regulations and the future availability of recycled water, expansion of Upland's water supply would not be required to serve build-out of the Master Site Plan.

As indicated in the discussion above, there is adequate supply to serve the projected demand in Upland. Reduction in potable water usage facilitated by Executive Order B-29-15 will result in a minimum 36 percent decrease in water demand within the City of Upland.[25] Table 4.12.2 above shows that the proposed project will be consistent with applicable Directives of the Executive Order and will contribute to the state-wide effort to reduce water demand. Therefore, there are sufficient water supplies, and the project would have a less than significant impact on entitled water supplies. Impacts on Upland's water supply would be less than significant.

## Golden State Water Company

Similar to the east side of the project site, the primary need for water at the proposed sports facilities on the west side of the project would be for irrigation of sports fields and landscaping. Water would also be required at restrooms. Estimated water needs to serve build-out of the proposed facilities on the Claremont portion of the site is summarized in Table 4.12.4 (Water Usage Estimates (Claremont)).

**Table 4.12.4**
**Water Usage Estimates (Claremont)**

| Structure | Fixture | QTY | PFU | Total |
|---|---|---|---|---|
| Restrooms | Toilet | 8 | 2.5 | 20.0 |
| | Sink | 8 | 1.5 | 12.0 |
| | Urinal | 2 | 2 | 4.0 |
| | | | TOTAL PFU | 36.0 |
| | | | TOTAL EDU | 1.8 |
| | | | SUBTOTAL GPD | 540 |
| | | | SUBTOTAL AFY | 0.61 |
| Landscape Irrigation | | | | 49.54 |
| | | | TOTAL AFY | 50.15 |
| Source: Andreasen Engineers 2010, MIG\|Hogle-Ireland 2014 | | | | |

The UWMP makes the determination that GSWC would be able to meet 100 percent of its normal and dry year demand. The UWMP projects population-based demand in 2035 at approximately 14,872 AFY with a total supply of 14,872 AFY. The project is estimated to require 50.15 AFY. As the proposed project includes the relocation of existing sports fields, the projected water demand has already been accounted for and in fact will be reduced by approximately 29 percent due to improved efficiencies in irrigation requirements and limits on water usage imposed by the state.

Estimated water usage for the project site does not account for mandatory water conservation measures currently in place including the state water conservation in landscaping provisions and Claremont's mandatory water conservation requirements. These regulations and guidelines would reduce future water usage

at the project site primarily by mandating water conservation during water shortage periods and minimizing landscape irrigation. Furthermore, the project does not include any growth inducing features such as housing or a significant job source that could result in a substantial population growth (see Section 6.2 for the discussion of growth inducing impacts); therefore, the population projections used to estimate future demand for the GSWC service area would not change due to build-out of the Site Plan. Based on the determination of the GSWC UWMP and the lack of growth inducement by the project, acquisition of water supplies to serve the proposed sports facilities would not be required and impacts would be less than significant. All water conveyance facilities would be identified prior to issuance of precise grading permits or construction permits.

As indicated in the discussion above, there is adequate supply to serve the projected demand in Claremont. Reduction in potable water usage facilitated by Executive Order B-29-15 will result in a minimum 32 percent decrease in water demand within the Claremont service area.[26] Table 4.12.2 above shows that the proposed project will be consistent with applicable Directives of the Executive Order and will contribute to the state-wide effort to reduce water demand. Therefore, there are sufficient water supplies, and the project would have a less than significant impact on entitled water supplies. Impacts on Claremont's water supply would be less than significant.

### Cross-Jurisdictional Water Service

Due to the nature of the project site and the Master Site Plan, Site Plan, and development agreements, the proposed build-out of the project would straddle the City of Upland and the City of Claremont and, thus, both water districts; therefore, it is possible that at the time of actual development it would be advantageous for the project proponent and the water districts to establish an agreement for cross-jurisdictional service. The proposed development agreement and discussions with both Cities acknowledge this possibility; however, final determinations would be made during entitlement review for the specific developments proposed on the property. In the event that the projects opt for cross-jurisdictional water service, agreements would need to be approved by both Cities, both water districts, and both the Los Angeles County and San Bernardino County Local Agency Formation Commissions. In order to provide environmental review for these possibilities, the water demand for the project as a whole is addressed in the following to determine impacts to each water district.

The entire build-out of the project is estimated to use 137.98 AFY of water. This would be within the City of Upland's total water supply in 2035. This is not a substantial increase in demand on the City of Upland's future water supplies because the City of Upland would still have an estimated 25 percent excess in supply over demand. 137.98 AFY is also within GSWC's future total supply. This is also not a substantial increase in demand. Additionally, the UWMP for both water purveyors indicates that sufficient water supply is available to serve each district. Based on this analysis, should water service be provided to the project site singularly by the City of Upland or GSWC, impacts would be less than significant

because neither purveyor would need to increase or expand their water supplies. If cross-jurisdictional water is to be used, water providers would be confirmed and agreements executed prior to issuance of precise grading permits or construction permits.

### Scoping Comment, Inland Empire Utilities Agency

B.1 IEUA commented that while recycled water is currently not available to the site, it would be available in the future. As discussed above, the project would be "double-piped" and conditioned to connect to recycled water services when they become available in the City of Upland.

### Scoping Comment, San Bernardino County LAFCO

D.1 The San Bernardino County Local Agency Formation Commission provided guidance for clarifying the provision of services, including water, wastewater, and solid waste, to the project site. Services to the project can be provided by the agency currently providing services to the City of Upland, the City of Claremont, and The Claremont Colleges and no jurisdictional change or annexation is proposed, at this time; however, prior to development of the facilities proposed on the Master Site Plan, Site Plan, and development agreements, the project proponent may review options for cross-jurisdictional utility services.

**IMPACT 4.12.D**

***Wastewater treatment capacity at servicing plants would be sufficient to serve the proposed sports facilities and future demand; impacts would be less than significant***

### Inland Empire Utilities Agency

Wastewater discharges from the proposed sports facilities on Parcels 1 through 6 of TTM 189896 be treated by IEUA treatment plants RP-5 and CCWRF, with biosolids being treated at RP-2. RP-5 and CCWRF currently have the capacity to treat approximately 27.7 MGD.[27] RP-5 is planned to be expanded by IEUA to 21 MGD, increasing the total treatment capacity to 32.4 MGD in the near-term. The ultimate design of RP-5 is to treat 60 MGD of wastewater per day, doubling the current treatment capacity of the existing RP-5 and CCWRF. Wastewater discharges to RP-5 and CCWRF are estimated at 21.8 MGD by the year 2019; therefore, at least 43 percent treatment capacity would remain over the next decade.[28] Wastewater discharges would come from the restrooms, showers, and water faucets for the proposed sports facilities. Water from landscape irrigation would not be discharged into local sewer mains but would percolate through the soil and into the groundwater table. Wastewater discharges are based on the number of plumbing fixtures to be installed at build-out of the sports facilities on the east portion of the property. Each fixture is assigned a drainage fixture unit (DFU) count per the Uniform Plumbing Code (UPC) that represents its average discharge rate and is converted into equivalent dwelling units (EDU). Approximately twenty DFU equals one EDU which equals approximately 270 GPD.[29] Table 4.12.5 (Wastewater Discharges (Upland)) summarizes the discharge calculations.[30]

The project is estimated to discharge approximately 5,494.5 GPD. This is not a substantial increase in wastewater discharges compared to the current and planned capacity for the treatment plants serving the Upland side of the project site. The treatment capacity of RP-5 and CCWRF would not need to be increased to serve the Claremont portion of the project; impacts would be less than significant.

**Table 4.12.5**
**Wastewater Discharges (Upland)**

| Structure | Fixture | QTY | DFU | Total DFU |
|---|---|---|---|---|
| Restrooms | Toilet | 16 | 4.0 | 64.00 |
| | Sink | 16 | 1.0 | 16.00 |
| Athletic Support Building | Toilet | 46 | 3.0 | 138.00 |
| | Sink | 46 | 1.0 | 46.00 |
| | Shower | 10 | 2.0 | 20.00 |
| | Mob Basin | 4 | 3.0 | 12.00 |
| | Laundry | 8 | 2.0 | 16.00 |
| | Fountains | 6 | 0.5 | 3.00 |
| Maintenance | Toilet | 1 | 3.0 | 3.00 |
| | Sink | 1 | 1.0 | 1.00 |
| Field House | Toilet | 16 | 4.0 | 64.0 |
| | Sink | 16 | 1.0 | 16.0 |
| | Shower | 4 | 2.0 | 8.0 |
| | | | TOTAL DFU | 407.00 |
| | | | TOTAL EDU | 20.35 |
| | | | TOTAL GPD | 5,494.50 |
| Source: Andreasen Engineers 2011, MIG\|Hogle-Ireland 2014 | | | | |

## Los Angeles County Sanitation District 21

Wastewater discharges from the proposed sports facilities on Parcels 1 through 3 of TTM 70243 would be treated by the Pomona WRP. The Pomona WRP has a current capacity of 15 MGD. Wastewater discharges on this portion of the project site would come from the restrooms, and water faucets. Water from landscape irrigation would not be discharged into local sewer mains but would percolate through the soil and into the groundwater table. Wastewater discharges would come from the proposed restrooms. Wastewater discharges are based on the number of plumbing fixtures to be installed at build-out of the sports facilities on the west portion of the property. Table 4.12.6 (Wastewater Discharges (Claremont)) summarizes the discharge calculations. Estimated discharges are 702 GPD. This is not a substantial increase in wastewater discharges compared to the current capacity serving the Claremont side of the project site. In addition, the developer is required to submit sewer flow data at manhole locations selected by the City of Claremont to determine whether or not upgrades to the sewer system will be required. Should the sewer flow data provided by the developer indicate the need for upgraded sewer facilities, upgrades will result in temporary lane closures

to remove the existing sewer main and install the new sewer main. The street would be paved and reopened after installation of the new main. This may be conducted simultaneously with the improvements of adjacent roadways. The treatment capacity of the Pomona WRP would not need to be increased to serve the Upland portion of the project; impacts would be less than significant.

**Table 4.12.6**
**Wastewater Discharges (Claremont)**

| Structure | Fixture | QTY | DFU | Total DFU |
|---|---|---|---|---|
| Restrooms | Toilet | 8 | 4.0 | 32.00 |
| | Sink | 8 | 2.0 | 16.00 |
| | Urinal | 2 | 2.0 | 4.00 |
| | | | TOTAL DFU | 52.00 |
| | | | TOTAL EDU | 2.60 |
| | | | TOTAL GPD | 702.00 |
| Source: Andreasen Engineers 2011, MIG\|Hogle-Ireland 2014 | | | | |

## Cross-Jurisdictional Wastewater Treatment

Due to the nature of the project site and the Master Site Plan and Site Plan, the proposed build-out of the project would straddle the City of Upland and the City of Claremont and, thus, both wastewater treatment service areas; therefore, it is possible that at the time of actual development it would be advantageous for the project proponent, LASD, and IEUA to establish an agreement for cross-jurisdictional service. The proposed development agreement and discussions with both Cities acknowledge this possibility; however, final determinations would be made during entitlement review for the specific developments proposed on the Master Site Plan and development agreement. In the event that the projects opt for cross-jurisdictional wastewater treatment service, agreements would need to be approved by both Cities, LASD, IEUA, and both the Los Angeles County and San Bernardino County Local Agency Formation Commissions. In order to provide environmental review for these possibilities, the estimated wastewater discharges for the project as a whole is addressed to determine impacts to each wastewater treatment operator.

The entire build-out of the project is estimated to discharge 6,196.5 GPD. This is not a substantial increase in discharges to IEAU wastewater treatment facilities and would not require the expansion of any treatment or conveyance facility. This is also not a substantial increase in discharges to LASD wastewater treatment facilities and would not require the expansion of any treatment or conveyance facility. Based on this analysis, should wastewater treatment services be provided to the project site singularly by the IEUA or LASD, impacts would be less than significant because neither operator would be required to expand treatment capacity. Water conveyance facilities will be identified prior to issuance of precise grading permits or construction permits. If cross-jurisdictional wastewater treatment services are required, wastewater treatment providers would be confirmed and agreements executed prior to issuance of precise grading permits or construction permits.

**IMPACT 4.12.E**

***Impacts related to the adequacy of landfill capacity to serve the proposed sports facilities would be less than significant***

The sports facilities and improvements identified in the proposed Master Site Plan, Site Plan, and development agreements would generate solid waste from sporting events, team practices, office and restroom operations, and potentially other special events. It is anticipated that solid waste disposal services for the project would be provided by the City of Claremont because they currently handle all solid waste and recycling from The Claremont Colleges. The City of Claremont is served by the landfills summarized in Table 4.12.7 (Landfills Serving Claremont). Remaining capacity was calculated utilizing estimates from the State Department of Resource Recycling and Recovery (CalRecycle) and individual facility permits. The combined remaining capacity of the landfills serving Claremont is 705,118,544 CY, approximately 51 percent of total capacity. Landfills are scheduled to close at various times, some as early as 2017 others as late as 2052. According to CalRecycle, the landfills serving Claremont processed 64.5 tons of solid waste and alternative daily cover (ADC) per day (23,543 tons per year).

Solid waste generated from the future sports fields would be generated from students, staff, coaches, and spectators. This would primarily consist of waste from drinks and snacks. The future sports facilities do not include a snack bar or concessions stands (although there may be vending machines in various locations throughout the site); therefore, the majority of food or drink consumed during sporting events would be brought from off-site. Other waste includes green waste from on-site field and off-site landscape maintenance. The proposed sports fields are not anticipated to add a substantial amount of additional solid waste to the City of Claremont waste stream because the majority of the proposed facilities are the relocation of existing facilities; therefore, existing landfill capacity to serve the project site would not substantially decrease due to the project. Furthermore, Claremont McKenna College and Pitzer College implement recycling programs as part of each school's standard operating practices. These practices include a commingled recyclables program, use of self-mulching mowers, and greenwaste recycling. On-site mulching and composting are also proposed as part of the project. Considering no increase in long-term operational solid waste generation is anticipated as a result of the proposed sports facilities and that the project is subject to waste reduction programs, impacts related to landfill capacity would be less than significant.

Construction of the proposed facilities would also result in the generation of some construction and demolition debris. Demolition debris would be produced during the installation of the traffic signal at the intersection of Claremont Boulevard at Ninth Street due to the need to jackhammer and asphalt cut portions of the right-of-way. Construction debris would also be produced during the normal course of construction of on-site facilities. The project also includes closing of the existing Class III landfill located on the project site that currently accepts inert construction debris from other Claremont Colleges projects. This would require future

construction debris to be hauled to a different landfill or recycling site. Construction debris, therefore, could increase Claremont's waste stream and accelerate the filling of servicing landfills. The Claremont McKenna College currently has an established construction and demolition debris recycling program that achieves an approximate 85 percent diversion rate, well over the minimum 50 percent generally required by local jurisdictions. All future development would be subject to the provisions of the California Building Code and the new CALGREEN standards that went into effect in January 2014. These standards require a minimum 50 percent recycling of construction and demolition debris and solid waste. This would ensure that future construction activities do not substantially accelerate the filling of servicing landfills. There are numerous construction and demolition debris recycling facilities within the vicinity of the project site. Impacts related to landfill capacity and construction and demolition debris would be less than significant.

**Table 4.12.7**
**Landfills Serving Claremont**

| Landfill | Remaining Capacity (CY) | Remaining Capacity (%) | Closure Year |
|---|---|---|---|
| Antelope Valley | 20,400,000 | -- | 2042 |
| Azusa | 34,100,000 | 51.14 | 2025 |
| Badlands | 14,370,025 | 42.82 | 2024 |
| California Street | 6,800,000 | 68.00 | 2042 |
| Chiquita Canyon | 22,400,000 | 35.05 | 2019 |
| Colton | 2,700,000 | 17.42 | 2017 |
| El Sobrante | 145,530,000 | 78.69 | 2045 |
| Frank Bowerman | 205,000,000 | 77.07 | 2053 |
| Lancaster | 14,514,648 | 52.40 | 2044 |
| Mid-Valley | 67,520,000 | 66.65 | 2033 |
| Olinda Alpha | 38,578,383 | 51.51 | 2021 |
| San Timoteo | 13,605,488 | 66.69 | 2043 |
| Simi Valley | 119,600,000 | 00.00 | 2052 |
| **TOTAL** | **705,118,544** | **50.62** | |

Source: CalRecycle 2013
-- Data Not available

## Cross-Jurisdictional Landfill Service

Due to the nature of the project site and the Master Site Plan and Site Plan, the proposed build-out of the project would straddle the City of Upland and the City of Claremont and, thus, landfills in both Los Angeles and San Bernardino Counties may be utilized; therefore, it is possible that at the time of actual development it would be advantageous for the project proponent and the Cities to establish an agreement for cross-jurisdictional service. The proposed development agreement and discussions with both Cities acknowledge this possibility; however, final determinations would be made during entitlement review for the specific developments proposed on the Master Site Plan, Site Plan, and development agreements. In the event that the projects opt for cross-jurisdictional solid waste

disposal service, agreements would need to be approved by both Cities and both the Los Angeles County and San Bernardino County Local Agency Formation Commissions. In order to provide environmental review for this possibility, landfill service in San Bernardino County is addressed in the following.

The City of Upland is served by the landfills summarized in Table 4.12.8 (Landfills Serving Upland). Most of the landfills that serve Claremont also serve Upland and both jurisdictions are currently served primarily by Mid-Valley SLF. The combined remaining capacity of the landfills serving Upland is 788,368,896 CY, approximately 58 percent of total capacity. This is comparable to remaining capacity serving Claremont. Landfills are scheduled to close at various times, some as early as 2019 others as late as 2052. Based on CalRecycle reports in 2013, the landfills serving Upland processed 145.75 tons of solid waste and alternative daily cover (ADC) per day (53,200 tons per year). As it would be in Claremont, solid waste generated from future uses identified on the Master Site Plan would not be new sources of solid waste but rather would be relocated sources that currently exist. Although this solid waste would be new to Upland's waste stream, all but two of the landfills serving Upland also serves Claremont with a remaining capacity between 58 and 50 percent between the respective jurisdictions; therefore, there would be no appreciable difference in landfill capacity if solid waste is disposed of from Upland or Claremont. Adequate capacity remains to serve the long-term disposal needs of the project. Impacts related to landfill capacity serving both the City of Upland and the City of Claremont would be less than significant. If cross-jurisdictional solid waste management services are required, solid waste management services and facilities would be confirmed and agreements executed prior to issuance of occupancy permits.

**Table 4.12.8**
**Landfills Serving Upland**

| Landfill | Remaining Capacity (CY) | Remaining Capacity (%) | Closure Year |
|---|---|---|---|
| Antelope Valley | 20,400,000 | -- | 2042 |
| Azusa | 34,100,000 | 51.14 | 2025 |
| Badlands | 14,370,025 | 42.82 | 2024 |
| California Street | 6,800,000 | 68.00 | 2042 |
| Chiquita Canyon | 22,400,000 | 35.05 | 2019 |
| El Sobrante | 145,530,000 | 78.69 | 2045 |
| Frank Bowerman | 205,000,000 | 77.07 | 2053 |
| Lamb Canyon | 18,955,000 | 55.28 | 2021 |
| Mid-Valley | 67,520,000 | 66.65 | 2033 |
| Olinda Alpha | 38,578,383 | 51.51 | 2021 |
| San Timoteo | 13,605,488 | 66.69 | 2043 |
| Simi Valley | 119,600,000 | 00.00 | 2052 |
| Victorville | 81,510,000 | 97.97 | 2047 |
| **TOTAL** | **788,368,896** | **57.57** | |

Source: CalRecycle 2013
-- Data Not available

### Scoping Comments, San Bernardino County Solid Waste Division

E.1 This comment requested a precise location of the existing Class III landfill. The existing landfill is located in the south central portion of the site and is identifiable as the large graded and disturbed area. Currently the entire project site is permitted as a landfill.

E.2 This comment requests analysis of any new waste streams and impacts on existing landfill capacity and traffic. As discussed above, the project is not anticipated to create or add to any waste stream and, therefore, would not impact landfill capacity or increase solid waste disposal traffic.

E.3 This comment requests the analysis of recycling and construction and demolition debris recycling. The proposed on-site recycling programs and C&D recycling programs are discussed above.

E.5 This comment requests analysis of the availability of commercial waste haulers and expected traffic increases. No significant new or expanded waste streams are anticipated as a result of the project; therefore, existing commercial hauling availability would remain adequate to serve the project and no new hauler traffic would be created.

## *Mitigation Measures*

None required.

## *Level of Significance with Mitigation Incorporated*

All impacts would be less than significant and do not require mitigation

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[28] Inland Empire Utilities Agency. Operating and Capital Program Budget FY 2009/10. Volume I. June 2009
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## Purpose 5.1

Pursuant to Sections 15126.6 of the State CEQA Guidelines, this chapter discusses a range of reasonable alternatives to the proposed project that would attain some or all of the main objectives of the project while avoiding or substantially lessening one or more of the significant environmental effects that would occur with the proposed project. An examination of such alternatives is intended to foster informed decision-making and public participation in the examination of the project's environmental merits and disadvantages.

## Rationale for Alternative Selection 5.2

An EIR is not required to consider alternatives that are infeasible, unreasonable, or overly speculative. There is no standard set forth in the CEQA Guidelines for the number of alternatives that must be addressed; this is determined on a case-by-case basis, depending on the unique characteristics of the project location, the project objectives, the environmental setting, and the range and magnitude of significant impacts that are associated with the proposed project. The specific criteria established in the selection of alternatives for the East Campus Project are:

- Accomplishes some or all of the project's main objectives, that are to:

    1. Reclaim the project site while minimizing environmental impacts
    2. Enhance the visual quality of the project site (a former quarry and current inert landfill)
    3. Provide additional parking in close proximity to the campuses of Pitzer College and Claremont McKenna College
    4. Allow for expansion and modifications of the existing Pitzer College and Claremont McKenna College campuses so that the colleges can better accommodate their changing needs
    5. Provide improved and expanded sports facilities for Pitzer College and Claremont McKenna College

- Avoids or substantially reduces one or more of the significant environmental effects associated with the proposed project. The proposed subdivision, Master Site Plan, Site Plan, and development agreements would result in one unavoidable significant impact, as follows:

    4.9.A
    4.9.C Impacts to surrounding uses and the project site caused by increases in traffic generated noise and operational noise in the project area would be less than significant in the City of Claremont because projected noise levels would not exceed the City standards and would not result in a substantial permanent increase in existing noise levels. Impacts to surrounding land uses and the project site caused by increases in traffic generated noise and operational noise in the project area in the City of Upland would be significant and unavoidable.

- In addition, based on the analysis presented in Chapters 4.1 through 4.12, the proposed project would result in potentially significant impacts that require mitigation measures, as follows:

  4.1.A Impacts to day or nighttime views due to the installation of parking lot and sports field lighting and potential glare from building materials would be less than significant with mitigation incorporated

  4.2.A Short-term construction related air quality impacts would be less than significant with mitigation incorporated

  4.3.A Direct impacts to special status plant and wildlife species and indirect impacts to special status species due to habitat loss would be less than significant with mitigation incorporated

  4.3.C Impacts related to the wildlife migration would be less than significant with mitigation incorporated

  4.4.A.2 4.4.B Impacts to future structures due to settlement and other forms of potential ground deformation would be less than significant with mitigation incorporated and implementation of existing regulations

  4.4.A.3 Impacts to people and future structures due to landslides would be less than significant with mitigation incorporated and implementation of existing regulations

  4.6.A Impacts to public health and the environment due to the presence of hazardous materials on the project site would be less than significant with mitigation incorporated

  4.6.B Impacts to persons working or residing within the vicinity of Cable Airport due to compatibility issues with the proposed subdivision and future sports facilities would be less than significant with mitigation incorporated

  4.9.D Temporary and periodic noise impacts related to construction activities and the City of Upland and City of Claremont would be less than significant with mitigation incorporated and implementation of existing regulations

  4.11.A Impacts on the performance of the local and regional transportation system due to increased traffic generation from the proposed sports fields in consideration of cumulative traffic increase over the long-term and short-term construction-related impacts would be less than significant with implementation of existing regulations

  4.11.C Safety hazards associated with students crossing the street from the existing Claremont McKenna and Pitzer Colleges to access the

project site would be less than significant with mitigation incorporated

# Alternatives Selection 5.3

A total of seven alternatives were identified to be screened in light of the project objectives and the project's mitigated impacts. The alternatives are summarized in Table 5.1 (Alternatives Summary) and further discussed through the remainder of this section. The location of each alternative site is identified in Exhibit 5.1 (Alternatives Map).

# Alternatives Considered but Rejected 5.4

## *Objectives Screening*

Seven alternatives were developed and screened for consistency with the objectives of the project and the ability to reduce one or more mitigated impacts. Two alternatives were found not to meet "most" of the objectives of the project. With five project objectives, any project meeting three or more of the objectives was considered to meet "most" of them. The alternatives that did not meet most of the project's objectives were not considered for evaluation as a viable alternative. Furthermore, one alternative was determined to be infeasible. Table 5.2 (Objectives Screening) summarizes the screening results. Rejected alternatives are discussed below. Alternative site locations are mapped in Exhibit 5.1 (Alternatives Map).

**Table 5.1**
**Alternatives Summary**

| Alternative | Size (AC) | Location* (Miles) | Description |
|---|---|---|---|
| 1 | -- | On-Site | Assumes that no changes would occur on or off the project site |
| 2 | 39 | 1.25 NW | Existing Claremont Golf Course |
| 3 | 46 | 0.5 W | Existing Bernard Field Station |
| 4 | 40 | 0.25 W | Undeveloped (currently used as part of the Bernard Field Station programming) |
| 5 | -- | On-Site | Leave the existing sports facilities in their current locations and construct other campus uses on the project site in addition to expanded parking facilities |
| 6 | -- | On-Site CMC Campus | Relocate some of the sports facilities while modifying the existing sports facilities to meet the project objectives |
| 7 | -- | On-Site | Considers site plan and project modifications to reduce or avoid |

| | | | |
|---|---|---|---|
| | | | potentially significant impacts |

Source: MIG | Hogle-Ireland 2015
* Distance and direction from project site or location
-- Not Applicable

**Table 5.2**
**Objectives Screening**

| No. | Alternative | Meets Objective? | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| 1 | No Project* | No | No | No | No | No |
| 2 | Alternative Location, Claremont Golf Course | No | No | No | Yes | Yes |
| 3 | Alternative Location, Bernard Field Station | No | No | No | Yes | No |
| 4 | Alternative Location, North Campus Lot | No | No | No | No | No |
| 5 | Alternative Institutional Uses | Yes | Yes | Yes | No | No |
| 6 | Limited Facilities Relocation | No | Yes | No | Yes | No |
| 7 | Alternative Project Configuration | Yes | Yes | Yes | Yes | No |

Source: MIG | Hogle-Ireland 2015
* Although Alternative 1 does not meet project objectives, CEQA requires its analysis

## Alternative 2: Alternative Location, Claremont Golf Course Site

The project proponent owns the 52± acre former Claremont Golf Course site approximately 1.25 miles northwest of the project site. Approximately 39 acres of this site was considered as an alternative location for the proposed sports facilities and parking areas. This site could not feasibly be utilized to provide additional parking because the distance is too far to walk to the campus area. Furthermore, it would not result in the reclamation of the proposed project site. The former golf course site would not improve the visual quality of the proposed site, would disrupt the existing streetscape along Indian Hill Boulevard, and would disrupt the visual quality of the nearby Rancho Santa Ana Botanic Garden. Finally, the golf course site is approximately five acres smaller than the total size of the lots proposed for future development on the Master Site Plan and Site Plan; therefore, the golf course site could feasibly be used to expand the sports facilities with a reconfigured Master Site Plan and Site Plan. Because Alternative 2 meets only two of the five project goals, it was rejected as an alternative.

## Alternative 3: Alternative Location, Bernard Field Station

The project proponent owns approximately 46 acres of land approximately one-half mile west of the project site on the north side of Foothill Boulevard. This site could be used to meet one of the project objectives by improving campus space utilization. This alternative would not improve the visual character of the project site and the neighborhood because it would disrupt the existing streetscape along Foothill Boulevard. This site is not viable to provide additional parking because it would be divided from the main campus by a major roadway (Foothill Boulevard). This site is approximately eight acres smaller than the total size of the lots proposed for future development on the Master Site Plan and Site Plan; therefore,

the Bernard Field Station site could feasibly be used to expand the sports facilities with a reconfigured, smaller Master Site Plan and Site Plan. This site is restricted from development until 2051 (36 years) pursuant to an agreement between the project proponent and the "Friends of the Bernard Field Station"; therefore, it is infeasible to consider this as an alternative because of the lengthy development moratorium. Alternative 3 was rejected and will not be analyzed in this EIR.

### Alternative 4: Alternative Location, North Campus Lot

The project proponent owned approximately 40 acres located one-quarter mile to the west of the project site. However, the site has been sold to Pitzer College, Scripps College, and Harvey Mudd College. Therefore this property could not serve as a viable alternative location for the relocation of the sports facilities because it is no longer under the control of the project proponent. Additionally, this alternative could not improve the visual character of the neighborhood because it would disrupt the existing streetscape along Foothill Boulevard. It would not improve the visual quality of the project site or reclaim it because it is located on a different property. This site is not viable to provide additional parking because of the distance to the CMC and Pitzer campuses. Because Alternative 4 would not meet any of the project objectives, it was rejected as a feasible alternative to the proposed project.

### Alternative 6: Limited Facilities Relocation

This alternative considers relocating some of the sports facilities while modifying the existing sports facilities to meet the project objectives. For example, the existing baseball field could be left in place and a parking structure could be constructed at the existing parking lot on Ninth Street. Another option considered dual use of the baseball field as a softball field to reduce water usage and to include parking where the existing softball field is. While this alternative would partially improve the visual character of the project site and neighborhood by enhancing the existing landfill and quarry with landscaping and increase campus size, ultimately it could not fully reclaim the project site and could not provide adequate space for parking, sports facilities, and would not improve campus utilization or expand sports facilities due to the need to utilize the majority of the proposed project site. Alternative 6 was found infeasible and rejected because it could not meet most the project objectives.

## *Impacts Screening*

The alternatives that meet most of the project objectives were then screened to determine if they reduce or avoid one or more significant or mitigated impacts identified in Section 4.1 through 4.12. Of the remaining three alternatives, all three alternatives were found to reduce or avoid at least one significant or mitigated impact. Table 5.3 (Impacts Screening) summarizes the screening results. The rejected alternative is discussed below.

**Table 5.3**
**Impacts Screening**

| Alternative | | Impacts | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 4.1.A | 4.2.A | 4.3.A | 4.3.C | 4.4.A.2 4.4.B | 4.4.A.3 | 4.6.A | 4.6.B | 4.9.A 4.9.C | 4.9.D | 4.11.A | 4.11.C |
| 1 | No Project | - | - | - | - | - | - | - | - | - | - | - | - |
| 5 | Alternative Institutional Uses | + | + | = | = | =/+ | = | = | + | - | + | = | = |
| 7 | Alternative Project Configuration | - | - | = | = | = | = | = | - | - | = | - | = |

Source: MIG| Hogle-Ireland 2015
Key
- Reduced Impact
= Equivalent Impact
+ Increased Impact

# Alternatives Selected for Evaluation 5.5

Based on the results of the above screening procedures, Alternatives 5 and 7 were found to meet the criteria for analysis; therefore, the No Project Alternative, Alternative 5, and Alternative 7 will be analyzed, pursuant to CEQA.

## *Alternative 1: No Project Alternative*

According to Section 15126.6(e)(2) of the CEQA Guidelines, the evaluation of alternatives in an EIR shall include a "no project" scenario, defined as " . . . what is reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services"; therefore, although it does not meet any of the project objectives, Alternative 1 was selected for evaluation. Alternative 1 assumes that no changes would occur on- or off-site. The existing archery range, temporary parking area, and landfill operations would continue as they are.

## *Alternative 5: Alternative Institutional Uses*

Alternative 5 consists of leaving the existing sports facilities in their current locations and constructing other campus uses on the project site in addition to expanded parking facilities. This could include senior student housing, student life buildings, and academic buildings. Based on these changes, Alternative 5 could reduce impacts related to one environmental impact area (noise).

## *Alternative 7: Alternative Project Configuration*

This alternative consists of a variety of site plan changes and project modifications to try to reduce or avoid potentially significant impacts. Changes to the Master Site Plan and Site Plan would generally result in similar impacts because the site and the operation of the sports facilities would not change substantially. In order to reduce the potentially significant impacts of the project to analyze as an alternative,

Alternative 7 would not include field lighting which would eliminate evening activity on site and would reduce the amount of seating at the football, baseball, and softball field (accompanied by a corresponding reduction in parking requirements and traffic generation) below the seating objectives of the proposed project. Based on these changes, Alternative 7 could reduce impacts related to five environmental impact area (lighting, air quality, airport compatibility, noise, and traffic generation).

## Comparison of Impacts among Alternatives 5.6

The following compares the general impacts from Alternative 1, Alternative 5, and Alternative 7 to the project impacts to determine which would result in the fewest impacts to the environment. Table 5.4 (Alternative Impact Comparison Summary) summarizes the comparison of alternatives to the project's most substantial environmental impacts.

### *Aesthetics*

Alternative 1 would continue existing lighting at the Claremont McKenna College sports fields located along Claremont Boulevard and Sixth Street and would maintain the existing lighting conditions in the area. Light impacts from the proposed project would likely be reduced when compared to Alternative 1 because the lighting would be installed at the bottom of the existing quarry pit reducing the height of the lighting in relation to the surrounding grade. The proposed project also includes mitigation to minimize off-site illumination. Alternative 5 could result in increased impacts related to light because lighting would likely be more intensive due to the need for nighttime security lighting at housing units. Alternative 7 does not include field lighting and therefore would result in reduced lighting impacts when compared to the proposed project and Alternative 1.

### *Air Quality*

Alternative 1 and Alternative 7 would result in reduced air quality impacts when compared to the proposed project because traffic generation from the existing sports facilities and the reduced seating configuration of Alternative 7 would be less than that projected for the proposed project (see Appendix L). Alternative 1 and Alternative 7 would result in reduced construction related pollutant emissions because Alternative 1 requires no construction and Alternative 7 would require less construction due to the reduced seating capacity and associated parking and lack of field lighting. Alternative 5 would likely result in similar air quality impacts because average daily traffic from the combined uses would be similar to the proposed project.

### *Biological Resources*

Alternative 1 would continue to remove and degrade alluvial scrub habitat because existing landfill activities would persist. The alluvial fan scrub on the periphery of the project site shows varying degrees of recovery from past disturbances. The proposed project and Alternative 7 would result in reduced impacts to alluvial fan

scrub because the retention basin and on-site slopes would be vegetated with native vegetation.

Impacts related to migrating waterfowl would be similar when comparing Alternative 1, Alternative 5, Alternative 7, and the proposed project because all would require disturbance of the on-site seasonal water body. The proposed project, Alternative 5, and Alternative 7 would modify the occurrence of seasonal ponding on the project site and therefore would include mitigation to provide a similar feature on the project site. Because Alternative 1 would include the continuance of the existing, on-site permitted landfill, it is likely that the opportunity for seasonal ponding would eventually be disturbed and possibly destroyed as future landfill activities take place. Based on these factors, Alternative 1 would result in more substantial impacts on biological resources and migrating waterfowl than the proposed project, Alternative 5, or Alternative 7.

## Geology and Soils

Alternative 1 would not expose any structures or persons to geological hazards beyond strong ground shaking that impacts all project sites in the vicinity. The proposed project, Alternative 1, Alternative 5, and Alternative 7 are subject to ground shaking and due to their proximity, would be exposed to a similar level of shaking. All Alternatives are subject to soils review and surface design measures to ensure that any geologic hazards (i.e. liquefaction) are appropriately mitigated, pursuant to the California Building Code.

## Greenhouse Gas Emissions

Similar to air quality issues, Alternative 1 and Alternative 7 would result in reduced emissions of greenhouse gas emissions because both would generate less traffic levels than the proposed project, a key contributor to greenhouse gas emissions. Alternative 5 would result in similar impacts because average daily traffic from the combined uses would be similar to the proposed project.

## Hazards and Hazardous Materials

Alternative 1 would result in reduced impacts related to airport operations and past landfill activities because it would not result in the construction of any structure within the landfill and would not place structures or persons within the influence area of Cable Airport. Alternative 5 would increase persons working and living in the influence area of Cable Airport, thereby increasing exposure of people to airport hazards. Alternative 7 would reduce airport compatibility hazards when compared to the proposed project because the reduced seating would reduce the maximum number of people anticipated to be on the East Campus site.

## Hydrology and Water Quality

Alternative 1, Alternative 7, and the proposed project are unlikely to impact groundwater quality because they do not include an operational component that could contaminate subsurface aquifers; therefore, impacts would be similar.

Alternative 5 would result in increased impacts as institutional uses would likely include increased amounts of impervious surfaces.

## Mineral Resources

Alternative 1, Alternative 5, Alternative 7, and the proposed project would not impact mineral resources because the project site is not located in areas of regionally significant mineral resources. Impacts would be similar.

## Noise

Alternative 1 would not result in any construction-related noise impacts. Alternative 5 would likely result in increased temporary construction noise due to the increased square footage to be constructed. Alternative 7 would result in slightly decreased construction-related noise due the reduced seating capacity, parking, and lighting. Temporary and permanent operational noise from traffic generated by Alternative 1 would not be increased over existing levels and would therefore be less than the proposed project because the existing facilities generate less traffic. Alternative 5 would likely result in similar traffic noise impacts because average daily traffic from the combined uses would be similar to the proposed project. However, alternative institutional uses will result in reduced operational noise because there will be no sporting activities that will involve public address systems or the attendance of cheering spectators. Alternative 7 would not include any field lighting; therefore, there would be no practices and/or games occurring after dark. Alternative 7, when compared to the proposed project, would reduce temporary and permanent operational noise corresponding to the elimination of potential spectators and traffic volumes during evening hours.

## Public Services

Alternative 1, Alternative 5, Alternative 7, and the proposed project would not impact fire or police protection services because they do not result in substantial population increases that require expanded facilities or occur outside of existing service areas. Impacts would be similar.

## Transportation and Traffic

Traffic generated from the existing Claremont McKenna College sports facilities would remain the same, which is anticipated to be less than the proposed project. Alternative 5 would result in virtually the same level of cumulative traffic generation since the same intensity of uses would be proposed. Alternative 7 would result in decreased traffic volumes when compared to the proposed project corresponding to the reduction in seating capacity. Alternative 1 and Alternative 5 would reduce the availability/effectiveness of alternative modes of transportation in the project vicinity, when compared to the proposed project and Alternative 7, because the sidewalks, bus shelter, and bike lane proposed with the project and Alternative 7 would not be constructed. The project, Alternative 5, and Alternative 7 would result in safety impacts because both uses would attract students from the main campuses to the East Campus site.

## *Utilities and Service Systems*

Alternative 1 would not increase the need for wastewater, drainage, or solid waste disposal services because the existing sports facilities are generally smaller and would serve fewer users than the proposed sports facilities. Alternative 1 could initially result in reduced demand for water because of smaller site sizes; however, this would not be the case when recycled water becomes available to the proposed project site from the Inland Empire Utilities Agency, considering recycled water is not available in Claremont and therefore not available to the Alternative 1. There are currently no plans to provide recycled water to Claremont in the future. Alternative 5 would likely result in increased demand for water, wastewater, and solid waste services when compared to the project due to the change in use. In addition, Alternative 5 would likely increase impacts related to the storm drainage system because this alternative would result in increase impervious surfaces and not include a retention basin for stormwater collection. Alternative 7 would result in a nominal reduction in utility service demand when compared to the proposed project corresponding to the reduced seating capacity and lack of field lighting; outdoor water demand would be similar because the fields and landscaping would be the same. Alternative 7 would also benefit from the future potential for recycled water in the City of Upland.

**Table 5.4**
**Alternatives Impact Comparison Summary**

| Impact | Project | Alternative 1 | Alternative 5 | Alternative 7 |
|---|---|---|---|---|
| Aesthetics | **M** | **+** | **+** | **-** |
| Air Quality | **L** | **-** | **=** | **-** |
| Biological Resources | **M** | **+** | **=** | **=** |
| Geology and Soils | **L** | **-** | **=** | **=** |
| Greenhouse Gas Emissions | **M** | **-** | **=** | **-** |
| Hazards and Hazardous Materials | **M** | **-** | **=/+** | **-** |
| Hydrology and Water Quality | **L** | **=** | **+** | **=** |
| Mineral Resources | **L** | **=** | **=** | **=** |
| Noise | **L** | **-** | **-** | **-** |
| Public Services | **N** | **=** | **=** | **=** |
| Transportation and Traffic | **M** | **-** | **=** | **-** |
| Utilities and Service Systems | **L** | **-** | **+** | **=** |

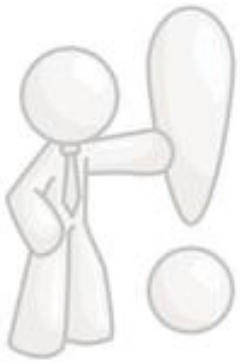
Source: MIG | Hogle-Ireland 2015

Key

M Less than Significant Impact with Mitigation Incorporated
L Less than Significant Impact
N No Impact
**+** Impact is greater than proposed project
**=** Impact is similar to proposed project
**-** Impact is less than proposed project

# Environmentally Superior Alternative 5.7

Alternative 7 is considered to be the environmentally superior Alternative because it would result in reduced environmental impacts when compared to the proposed project, Alternative 1, and Alternative 5. Although Alternative 7 could result in reduced environmental impacts, it would not meet the seating or lighting objectives of the project.



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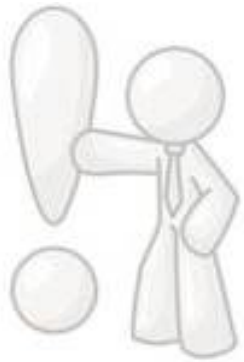

# Exhibit 5.1 - Alternatives

Claremont Colleges East Campus EIR
Upland/Claremont, CA

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# Analysis of Long Term Effects 6.0

CEQA requires discussion of the cumulative impacts, growth-inducing impacts, and long-term impacts of proposed projects. The following sections address these issues as they relate to approval of the Claremont Colleges East Campus Project.

## Cumulative Impacts 6.1

Sections 15130(a) through 15130(e) of the State CEQA Guidelines require the contents of an EIR to include a discussion of cumulative impacts. Section 15355 of the State CEQA Guidelines defines a cumulative impact as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. Section 15130(b)(1) of the CEQA Guidelines identify two methods to determine the scope of projects for cumulative impact analysis:

> **List Method.** A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency.
>
> **Projection Method.** A summary of projections contained in an adopted general plan or related planning document or in a prior environmental document that has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the Lead Agency.

Because of the long-range phasing schedule of the project over 10-15 years, the appropriate method for cumulative impact analysis is the "projection method". This method is appropriate because the projections will serve as a more conservative estimate of growth in the project area then would be possible by listing projects over that timeframe. Based on these considerations, the proposed Claremont Colleges East Campus Project will be analyzed in light of projections utilized in the following planning documents:

> **Upland General Plan.** The City of Upland consists of approximately 15 square miles and is primarily developed with single-family residential development.[1] The overall objective of the General Plan Land Use Element includes preserving and enhancing the single-family character of the City of Upland, preservation of historic resources, and improvement of the quality of site development and construction. The majority of land surrounding the project site is developed or designated for flood control purposes. Vacant, developable land near the project site within Upland consists of 2 acres (AC) directly north of the project site and 14 AC approximately 700 feet to the east of the northwest corner of the project site, on the north side of Foothill Boulevard. Both of these areas are

designated C/I(MU) (Commercial-Industrial Mixed-Use). The 2 AC site to the north is zoned CC (Community Commercial) and is currently being jointly reviewed as a portion of a multi-jurisdictional shopping center in both the City of Upland and City of Claremont known as Claremont Commons.[2] The 14 AC site in Upland is zoned IC (Community Industrial) and based on permitted development standards could be developed with up to 609,840 SF of industrial development.

**College Park Specific Plan.** The College Park Specific Plan encompasses 39.7 AC that support 40,500 SF of commercial development, 89 single-family residential units, and 448 multiple-family residential units.[3] This area is located directly south of the East Campus Project site across Arrow Route, within Upland. The College Park Specific Plan has been developed. Approximately 23 acres have been developed with multiple-family residential units, nine acres have been developed with 89 single-family units, and eight acres are developed with commercial use.

**Upland Harvest Specific Plan**. The Uplands Harvest Specific Plan encompasses 31.6 acres of vacant land that will support up to 27,500 SF of commercial and retail development and 355 attached and detached residential units.[4] This area is located directly east of the East Campus Project site across Monte Vista Avenue between Foothill Boulevard and the College Heights Recharge Basin, within Upland. No portion of this Specific Plan has been constructed.

**Claremont General Plan.** The City of Claremont encompasses approximately 11.6 square miles and is characterized by single-family residential units, extensive open space, commercial and retail development, and The Claremont Colleges located in the south central portion of the City of Claremont.[5] The Land Use Element focuses on residential neighborhoods, business district, and major institutions that define Claremont, and establishes visions for these districts. At build-out, the Land Use Plan can support a total of 13,422 dwelling units and 13.85 million SF of commercial development. In the City of Claremont, the majority of land within the project vicinity is occupied primarily by The Claremont Colleges. Approximately 6 AC on the Pitzer College campus directly west of the northwest corner of the project site is currently an arboretum and is not planned to be changed to any other use.[6] Approximately 8 AC of vacant land is located directly north of the project site, on the north side of Foothill Boulevard. This area is currently being jointly reviewed as a portion of a multi-jurisdictional shopping center in both the City of Claremont and City of Upland known as Claremont Commons.

**Claremont McKenna College Master Plan:** The Claremont McKenna College Master Plan provides for the long-term expansion, development, and redevelopment of the campus.[7] The plan increases the current

building floor area from 718,423 gross SF up to 1,411,311 gross SF, increasing the student population from 1,150 up to 1,400. The new facilities would also support up to 138 new staff, from 486 to 624. The area that would be redeveloped after the sports facilities are relocated would include senior class and student housing, student centers, academic buildings, open space, and a soccer and lacrosse field. This plan was approved by the Claremont City Council in July 2012.

**Harvey Mudd College Master Plan:** The Harvey Mudd College Master Plan was approved in February 2011. The amendment increases the current building floor area from 634,377 gross SF to 903,911 gross SF with no increase in student enrollment from the current maximum of 800. This plan was reviewed by the City of Claremont.

**Pitzer College:** The Pitzer College Master Plan provides for the long-term redevelopment of the campus over five phases (or "steps").[8] The College has implemented portions of Step 1 and Step 2 that included the completion of 400 new student housing units on Claremont Boulevard, demolition of Sanborn Hall, and the construction of a temporary parking lot. The Master Plan includes future construction of a 600 space parking structure, approximately 350 new student housing units, 142,900 SF of new educational facilities, and redeveloped open space areas. The Master Plan would accommodate a growth of 50 full-time equivalent students, from 800 to 850.

## *Cumulative Impact Analysis*

The cumulative impact analysis considers growth in the vicinity of the project and the region and analyzes whether the project would contribute to a cumulative impact. The project Initial Study determined that some issues related to aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, population and housing, public services, recreation, transportation and traffic, and utilities and service systems would result in "No Impact", therefore, those issues are not addressed in the cumulative analysis below.

## *Aesthetics*

The context for assessing cumulative impacts from light and glare includes existing and future light sources surrounding the project site over the next ten years or more. The contribution of light from the proposed sports facilities in addition to existing light sources and other light sources from future residential, commercial, institutional, and industrial development in the area would not result in a substantial cumulative impact because the project and other future development would be subject to the Upland and Claremont lighting standards that require shielded lighting that can only illuminate individual properties or project sites. This would minimize the

cumulative contribution to existing lighting in the area and the impact would be less than significant.

Neither Upland nor Claremont currently has regulations specifically prohibiting the use of reflective building materials; therefore, future development in the area could result in cumulative impacts related to glare if such materials are permitted to be used. The proposed sports facilities are prohibited from being constructed with materials that could result in glare with Mitigation Measure 4.1.A-1 incorporated. Implementation of the CMC Master Plan would result in the redevelopment of vacated areas after the sports facilities are relocated. This development would include senior class and student housing, student centers, academic buildings, open space, and a soccer and lacrosse field. The certified EIR for the CMC Master Plan determined that impacts related to glare would be less than significant with adherence to the principles and standards contained in the City of Upland's General Plan and Municipal Code, the Master Plan, and the development agreement. In addition, implementation of CMC Master Plan EIR Mitigation Measure AES-2 requires that building materials do not create glare and prohibits the use of polished metal or glass unless substantial evidence can be provided showing that use of such materials will not cause glare impacts on surrounding properties or roadways. While cumulative impacts related to glare could occur in the area due to future development, the project could not contribute to the impact. Cumulatively considerable impacts related to glare would be less than significant.

## Air Quality

The context for assessing cumulative air quality impacts is the South Coast Air Basin in terms of national and state criteria pollutant standards. The immediate vicinity of the project site is the context for localized levels of criteria pollutants and toxic emissions. Emissions from vehicle trips generated from existing and future development surrounding the proposed sports facilities and the region will improve as State emissions control requirements and technologies improve over the long-term. This would result in a positive cumulative effect on local and regional air quality. Localized emissions of toxics and criteria pollutants from existing and future development in the project area would be subject to environmental review pursuant to CEQA and would be required to reduce, minimize, or avoid impacts from individual and cumulative project emissions. Should an unavoidable cumulative air quality impact occur in the future (i.e., localized emissions of CO result in a "hot spot"); the project's contribution would not be considerable because pollutant emissions from the proposed sports facilities would result in less than significant long-term impacts. Construction of the sports facilities would be subject to Mitigation Measure 4.2.A-1 to ensure that the project's contribution to short-term air quality impacts is not considerable.

Cumulative short-term, construction-related emissions from the proposed project will not contribute considerably to any potential cumulative air quality impact because short-term project emissions will be less than significant and other concurrent construction projects in the region will be required to implement standard air quality regulations and mitigation pursuant to State CEQA requirements, just as this project has. The proposed project is consistent with current land use designations and is consistent with the growth assumptions of the AQMP. Therefore, the proposed project will not contribute to any potential cumulative long-term air quality impacts. Cumulatively considerable air quality impacts as a result of this project would be less than significant.

## Biological Resources

The context for assessing impacts to special status species is native habitat in the project vicinity that supports special status species. This includes the project site, the vacant land to the north of the project site, and vacant land following San Antonio Channel north into the San Gabriel Mountains. The immediate project vicinity is characterized by fragmented pockets of native habitat due to years of extensive urbanization throughout the area. Future commercial or industrial development in these vacant areas could result in the loss of native habitat that supports special status species; however, due to the fragmented nature of the habitat and the urbanized character of the area, the cumulative loss would be less than significant. Development of the proposed sports facilities is subject to Mitigation Measure 4.3.A-1 through 4.3.A-4 and Mitigation Measure 4.3.C-1 requiring biological surveys, tree surveys, revegetation of native habitat, and biological monitoring of earthmoving activities to reduce impacts to sensitive species, if any, to less than significant levels. Cumulative impacts and cumulatively considerable project impacts to special status species in the project vicinity would be less than significant.

## Cultural Resources

The context for assessing cumulative impacts to buried human remains is any native, subsurface soils in the project vicinity and the region. The primary concern related to disturbing buried remains is the destruction of important Native American remains. Any future grading and construction activities in California will be subject to Health and Safety Code Section 7050.5 that requires all earthmoving activities to stop if human remains are uncovered until the appropriate county coroner is contacted to evaluate and eventually have the remains removed. Cumulative impacts due to the potential uncovering and destruction of human remains would be less than significant pursuant to existing regulations.

## Geology and Soils

The context for assessing cumulative impacts caused by strong seismic groundshaking, ground failure, and other geological hazards is the project

vicinity and region. Geological hazards are site specific and generally aren't cumulative in that developing on one project site generally would not increase geological hazards on surrounding sites. Any future development would be subject to site-specific soils reports and design features to minimize impacts from such events as fault-rupture, subsidence, and liquefaction as required by the California Building Code. Cumulative geological hazards impacts would be less than significant.

## Greenhouse Gas Emissions

The context for assessing climate change is the entire planet. Climate change is inherently a cumulative impact resulting from the collective emissions of greenhouse gas from sources throughout the world. Efforts to reduce greenhouse gas emissions and curb the impacts of climate change have been established throughout the industrialized world. California has established greenhouse gas emissions reduction goals as discussed in Section 4.5. The United States Environmental Protection Agency (EPA) is taking a *common-sense* approach to establishing standards for emissions from mobile and stationary sources pursuant to the Clean Air Act. In 1997, 37 industrialized countries signed the *Kyoto Protocol* committing those countries to stabilize greenhouse gas emissions. The *Kyoto Protocol* went into effect in 2005 and an estimated five percent reduction below 1990 levels is estimated from signatory countries between 2008 and 2012.[9] While these efforts will substantially reduce greenhouse gas emissions, the Intergovernmental Panel on Climate Change (IPCC) indicates that climate change remains a threat to humans and the environment and that more stringent emissions reductions are needed. Until such time that a fully cooperative effort of industrialized and other nations of the world is achieved such that humans no longer substantially contribute to rising global temperatures, greenhouse gas emissions and resulting climate change impacts remain significant.

The proposed project would not result in a substantial contribution of greenhouse gas emissions as discussed in Section 4.5. Furthermore, the proposed project is consistent with State efforts to reduce greenhouse gas emissions as identified in the State Scoping Plan pursuant to the California Global Warming Solutions Act (AB 32), as discussed in Impact 4.5.B. This includes consistency with measures related to energy efficiency, recycling, and water conservation. The proposed project would not result in a cumulatively considerable contribution to world climate change.

## Hazards and Hazardous Materials

The context for assessing cumulative hazardous materials impacts is existing and potential industrial development in the project vicinity. Considering existing and potential industrial development in the area, future uses in the project vicinity may use, transport, or dispose of hazardous materials or wastes. While future surrounding development may increase hazardous materials use in the project vicinity, the proposed sports facilities would not contribute to the impact because they do not involve the substantial use,

transport, or disposal of hazardous materials or wastes. Cumulatively considerable impacts related to hazardous materials would be less than significant.

The context for assessing hazards impacts related to the operation of Cable Airport is any development within the airport influence area. Future development in the Cable Airport influence area could increase the number of people working or residing in the safety areas of the airport; however, future development would be subject to the standards of the Cable Airport Comprehensive Land Use Plan and the regulations of the Federal Aviation Administration. These regulations limit the density of people in safety areas to minimize potential impacts to human life in case of an aircraft crash. Cumulative safety impacts associated with the operation of Cable Airport would be less than significant.

The context for evaluating cumulative impacts related to wildland fires is any development located within a fire hazard zone as mapped by the California Department of Forestry and Fire Protection. This project site and vacant properties to the north and along San Antonio Creek are designated as Very High Fire Severity Zones (VHFHSZ).[10] Based on the Fire Hazard Elements assessed in preparation of the severity maps, these areas are generally characterized as susceptible to wildland fires due to factors such as the steepness of on-site slopes, the types of on-site vegetation, the general weather, and the susceptibility to fire brand ignition (ignition by embers that move ahead of a main fire). The severity maps are developed solely on the potential fire hazard without considering the actual risk of exposure to a wildland fire. The project site has a low risk of being exposed to a wildland fires because the site is located over three miles from the San Gabriel Mountains and is located in a long-established urban area. Furthermore, development would consist primarily of irrigated sports fields that does not constitute vegetation or conditions that are conducive to wildfires. Wildfire hazards are more likely as you get closer to the San Gabriel Mountains and away from urban development. Future development in the project vicinity would be subject to the standards of the California Building Code that are designed to reduce impacts to structures within wildland fire hazard zones. Considering the low potential for wildland fires in the project vicinity and existing regulations, cumulative impacts due to wildland fires would be less than significant.

## *Hydrology and Water Quality*

The context for assessing cumulative groundwater impacts is the subsurface aquifers serving the project area and region that includes the Pomona Subbasin and the Chino Subbasin. Although some portions of these and other groundwater resources in the project area are contaminated or show signs of other water quality issues, these conditions are not likely to be exacerbated by future development in the area. Disposal of hazardous wastes and discharges of contaminated runoff and industrial waters are

regulated by state and federal regulations, including the National Pollution Discharge Elimination System. These regulations would eliminate or minimize future potential contamination of groundwater resources.

The context for assessing the existing drainage pattern of the area is the watershed of the San Antonio Creek and, specifically, the storm drains and conveyance devices constructed to manage runoff. As the region continues to urbanize and increases in impervious surfaces occur due to building, parking lot, and other construction, incremental increases in runoff would be discharged into local and regional storm drain systems. Substantial changes in the local and regional drainage systems are anticipated because of the urbanized character of the area that has an extensive network of curb and gutter, side inlets, storm drains, retention and recharge basins, and flood control channels. Any future development of residential, commercial, industrial, or educational/institutional uses in the project vicinity or the region would be subject to development impact fees and development review to ensure that any drainage pattern changes do not result in on- or off-site flooding and that storm drain and conveyance devices would be maintained and/or expanded to handle incremental increases in storm water flows. Cumulative impacts related to changes in drainage patterns would be less than significant.

The context for assessing cumulative flooding impacts due to dam failure is the inundation area of the San Antonio Dam, located approximately four miles northeast of the project site. As residential, commercial, industrial, and education/institutional uses develop in accordance with the long-term and mid-term plans in the project vicinity and region, additional structures and persons would be exposed to the potential, remote chance that the area would be inundated if San Antonio Dam fails. In the event of such failure, the project site and vicinity would be submerged under 7-8 feet of water in approximately nineteen minutes.[11] While persons and structures in the region could potentially be impacted by dam inundation, it is unlikely because of state and federal maintenance and inspection requirements for dams and levees. Furthermore, the project would not contribute considerably to this cumulative impact because it would not substantially increase persons or structures in the area. Cumulatively considerable dam inundation impacts would be less than significant.

## Land Use and Planning

The context for assessing cumulative impacts due to conflicts with mitigating standards and regulations is all development located within the planning areas and zoning districts of the Upland and Claremont General Plans and Zoning Codes. The proposed sports facilities are consistent with the "Institutional" land use designation as a support facility to an educational institution in Upland and Claremont; therefore, the project is consistent with the growth projections utilized in the development of the Upland and Claremont General Plans. Any future development or redevelopment in

either jurisdiction would be required to be consistent with applicable environmental policies and regulatory standards designed to mitigate environmental impacts. No cumulative impact would occur.

## Mineral Resources

The cumulative context for assessing the loss of mineral resources is the "regionally significant" aggregate resources identified by the State Division of Mines and Geology in the Claremont-Upland Production-Consumption Region. The Upper San Antonio Fan is located directly northeast of the project site and is identified as containing significant resources that are currently being extracted by the Holliday Rock Company. The incremental use of aggregate resources for development projects in the future would slowly deplete aggregate resources over the long-term. Furthermore, due to the urbanized character of the region, aggregate resources may be lost to other uses and development. Although urbanization and mining activities could result in the eventual loss of mineral resources in the region, the project would not contribute considerably to this impact because the project site is not defined as a "regionally significant" source of aggregate materials. Cumulatively considerable losses of important mineral resources would be less than significant.

## Noise

The context for assessing cumulative noise impacts in the project vicinity is the extent to where noise from construction or operation of the proposed sports facilities is no longer discernible. Future implementation of specific plans and master plans in the project area as well as the Upland and Claremont Land Use Elements would result in development that would increase traffic, and other business and residential activities in the project vicinity. These activities would gradually increase ambient noise levels throughout the area. Some uses could also result in substantial increases in noise, particularly manufacturing or other uses associated with future industrial development. As discussed in Section 4.9, cumulative roadway noise impacts have been analyzed for the years 2020 and 2030 and were determined to be less than significant. However, increases in ambient noise levels during project operation would be significant and unavoidable, as discussed in Section 4.9. Therefore, the project would contribute to cumulative increases in ambient noise levels. Future development would be subject to development review to assess noise impacts and ensure that Upland and Claremont Noise Element standards are met. Future uses would also be subject to Upland and Claremont noise ordinance standards for the control of nuisance noise. Cumulative noise impacts would be significant and unavoidable.

## Public Services

The context for assessing cumulative environmental impacts associated with expansion of facilities needed to provide police and fire facilities is the extent

of the service area of the jurisdiction providing the service. The projection method is appropriate in this analysis as each service provider prepares long-term plans to provide appropriate levels of service to its customers. Fire services in the City of Upland are provided by the Upland Fire Department and fire services in the City of Claremont are provided by the Los Angeles County Fire Department. Police protection services in the City of Upland are provided by the Upland Police Department and police protection services in the City of Claremont are provided by the Claremont Police Department. Cumulative impacts could occur if growth within each service area requires expansion of servicing facilities such as construction of a new fire or police station. As discussed in Section 4.10, the proposed project does not contain any housing component or other feature that could result in population growth and could not have a direct effect on the service goals of either jurisdiction's police or fire protection services; therefore, no new facilities would need to be constructed to maintain the current service levels.

Indirectly, the proposed project is growth inducing because the facilities proposed on the CMC campus include expanded student housing as part of the CMC Master Plan. Maximum growth as a result of the implementation of the CMC Master Plan includes 250 additional students and approximately 138 jobs. An EIR prepared and certified by the City of Claremont City Council in July 2012 determined that impacts related to fire and police protection would be less than significant because build out of the CMC Master Plan would not create the need for new fire or police facilities beyond those already planned. With the proposed project and build out of the CMC Master Plan, new or expanded facilities would not be required to maintain current level of service. Therefore, impacts are not cumulatively considerable.

## Transportation and Traffic

Cumulative circulation and Congestion Management Program impacts through the year 2020 and the year 2030 are analyzed in Section 4.11 and were found to be less than significant.

## Utilities and Service Systems

The context for assessing cumulative impacts to utilities and service systems is the storm drainage, water supply, wastewater conveyance and treatment, and solid waste disposal infrastructure that support the project site, the Cities of Upland and Claremont, and the Counties of San Bernardino and Los Angeles. Long-term maintenance and potential expansion of these facilities would be required as the region continues to grow and existing infrastructure ages. All utility providers currently impose development impact fees, connection fees, and service fees designed to maintain and incrementally expand infrastructure to meet existing and growing demand. Future development in the project vicinity and throughout the region would be subject to such fees in accordance with applicable ordinances and service master plans. The proposed sports facilities would not have a cumulatively considerable impact on these facilities because the project is not anticipated

to require expansion of any of these facilities and would result in nominal increases in demand for services. Implementation of the CMC Master Plan would result in an increase in building footprint, students, and employees. An EIR was prepared and certified by the City of Claremont City Council in July 2012 which determined that there is adequate water supply, wastewater treatment capacity, landfill capacity, and storm drainage capacity to serve build out of the CMC Master Plan. With the proposed project and build out of the CMC Master Plan, cumulatively considerable impacts to utilities and service systems would be less than significant.

## Growth Inducing Impacts 6.2

Pursuant to Section 15126.2(d) of the State CEQA Guidelines, the contents of an EIR must address the growth-inducing impacts of a project, as follows:

> *Growth-Inducing Impacts of the Proposed Project. Discuss the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow more construction in service areas). Increase in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

Growth-inducing impacts are analyzed and discussed herein.

Growth-inducing effects include ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. A common example is a major infrastructure project or road extension that provides urban service capacities to currently undeveloped areas, thus removing an obstacle to population growth.

The proposed subdivision, Master Site Plan, Site Plan, and development agreements do not include a housing component that could directly attract new residents to either Upland or Claremont. The project does not include the upgrading or extension of any utility, roadway, or other service to an area where it doesn't currently exist. The project could not induce growth in these ways.

The proposed sports facilities are mostly the relocation of existing sports facilities from the Claremont McKenna and Pitzer Colleges west of the project site. The project also includes new parking lots. It is estimated that build-out of the new facilities would provide three to five new jobs. Based on this estimate, the proposed Claremont Colleges East Campus plan would not create a new job source for a substantial number of people.

The subdivision includes three parcels (Lots 1, 2 and 3 of TTM 18989 (City of Upland)) that are not included on the Master Site Plan and Site Plan and the potential future development of these sites are unknown at this time. The project does not include any land use or zone change that would permit development on these parcels beyond that permitted for "Institutional" uses in Upland and Claremont; therefore, the project could not result in growth inducement due to the future development of these parcels beyond that contemplated by either the Upland or Claremont General Plans.

Although not the purpose of the project, the relocation of CMC sports facilities would provide CMC with space for new or redeveloped student apartments and academic buildings on its existing campus. These facilities would accommodate future increases in student enrollment and potentially provide additional working space for future CMC employees. To this extent, the proposed subdivision and relocation of the existing sports facilities could indirectly result in growth. The indirect growth induction would make space for a total increase in population of up to 250 students.

In the year 2008, there was a population of 72,600 in the City of Upland and 34,800 in the City of Claremont, a total area population of 107,400. Based on the latest Integrated Growth Forecast model developed by the Southern California Association of Governments (SCAG), the year 2035 population in the City of Upland would be approximately 80,200 and 37,900 in the City of Claremont, a total area population of 118,100.[12] The area is projected to experience a total population growth of 10,700 residents. The increase in student population as a result of the build-out of the CMC Master Plan would be within the projected growth for the area. The indirect growth inducement in population that would be caused by the East Campus project is not substantial in comparison to the overall, long-term growth in the area.

In the year 2008, the employment base for the City of Upland was 27,900 and 18,100 for the City of Claremont, a total of 46,000 jobs. The SCAG Integrated Growth Forecast for year 2035 estimates an employment base of 33,400 for the City of Upland and 20,600 for the City of Claremont, a total of 54,000 jobs. The area is projected to experience an increase of 8,000 jobs. The proposed sports facilities would directly provide for an increase in employment of five, while indirectly the proposed CMC Master Plan would provide for an additional 138 jobs for a total maximum job growth of 143. This is within the project employment growth for the area. The indirect growth inducement in employees that would be caused by the East Campus

project is not substantial in comparison to the overall, long-term growth in the area.

# Energy Conservation 6.3

## *Introduction*

This energy conservation analysis has been prepared pursuant to California Public Resources Code Section 21100(b)(3) and Appendix F of the California Environmental Quality Act (CEQA) Guidelines.

The purpose of this analysis is to assess the short- and long-term energy demand of the proposed project, identify proposed and required conservation measures, and assess the extent to which the proposed project would conserve energy.

Energy demand and conservation effectiveness are primarily based on demand surveys utilized in the California Emissions Estimator Model (CalEEMod). CalEEMod estimates energy demand for purposes of modeling greenhouse gas emissions. This report has been prepared in consistency with the project's *Air Quality and Climate Change Assessment* prepared by MIG | Hogle-Ireland (November 2014).

Appendix F of the State CEQA Guidelines states that the goal of assessing energy conservation in a project is to ensure the wise and efficient use of energy. Energy efficiency is achieved by decreasing energy consumption, decreasing reliance on fossil fuels, and increasing reliance on renewable energy sources. The guidelines for analysis of energy conservation provided in Appendix F of the State CEQA Guidelines are provided herein:

## *CEQA Appendix F: Energy Conservation*

*I. Introduction*

*The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include:*

*(1) decreasing overall per capita energy consumption,*
*(2) decreasing reliance on fossil fuels such as coal, natural gas and oil, and*
*(3) increasing reliance on renewable energy sources.*

*In order to assure that energy implications are considered in project decisions, the California Environmental Quality Act requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy (see Public Resources Code section 21100(b)(3)). Energy conservation implies that a project's cost*

*effectiveness be reviewed not only in dollars, but also in terms of energy requirements. For many projects, cost effectiveness may be determined more by energy efficiency than by initial dollar costs. A lead agency may consider the extent to which an energy source serving the project has already undergone environmental review that adequately analyzed and mitigated the effects of energy production.*

*II. EIR Contents*

*Potentially significant energy implications of a project shall be considered in an EIR to the extent relevant and applicable to the project. The following list of energy impact possibilities and potential conservation measures is designed to assist in the preparation of an EIR. In many instances specific items may not apply or additional items may be needed. Where items listed below are applicable or relevant to the project, they should be considered in the EIR.*

*A. Project Description may include the following items:*

1. *Energy consuming equipment and processes which will be used during construction, operation and/or removal of the project. If appropriate, this discussion should consider the energy intensiveness of materials and equipment required for the project.*
2. *Total energy requirements of the project by fuel type and end use.*
3. *Energy conservation equipment and design features.*
4. *Identification of energy supplies that would serve the project.*
5. *Total estimated daily vehicle trips to be generated by the project and the additional energy consumed per trip by mode.*

*B. Environmental Setting may include existing energy supplies and energy use patterns in the region and locality.*

*C. Environmental Impacts may include:*

1. *The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.*
2. *The effects of the project on local and regional energy supplies and on requirements for additional capacity.*
3. *The effects of the project on peak and base period demands for electricity and other forms of energy.*
4. *The degree to which the project complies with existing energy standards.*
5. *The effects of the project on energy resources.*
6. *The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.*

*D. Mitigation Measures may include:*

1. *Potential measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, maintenance and/or removal. The discussion should explain why certain measures were incorporated in the project and why other measures were dismissed.*
2. *The potential of siting, orientation, and design to minimize energy consumption, including transportation energy, increase water conservation and reduce solid waste.*
3. *The potential for reducing peak energy demand.*
4. *Alternate fuels (particularly renewable ones) or energy systems.*
5. *Energy conservation which could result from recycling efforts.*

*E. Alternatives should be compared in terms of overall energy consumption and in terms of reducing wasteful, inefficient and unnecessary consumption of energy.*

*F. Unavoidable Adverse Effects may include wasteful, inefficient and unnecessary consumption of energy during the project construction, operation, maintenance and/or removal that cannot be feasibly mitigated.*

*G. Irreversible Commitment of Resources may include a discussion of how the project preempts future energy development or future energy conservation.*

*H. Short-Term Gains versus Long-Term Impacts can be compared by calculating the project's energy costs over the project's lifetime.*

*I. Growth Inducing Effects may include the estimated energy consumption of growth induced by the project.*

## *Energy Demand*

Short-term energy demand would result from construction of the project. This would include energy demand from worker and vendor vehicle trips and construction equipment usage. Long-term energy demand would result from operation of the proposed project. This would include energy demand from vehicle trips, electricity and natural gas usage and water and wastewater conveyance. This section quantifies the energy needs of these activities.

### Construction Activities

Worker and vendor trips have been estimated based on the construction schedule assumptions used in the preparation of the project air quality and climate change report (Appendix C). The construction for the proposed project includes an anticipated start date in early March 2017. Vendor trips are based on construction vendor trip data compiled by the Sacramento Metropolitan Air Quality Management District. Fuel consumption from worker and vendor trips are estimated by evaluating the number of vehicle trips and travel distances required to complete each construction phase. Construction is scheduled to occur in the years 2017 through 2025. Fuel economy for the

worker vehicle fleet mix (70 percent automobile and 30 percent light duty truck) is estimated at 38.7 miles per gallon (mpg) in 2017, 42.8 mpg in 2019, and 43.9 mpg in years 2022 through 2025, based on estimates prepared by the California Air Resources Board (ARB).[13] Fuel economy standards are available through the year 2020. The fuel economy for year 2020 has been used for all subsequent years to provide a worst case analysis as fuel economy improves year by year. Fuel efficiency for the vendor medium- and heavy-duty vehicle fleet mix is estimated using data provided by the National Highway Traffic Safety Administration (NHTSA) in the Environmental Impact Statement (EIS) for the adopted national medium- and heavy-duty vehicle fuel consumption standard.[14] Worker vehicles are assumed to be gasoline and vendor vehicles are assumed to be diesel. Fuel demand for worker and vendor trips for each construction phase activity is calculated as follows:

$$\text{Fuel} = \frac{\text{Trips} * \text{Length}}{\text{Economy}} * \text{Days}$$

Where:

Fuel = Total Fuel Demand (gallons)
Trips = Daily Worker/Vendor Trips
Length = Trip Length (miles)
Economy = Fuel Economy of Vehicle Fleet (miles/gallon)
Days = Total Days of Activity

Calculations for total worker and vendor fuel consumption are provided in Table 6.3.1 (Construction Worker Gasoline Demand) and Table 6.3.2 (Construction Vendor Diesel Demand). No hauling trips are anticipated during construction. Total gasoline consumption from worker trips is estimated to be 2,915.04 gallons and estimated total diesel consumption is estimated at 449.30 gallons.

**Table 6.3.1**
**Construction Worker Gasoline Demand**

| Phase | Trips | Trip Length | Total Miles | Fuel Economy | gal/day | Total Days | Total Demand |
|---|---|---|---|---|---|---|---|
| **Claremont Boulevard** | | | | | | | |
| Site Preparation | 5 | 14.7 | 73.5 | 38.7 | 1.90 | 1 | 1.90 |
| Paving | 18 | 14.7 | 264.6 | 38.7 | 6.84 | 5 | 34.19 |
| *Phase Subtotal* | | | | | | | *36.09* |
| **Arrow Route** | | | | | | | |
| Site Preparation | 5 | 14.7 | 73.5 | 38.7 | 1.90 | 1 | 1.90 |
| Paving | 18 | 14.7 | 264.6 | 38.7 | 6.84 | 5 | 34.19 |
| *Phase Subtotal* | | | | | | | *36.09* |
| **Phase II** | | | | | | | |
| Site Preparation | 18 | 14.7 | 264.6 | 38.7 | 6.84 | 10 | 68.37 |
| Grading | 15 | 14.7 | 220.5 | 38.7 | 5.70 | 20 | 113.95 |
| Building Construction | 8 | 14.7 | 117.6 | 38.7 | 3.04 | 100 | 303.88 |
| Architectural Coating | 15 | 14.7 | 220.5 | 38.7 | 5.70 | 5 | 28.49 |
| Paving | 2 | 14.7 | 29.4 | 38.7 | 0.76 | 20 | 15.19 |
| *Phase Subtotal* | | | | | | | *529.88* |
| **Foothill Boulevard** | | | | | | | |
| Site Preparation | 5 | 14.7 | 73.5 | 42.8 | 1.72 | 1 | 1.72 |
| Paving | 18 | 14.7 | 264.6 | 42.8 | 6.18 | 5 | 30.91 |
| *Phase Subtotal* | | | | | | | *32.63* |
| **Phase III** | | | | | | | |
| Site Preparation | 18 | 14.7 | 264.6 | 42.8 | 6.18 | 10 | 61.82 |
| Grading | 15 | 14.7 | 220.5 | 42.8 | 5.15 | 20 | 103.04 |
| Paving | 15 | 14.7 | 220.5 | 42.8 | 5.15 | 20 | 103.04 |
| *Phase Subtotal* | | | | | | | *267.90* |
| **Monte Vista Avenue** | | | | | | | |
| Site Preparation | 5 | 14.7 | 73.5 | 43.9 | 1.67 | 1 | 1.67 |
| Paving | 18 | 14.7 | 264.6 | 43.9 | 6.03 | 5 | 30.14 |
| *Phase Subtotal* | | | | | | | *31.81* |
| **Phase IV** | | | | | | | |
| Site Preparation | 18 | 14.7 | 264.6 | 43.9 | 6.03 | 40 | 241.09 |
| Grading | 20 | 14.7 | 294 | 43.9 | 6.70 | 110 | 736.67 |
| Building Construction | 8 | 14.7 | 117.6 | 43.9 | 2.68 | 100 | 267.88 |
| Architectural Coating | 2 | 14.7 | 29.4 | 43.9 | 0.67 | 5 | 3.35 |
| Paving | 13 | 14.7 | 191.1 | 43.9 | 4.35 | 40 | 174.12 |
| *Phase Subtotal* | | | | | | | *1,423.11* |
| **Phase V** | | | | | | | |
| Site Preparation | 18 | 14.7 | 264.6 | 43.9 | 6.03 | 10 | 60.27 |
| Grading | 20 | 14.7 | 294 | 43.9 | 6.70 | 30 | 200.91 |
| Building Construction | 8 | 14.7 | 117.6 | 43.9 | 2.68 | 100 | 267.88 |
| Paving | 15 | 14.7 | 220.5 | 43.9 | 5.02 | 5 | 25.11 |
| Architectural Coating | 2 | 14.7 | 29.4 | 43.9 | 0.67 | 5 | 3.35 |
| *Phase Subtotal* | | | | | | | *557.52* |
| | | | | | | **Total Worker Gasoline Use (gal)** | **2,915.04** |

**Table 6.3.2**
**Construction Vendor Diesel Demand**

| Phase | Trips | Trip Length | Total Miles | Fuel Efficiency | gal/day | Total Days | Total Demand |
|---|---|---|---|---|---|---|---|
| Phase II Building Construction | 3 | 6.9 | 20.7 | 10.75 | 1.93 | 100 | 192.56 |
| Phase IV Building Construction | 1 | 6.9 | 6.9 | 10.75 | 0.64 | 100 | 64.19 |
| Phase V Building Construction | 3 | 6.9 | 20.7 | 10.75 | 1.93 | 100 | 192.56 |
| **Total Vendor Diesel Use (gal)** | | | | | | | 449.30 |

Diesel fuel consumption by construction equipment has been estimated based on the construction schedule and equipment usage assumptions used in the preparation of the project air quality and climate change report. The construction schedule and equipment assumptions are also based on the SCAQMD construction survey data that accounts for equipment needs at over 50 construction sites. Fuel usage is determined by evaluating the anticipated usage of each piece of equipment at an estimated fuel use rate of 0.04 gallons per horsepower hour.[15] Equipment fuel demand for each construction phase activity is calculated as follows:

Fuel = HP * Load * Rate * Pieces * Hrs * Days

Where:

Fuel = Total Fuel Demand (gallons)
HP = Horsepower of Equipment
Load = Load Factor of Equipment
Pieces = Number of Equipment Required for Activity
Hrs = Hours per Day Equipment is in Operation
Days = Total Days of Activity

Calculations for total construction equipment diesel consumption are provided in Table 6.3.3 (Construction Equipment Diesel Demand). Total diesel consumption after construction of all proposed facilities is estimated to be 69,469.02 gallons.

**Table 6.3.3**
**Construction Equipment Diesel Demand**

| Phase and Activity | Equipment Type | Horse Power | Load Factor | Fuel Rate | Fuel Use/Hr | No. Equipment | Hrs/Day | Total Days | Total Fuel Use |
|---|---|---|---|---|---|---|---|---|---|
| **Claremont Boulevard** | | | | | | | | | |
| Site Preparation | Graders | 174 | 0.41 | 0.04 | 2.85 | 1 | 8 | 1 | 22.83 |
| Site Preparation | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 1 | 8 | 1 | 11.48 |
| Paving | Cement and Mortar Mixers | 9 | 0.56 | 0.04 | 0.20 | 4 | 6 | 5 | 24.19 |
| Paving | Pavers | 125 | 0.42 | 0.04 | 2.10 | 1 | 7 | 5 | 73.50 |
| Paving | Rollers | 80 | 0.38 | 0.04 | 1.22 | 1 | 7 | 5 | 42.56 |
| Paving | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 1 | 7 | 5 | 50.25 |
| | | | | | | | | *Phase Subtotal* | *224.81* |
| **Arrow Route** | | | | | | | | | |
| Site Preparation | Graders | 174 | 0.41 | 0.04 | 2.85 | 1 | 8 | 1 | 22.83 |
| Site Preparation | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 1 | 8 | 1 | 11.48 |
| Paving | Cement and Mortar Mixers | 9 | 0.56 | 0.04 | 0.20 | 4 | 6 | 5 | 24.19 |
| Paving | Pavers | 125 | 0.42 | 0.04 | 2.10 | 1 | 7 | 5 | 73.50 |
| Paving | Rollers | 80 | 0.38 | 0.04 | 1.22 | 1 | 7 | 5 | 42.56 |
| Paving | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 1 | 7 | 5 | 50.25 |
| | | | | | | | | *Phase Subtotal* | *224.81* |
| **Phase II** | | | | | | | | | |
| Site Preparation | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 4 | 8 | 10 | 459.39 |
| Site Preparation | Rubber Tired Dozers | 255 | 0.4 | 0.04 | 4.08 | 3 | 8 | 10 | 979.20 |
| Grading | Excavators | 162 | 0.38 | 0.04 | 2.46 | 1 | 8 | 20 | 393.98 |
| Grading | Rubber Tired Dozers | 255 | 0.4 | 0.04 | 4.08 | 1 | 8 | 20 | 652.80 |
| Grading | Graders | 174 | 0.41 | 0.04 | 2.85 | 1 | 8 | 20 | 456.58 |
| Grading | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 3 | 8 | 20 | 689.09 |
| Building Construction | Cranes | 226 | 0.29 | 0.04 | 2.62 | 1 | 4 | 100 | 1,048.64 |
| Building Construction | Forklifts | 89 | 0.2 | 0.04 | 0.71 | 2 | 6 | 100 | 854.40 |
| Building Construction | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 2 | 8 | 100 | 2,296.96 |
| Architectural | Air Compressors | 78 | 0.48 | 0.04 | 1.50 | 1 | 6 | 5 | 44.93 |

| Phase and Activity | Equipment Type | Horse Power | Load Factor | Fuel Rate | Fuel Use/Hr | No. Equipment | Hrs/Day | Total Days | Total Fuel Use |
|---|---|---|---|---|---|---|---|---|---|
| Coating | | | | | | | | | |
| Paving | Cement and Mortar Mixers | 9 | 0.56 | 0.04 | 0.20 | 4 | 6 | 20 | 96.77 |
| Paving | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 1 | 7 | 20 | 200.98 |
| Paving | Pavers | 125 | 0.42 | 0.04 | 2.10 | 1 | 7 | 20 | 294.00 |
| Paving | Rollers | 80 | 0.38 | 0.04 | 1.22 | 1 | 7 | 20 | 170.24 |
| | | | | | | | | *Phase Subtotal* | *8,637.96* |
| **Foothill Boulevard** | | | | | | | | | |
| Site Preparation | Graders | 174 | 0.41 | 0.04 | 2.85 | 1 | 8 | 1 | 22.83 |
| Site Preparation | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 1 | 8 | 1 | 11.48 |
| Paving | Cement and Mortar Mixers | 9 | 0.56 | 0.04 | 0.20 | 4 | 6 | 5 | 24.19 |
| Paving | Pavers | 125 | 0.42 | 0.04 | 2.10 | 1 | 7 | 5 | 73.50 |
| Paving | Rollers | 80 | 0.38 | 0.04 | 1.22 | 1 | 7 | 5 | 42.56 |
| Paving | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 1 | 7 | 5 | 50.25 |
| | | | | | | | | *Phase Subtotal* | *224.81* |
| **Phase III** | | | | | | | | | |
| Site Preparation | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 4 | 8 | 10 | 459.39 |
| Site Preparation | Rubber Tired Dozers | 255 | 0.4 | 0.04 | 4.08 | 3 | 8 | 10 | 979.20 |
| Grading | Excavators | 162 | 0.38 | 0.04 | 2.46 | 1 | 8 | 20 | 393.98 |
| Grading | Rubber Tired Dozers | 255 | 0.4 | 0.04 | 4.08 | 1 | 8 | 20 | 652.80 |
| Grading | Graders | 174 | 0.41 | 0.04 | 2.85 | 1 | 8 | 20 | 456.58 |
| Grading | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 3 | 8 | 20 | 689.09 |
| Paving | Pavers | 125 | 0.42 | 0.04 | 2.10 | 2 | 8 | 20 | 672.00 |
| Paving | Rollers | 80 | 0.38 | 0.04 | 1.22 | 2 | 8 | 20 | 389.12 |
| Paving | Paving Equipment | 130 | 0.36 | 0.04 | 1.87 | 2 | 8 | 20 | 599.04 |
| | | | | | | | | *Phase Subtotal* | *5,291.20* |
| **Monte Vista Avenue** | | | | | | | | | |
| Site Preparation | Graders | 174 | 0.41 | 0.04 | 2.85 | 1 | 8 | 1 | 22.83 |
| Site Preparation | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 1 | 8 | 1 | 11.48 |
| Paving | Cement and Mortar Mixers | 9 | 0.56 | 0.04 | 0.20 | 4 | 6 | 5 | 24.19 |
| Paving | Pavers | 125 | 0.42 | 0.04 | 2.10 | 1 | 7 | 5 | 73.50 |
| Paving | Rollers | 80 | 0.38 | 0.04 | 1.22 | 1 | 7 | 5 | 42.56 |
| Paving | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 1 | 7 | 5 | 50.25 |
| | | | | | | | | *Phase Subtotal* | *224.81* |

| Phase and Activity | Equipment Type | Horse Power | Load Factor | Fuel Rate | Fuel Use/Hr | No. Equipment | Hrs/Day | Total Days | Total Fuel Use |
|---|---|---|---|---|---|---|---|---|---|
| **Phase IV** | | | | | | | | | |
| Site Preparation | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 4 | 8 | 40 | 1,837.57 |
| Site Preparation | Rubber Tired Dozers | 255 | 0.4 | 0.04 | 4.08 | 3 | 8 | 40 | 3,916.80 |
| Grading | Scrapers | 361 | 0.48 | 0.04 | 6.93 | 2 | 8 | 110 | 12,198.91 |
| Grading | Excavators | 162 | 0.38 | 0.04 | 2.46 | 2 | 8 | 110 | 4,333.82 |
| Grading | Rubber Tired Dozers | 255 | 0.4 | 0.04 | 4.08 | 1 | 8 | 110 | 3,590.40 |
| Grading | Graders | 174 | 0.41 | 0.04 | 2.85 | 1 | 8 | 110 | 2,511.17 |
| Grading | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 2 | 8 | 110 | 2,526.66 |
| Building Construction | Cranes | 226 | 0.29 | 0.04 | 2.62 | 1 | 4 | 100 | 1,048.64 |
| Building Construction | Forklifts | 89 | 0.2 | 0.04 | 0.71 | 2 | 6 | 100 | 854.40 |
| Building Construction | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 2 | 8 | 100 | 2,296.96 |
| Architectural Coating | Air Compressors | 78 | 0.48 | 0.04 | 1.50 | 1 | 6 | 5 | 44.93 |
| Paving | Pavers | 125 | 0.42 | 0.04 | 2.10 | 1 | 6 | 40 | 504.00 |
| Paving | Rollers | 80 | 0.38 | 0.04 | 1.22 | 1 | 7 | 40 | 340.48 |
| Paving | Cement and Mortar Mixers | 9 | 0.56 | 0.04 | 0.20 | 1 | 6 | 40 | 48.38 |
| Paving | Paving Equipment | 130 | 0.36 | 0.04 | 1.87 | 1 | 8 | 40 | 599.04 |
| Paving | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 1 | 8 | 40 | 459.39 |
| | | | | | | | | *Phase Subtotal* | *37,111.55* |
| **Phase V** | | | | | | | | | |
| Site Preparation | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 4 | 8 | 10 | 459.39 |
| Site Preparation | Rubber Tired Dozers | 255 | 0.4 | 0.04 | 4.08 | 3 | 8 | 10 | 979.20 |
| Grading | Scrapers | 361 | 0.48 | 0.04 | 6.93 | 2 | 8 | 30 | 3,326.98 |
| Grading | Excavators | 162 | 0.38 | 0.04 | 2.46 | 2 | 8 | 30 | 1,181.95 |
| Grading | Rubber Tired Dozers | 255 | 0.4 | 0.04 | 4.08 | 1 | 8 | 30 | 979.20 |
| Grading | Graders | 174 | 0.41 | 0.04 | 2.85 | 1 | 8 | 30 | 684.86 |
| Grading | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 2 | 8 | 30 | 689.09 |
| Building Construction | Cranes | 226 | 0.29 | 0.04 | 2.62 | 1 | 6 | 100 | 1,572.96 |
| Building | Forklifts | 89 | 0.2 | 0.04 | 0.71 | 3 | 8 | 100 | 1,708.80 |

| Phase and Activity | Equipment Type | Horse Power | Load Factor | Fuel Rate | Fuel Use/Hr | No. Equipment | Hrs/Day | Total Days | Total Fuel Use |
|---|---|---|---|---|---|---|---|---|---|
| Construction | | | | | | | | | |
| Building Construction | Generator Sets | 84 | 0.74 | 0.04 | 2.49 | 1 | 8 | 100 | 1,989.12 |
| Building Construction | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 3 | 7 | 100 | 3,014.76 |
| Building Construction | Welders | 46 | 0.45 | 0.04 | 0.83 | 1 | 8 | 100 | 662.40 |
| Paving | Pavers | 125 | 0.42 | 0.04 | 2.10 | 1 | 7 | 5 | 73.50 |
| Paving | Rollers | 80 | 0.38 | 0.04 | 1.22 | 1 | 7 | 5 | 42.56 |
| Paving | Air Compressors | 78 | 0.48 | 0.04 | 1.50 | 1 | 6 | 5 | 44.93 |
| Paving | Cement and Mortar Mixers | 9 | 0.56 | 0.04 | 0.20 | 4 | 6 | 5 | 24.19 |
| Paving | Tractors/Loaders/Backhoes | 97 | 0.37 | 0.04 | 1.44 | 1 | 7 | 5 | 50.25 |
| Architectural Coating | Air Compressors | 78 | 0.48 | 0.04 | 1.50 | 1 | 6 | 5 | 44.93 |
| | | | | | | | | *Phase Subtotal* | *17,529.07* |
| | | | | | | | | **Total Construction Equipment Diesel Demand (gal)** | **69,469.02** |

## Operational Activities

Mobile Sources

Staff, students, vendors, and visitors of the proposed sports facilities will result in the generation of vehicle trips to and from the project site. This will result in the use of gasoline and diesel fuels over the life of the project. Vehicle trips from the proposed project were estimated in the project traffic study (Appendix L) under four scenarios analyzing weekday practice and game activities and weekend game activities based on current use of existing facilities and anticipated use of new facilities. Similar to construction worker and vendor trips, fuel consumption by operation-related vehicles will depend on the number of trips and the length of the trip. Operational trip type, trip length, and fleet mix were generated in CalEEMod from data provided by ARB and SCAQMD. Total annual trips were estimated based on current operations of existing sports facilities and anticipated use of the additional facilities. One hundred percent of trips are assumed to be student Home to School (H-S) trips and are assumed to run on gasoline. Annual operational fuel demand was calculated as follows:

$$Fuel_{TT} = \frac{Trips * TTP_{TT} * Type * TL_{TT}}{Economy}$$

Where:

Fuel = Total Annual Fuel Demand (gallons)
Trips = Total Annual Trips
TTP = Total Trip Percentage
Type = Ratio of Fleet by Fuel Type
Economy = Fuel Economy of Vehicle Fleet (miles/gallon)
TT = Trip Type

Calculations for existing annual mobile source fuel consumption are provided in Table 6.3.4 (Existing Mobile Source Gasoline Demand) and proposed annual mobile source fuel consumption is provided in Table 6.3.5 (Proposed Mobile Source Gasoline Demand). Mobile sources from the proposed project will require an addition of approximately 2,789 gallons of gasoline per year at build out of the proposed project.

**Table 6.3.4**
**Existing Mobile Source Gasoline Demand**

| Trip Type | Total Trips | Trip Length | Total Miles | Fuel Economy | Total Demand |
|---|---|---|---|---|---|
| Employee Home-to-School (Weekday) | 28,386 | 8.4 | 219,367 | 43.9 | 4,997 |
| Employee Home-to-School (Weekend) | 17,060 | 8.4 | 131,840 | 43.9 | 3,003 |
| **Total Operational Gasoline Demand (gal)** | | | | | **8,000** |

**Table 6.3.5**
**Proposed Mobile Source Gasoline Demand**

| Trip Type | Total Trips | Trip Length | Total Miles | Fuel Economy | Total Demand |
|---|---|---|---|---|---|
| Employee Home-to-School (Weekday) | 37,206 | 8.4 | 287,528 | 43.9 | 6,550 |
| Employee Home-to-School (Weekend) | 24,080 | 8.4 | 186,090 | 43.9 | 4,239 |
| **Total Operational Gasoline Demand (gal)** | | | | | **10,789** |

## Electricity and Natural Gas Use

Electricity and natural gas would be required to provide energy to the proposed sports facilities for indoor and outdoor lighting, office equipment, building cooling and heating, and water heating. Existing energy demand was estimated using CalEEMod historical calculations and proposed energy demand was estimated using CalEEMod default calculations. Existing electricity demand at existing facilities is 28,790,700 kilowatt hours per year (kWh/yr) and proposed electricity demand is 33,200,100 kWh/yr. Net electricity demand for the proposed project will be approximately 4,409,400 kilowatt hours per year (kWh/yr). Existing natural gas demand at existing facilities is 44,942,100 thousand British Thermal Units per year (k/BTU/yr) and proposed natural gas demand is 51,472,600 kBTU/yr. Net natural gas demand will be approximately 6,530,500 thousand British Thermal Units per year (kBTU/yr).

## Water and Wastewater

Electricity will indirectly be required to treat and convey water to the project site and convey wastewater away from the project site. Water demand for the proposed project was estimated using fixture counts and irrigation estimates provided by Claremont McKenna College and Pitzer College. Electricity demand for water-related energy is estimated using the CEC *Refining Estimates of Water-Related Energy Use in California*.[16] Water demand is estimated to increase by approximately 2.59 million gallons per year (MGY) (without consideration of CALGREEN 2011 building code requirements). Wastewater discharges were estimated using existing and proposed fixture counts. Net wastewater generation is approximately 1.54 million gallons per year. Indirect energy demand for water and wastewater purposes is calculated as follows:

$$Indirect_W = (D_W * Supply) + (D_W * Treat) + (D_W * Distribute)$$

Where:

Indirect = Indirect Electricity Demand (kWh/year)
D = Demand/Discharge (million gallons per year)
Supply = Electricity Required to Supply (kWh)
Treat = Electricity Required to Treat (kWh)
Distribute = Electricity Required to Convey (kWh)
W = Water or Wastewater

Indirect electricity demand for water and wastewater treatment and conveyance is detailed in Table 6.3.6 (Existing Indirect Electricity Demand) for existing conditions and Table 6.3.7 (Proposed Indirect Electricity Demand) for proposed project conditions. Water and wastewater treatment and conveyance will increase by approximately 31,717 kWh/yr of electricity.

**Table 6.3.6**
**Existing Indirect Electricity Demand**

| Source | MGY | Supply | Treat | Distribute | Total |
|---|---|---|---|---|---|
| Water | 4.94 | 9,727 | 111 | 1,272 | 54,847 |
| Wastewater | 0.55 | -- | 1,911 | | 1,051 |
| **Total Indirect Demand (kWh/yr)** | | | | | 55,898 |

**Table 6.3.7**
**Proposed Indirect Electricity Demand**

| Source | MGY | Supply | Treat | Distribute | Total |
|---|---|---|---|---|---|
| Water | 7.53 | 9,727 | 111 | 1,272 | 83,621 |
| Wastewater | 2.09 | -- | 1,911 | | 3,994 |
| **Total Indirect Demand (kWh/yr)** | | | | | 87,615 |

### Energy Demand by Source

Existing long-term energy demand is summarized in Table 6.3.8 (Existing Energy Demand by Source), proposed short- and long-term energy demand is summarized in Table 6.3.9 (Proposed Energy Demand by Source), and net energy demand by source is summarized in Table 6.3.10 (Net Energy Demand by Source). Electricity demand has been summarized by production source, based on the latest *Emissions and Generation Resource Integrated Database* (eGRID) for Southern California Edison (SCE). Construction-related demand has been amortized over a 30-year period to compare to annual operational emissions.

## *Energy Conservation*

The project would be subject to state energy efficiency regulations pursuant to the California Building Code (CBC) that would reduce long-term project energy demand. These requirements would reduce wasteful, inefficient, and unnecessary consumption of energy over the long-term. The following quantifies energy demand reductions pursuant to these requirements.

### California Building Code

Pursuant to the CBC CALGREEN requirements, the project will be subject to the following requirements:[17]

- 20 percent reduction in water demand (5.303.2)
- 20 percent reduction in wastewater discharges (5.303.4)
-

Reduce Water and Wastewater Demand (5.303.2 & 5.303.4)

The minimum 20 percent reduction in water demand and wastewater discharge would decrease indoor water demand and wastewater discharges. This would result in a concurrent reduction in energy demand to supply, treat, and convey water and wastewater.

## Conclusion

With implementation of existing regulations, energy demand for the proposed project will not be wasteful, inefficient, or unnecessary.

**Table 6.3.8**
**Existing Energy Demand by Source**

| Activity | Gasoline (gal/yr) | Diesel (gal/yr) | Natural Gas (kBTU/yr) | Electricity (kWh/yr) | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Coal | Oil | Natural Gas | Nuclear | Hydro |
| *Construction* | | | | | | | | |
| Worker | -- | -- | -- | -- | -- | -- | -- | -- |
| Vendor | -- | -- | -- | -- | -- | -- | -- | -- |
| Equipment | -- | -- | -- | -- | -- | -- | -- | -- |
| *Operational* | | | | | | | | |
| Mobile | 8,000 | -- | -- | -- | -- | -- | -- | -- |
| Natural Gas | -- | -- | 44,942,100 | -- | -- | -- | -- | -- |
| Direct Electricity | -- | -- | -- | 9,312,899 | 25,393 | 19,031 | 15,245,741 | 4,187,636 |
| Indirect Electricity | -- | -- | -- | 18,081 | 49 | 37 | 29,600 | 8,130 |
| **Total** | **8,000** | **--** | **44,942,100** | **9,330,980** | **25,443** | **19,068** | **15,275,341** | **4,195,767** |
| Source: MIG\| Hogle-Ireland 2014 | | | | | | | | |

**Table 6.3.9**
**Proposed Energy Demand by Source**

| Activity | Gasoline (gal/yr) | Diesel (gal/yr) | Natural Gas (kBTU/yr) | Electricity (kWh/yr) | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Coal | Oil | Natural Gas | Nuclear | Hydro |
| *Construction* | | | | | | | | |
| Worker | 97 | -- | -- | -- | -- | -- | -- | -- |
| Vendor/Hauler | -- | 15 | -- | -- | -- | -- | -- | -- |
| Equipment | -- | 2,316 | -- | -- | -- | -- | -- | -- |
| *Operational* | | | | | | | | |
| Mobile | 10,789 | -- | -- | -- | -- | -- | -- | -- |
| Natural Gas | -- | -- | 51,472,600 | -- | -- | -- | -- | -- |
| Direct Electricity | -- | -- | -- | 10,739,203 | 29,282 | 21,945 | 17,580,681 | 4,828,988 |
| Indirect Electricity | -- | -- | -- | 28,341 | 77 | 58 | 46,395 | 12,744 |
| **Total** | **10,886** | **2,331** | **51,472,600** | **10,767,544** | **29,360** | **22,003** | **17,627,077** | **4,841,731** |
| Source: MIG\| Hogle-Ireland 2014 | | | | | | | | |

**Table 6.3.10**
**Net Energy Demand by Source**

| Activity | Gasoline (gal/yr) | Diesel (gal/yr) | Natural Gas (kBTU/yr) | Electricity (kWh/yr) | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Coal | Oil | Natural Gas | Nuclear | Hydro |
| *Construction* | | | | | | | | |
| Existing | -- | -- | -- | -- | -- | -- | -- | -- |
| Proposed | 97 | 2,331 | -- | -- | -- | -- | -- | -- |
| *Net Construction Demand* | *+97* | *+2,331* | -- | -- | -- | -- | -- | -- |
| *Operational* | | | | | | | | |
| Existing | 8,000 | -- | 44,942,100 | 9,330,980 | 25,443 | 19,068 | 15,275,341 | 4,195,767 |
| Proposed | 10,789 | -- | 51,472,600 | 10,767,544 | 29,360 | 22,003 | 17,627,077 | 4,841,731 |
| *Net Operational Demand* | *+2,789* | -- | *+6,530,500* | *+1,436,564* | *+3,917* | *+2,935* | *+2,351,736* | *+645,964* |
| **Total Net Demand** | **+2,886** | **+2,331** | **+6,530,500** | **+1,436,564** | **+3,917** | **+2,935** | **+2,351,736** | **+645,964** |
| Source: MIG\| Hogle-Ireland 2014 | | | | | | | | |

## Significant Irreversible Environmental Changes 6.4

The proposed sports facilities would be developed in an area that is partially disturbed, was previously used as an aggregate quarry, and is currently being used as an inert landfill, and temporary construction parking and staging area. Once the project site is developed with the proposed sports facilities and potential other institutional uses on the six parcels not included on the Master Site Plan and Site Plan, reversion to open space for conservation, resource management, resources extraction, or other purposes is highly unlikely.

An irreversible commitment of non-renewable natural resources is inherent in any development project, or in the case of the East Campus Project, phased development over a period of time. Such resources would include, but are not limited to, lumber and other related forest products for building construction; sand and gravel for driveways and grading activities, a variety of metals used in the manufacture of building materials such as steel, copper piping and wiring, etc., along with hydrocarbon-based fuel sources that require extraction and chemical alteration and/or combustion of natural resources such as oil, natural gas, coal, and shale.

Build-out of the Master Site Plan and Site Plan represents a long-term commitment to the consumption of energy for electricity, water and space heating, water supply and treatment, and fuels to power various modes of motorized transportation including automobiles and landscape equipment. Impacts associated with long term energy consumption would depend on the energy sources and methods of producing energy. Typical hydrocarbon-based sources produce higher volumes of various criteria air pollutants and greenhouse gases than renewable energy sources such as wind and solar power or alternative fuel sources such as biodiesel and cellulosic ethanol. To the extent that hydrocarbon based fuel sources are replaced with less polluting, renewable sources; emissions would be reduced.

## Unavoidable Significant Environmental Impacts 6.5

The analysis presented in Section 4.9 concluded that unavoidable significant environment impacts related to project operational noise would occur as a result of the East Campus Project.

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[1] City of Upland. General Plan. Land Use Element. 1996
[2] City of Upland. Municipal Code.
[3] City of Upland. College Park Specific Plan. July 2005
[4] City of Upland. Upland Crossing Specific Plan Draft Environmental Impact Report. May 2006
[5] City of Claremont. General Plan Final program Environmental Impact Report. October 2006
[6] Pitzer College. Pitzer College Master Plan. April 2001
[7] Claremont McKenna College. Master Plan. June 2012
[8] Pitzer College. Pitzer College Master Plan. April 2001

[9] United Nations. Framework Convention on Climate Change. Kyoto Protocol. http://unfccc.int/kyoto_protocol/items/2830.php/ [July 25, 2012]

[10] California Department of Forestry and Fire Protection, Very High Fire Hazard Severity Zones in LRA. SW San Bernardino County. November 2008

[11] City of Upland. Upland Crossing Specific Plan Draft Environmental Impact Report. May 2006

[12] Southern California Association of Governments. Adopted Growth Forecast. http://www.scag.ca.gov/forecast/index.htm [April 2015]

[13] California Air Resources Board. Technical Assessment. Comparison of Greenhouse Gas Reductions Under CAFÉ Standards and ARB Regulations Adopted Pursuant to AB1493. January 2008

[14] National Highway Traffic Safety Administration. Draft Environmental Impact Statement. Medium- and Heavy-Duty Fuel Efficiency Improvement Program. October 2010

[15] Pratt, David. Fundamentals of Construction Estimating. 2nd Ed. 2004

[16] California Energy Commission. Refining Estimates of Water-Related Energy Use in California. 2006

[17] California Building Standards Commission. California Building Code. January 2011

# Effects Found not to be Significant 7.0

CEQA Guidelines Section 15128 requires a statement indicating the reason that various possible significant effects are determined not to be significant and therefore are not discussed in the EIR. The Initial Study prepared for the East Campus Project and circulated on February 11, 2010 determined that the impacts listed below would not occur or would be less than significant; therefore, these topics have not been further analyzed in this DEIR. Please refer to Appendix B (Initial Study) for explanations of the basis for these conclusions.

## *Aesthetics*

- Scenic Vistas – No Impact
- Scenic Resources – No Impact
- Visual Character – No Impact

## *Agriculture Resources*

- Farmland Mapping and Monitoring Program – No Impact
- Agricultural Zoning and Land Use – No Impact
- Farmland Conversion – No Impact

## *Air Quality*

- Air Quality Management Plan – No Impact
- Odors – No Impact

## *Biological Resources*

Please note that although the following topics were originally screened out of the EIR in the project Initial Study, due to the high level of interest in biological resources among the community within the City of Claremont, impacts related to sensitive plant communities, wetlands, and wildlife migration were re-analyzed in Section 4.3.

- Sensitive Natural Communities – Less than Significant Impact with Mitigation Incorporated
- Wetlands – No Impact
- Wildlife Migration – Less than Significant with Mitigation Incorporated
- Conservation Planning – No Impact

## *Cultural Resources*

Although the discussion of Cultural Resources was screened out of the EIR in the project Initial Study, comments were submitted by the Native American Heritage Commission regarding these topics; therefore, the discussion from the Initial Study has been included for reference. The supporting documentation has been attached as Appendix P. Regulatory requirements have been included as project conditions in this section.

- Historical Resources – No Impact
- Archaeological Resources – No Impact
- Paleontological Resources – No Impact
- Human Remains – Less than Significant Impacts

*A Historical/Archaeological Resources Survey Report was prepared by CRM Tech (Revised July 3, 2007).[1] Based on a records search and a field survey of the project site, CRM Tech did not encounter any historical or archaeological resources as defined by CEQA, within or immediately adjacent to the project area. The field survey was conducted walking parallel north-south transects spaced 25 meters apart, and systematically examined the entire project site for any evidence of human activities dating to prehistoric or historic periods. The records search resulted in a total of 14 cultural resources recorded in the project vicinity; none of which were located within the project site. Additionally, based on information contained in the Upland Crossings Specific Plan Environmental Impact Report, the likelihood of paleontological resources is minimal due to the type of soils present on-site. The project site is highly disturbed from past aggregate extraction, current landfill activities of inert waste, and continuous grading of the fill on the alluvial surface of the quarry bottom, thus the potential to encounter paleontological resources such as fossilized materials is greatly diminished. Excavation into native subsurface materials is not anticipated for the grading required for the proposed sports facilities. Adherence to California Health and Safety Code Section 7050.5, requiring the cessation of grading and construction activities and the contacting of the coroner if human remains are uncovered would mitigate any potential significant impacts to human remains. This project is not expected to result in any adverse impacts to cultural or paleontological resources and no additional analysis or mitigation is required.*

## Standard Conditions

**HSC 7050.5**

**California Health and Safety Code**. Grading and construction activities required for development of the proposed sports facilities and associated infrastructure shall adhere to the requirements of the California Health and Safety Code Section 7050.5 should any human remains be uncovered including, but not limited to, cessation of grading activities in the area and the contacting of the County Coroner to investigate.

## Scoping Comments, Native American Heritage Commission

The Native American Heritage Commission (NAHC) submitted a letter with comments related to cultural resources on February 18, 2010. The Initial Study (Appendix B) prepared for the project found that all impacts related to cultural resources would be less than significant; therefore, cultural resources were not discussed in this EIR. NAHC comments are addressed below.

H.1 The NAHC notified the City of Upland that the project site is not located within the Sacred Lands File (SLF) but requested that local tribes be contacted to identify any additional cultural resources that may be impacted

by the project. The project cultural resource report and the project Initial Study found that no impact to cultural resource would occur; therefore, Native American tribes were not contacted during the preparation of this EIR.

H.2 This comment provides guidance related to consultation with Native American tribes and the National Environmental Policy Act (NEPA). The proposed project is not subject to NEPA; therefore, this comment does not apply to this project.

H.3 This comment indicates that the proposed project is subject to Public Resources Code Section 5097.98 and Health and Safety Code Section 7050.5 related to the accidental discovery of archaeological resources or human remains. As discussed in the Initial Study, impacts to archaeological resources are not anticipated and therefore avoidance or other mitigation will not be necessary; however, it is recognized that if any archaeological materials are uncovered during earth moving activities, that such activities would need to be stopped so that the artifact(s) may be recovered. The Initial Study also recognizes the requirements of the Health and Safety Code regarding discovery of human remains.

H.4 Similar to comment H.1, this comment recommends consultation with local tribes to discuss the potential for cultural resources on the project site. The project cultural resource report and the project Initial Study found that no impact to cultural resource would occur; therefore, Native American tribes were not contacted during the preparation of this EIR.

H.5 Similar to comment H.3, this comment references the Health and Safety Code and Public Resources Code relating to discovery of human remains. The Initial Study recognizes the requirements of the Health and Safety Code regarding discovery of human remains.

## *Geology and Soils*

- Surface Fault Rupture – Less than Significant Impact
- Loss of Topsoil – Less than Significant Impact
- Expansive Soils – Less than Significant Impact
- Septic Tanks – No Impact

## *Hazards and Hazardous Materials*

- Transport, Use, and Disposal of Hazardous Materials – Less than Significant Impact
- Hazardous Materials Emissions – No Impact
- Hazardous Materials Sites – No Impact
- Emergency Planning – No Impact
- Wildland Fires – Less than Significant Impact

## Hydrology and Water Quality

- Water and Wastewater Standards – Less than Significant Impact
- Groundwater Supplies and Recharge – Less than Significant Impact
- On – and Off-Site Erosion – Less than Significant Impact
- On- and Off-Site Flooding – Less than Significant Impact
- Storm Drain Capacity and Runoff – No Impact
- 100-Year Flooding and Housing – No Impact
- Impedance or Redirection of 100-Year Flooding – No Impact
- Dam or Levee Failure – Less than Significant Impact
- Seiche, Tsunami, or Mudflow – Less than Significant Impact
- Stormwater Velocity and Runoff – No Impact

## Land Use and Planning

- Division of Communities – No Impact
- Planning Conflicts – Less than Significant Impact (please see Section 4.6 for the discussion of consistency with the Cable Airport Comprehensive Land Use Compatibility Plan)
- Conservation Planning – No Impact

## Population and Housing

- Population Growth – No Impact
- Displacement of Housing – No Impact
- Displacement or People – No Impact

## Public Services

- Schools – No Impact
- Parks – No Impact
- Other Services – No Impact

## Recreation

- Deterioration of Facilities – No Impact
- Expansion of Facilities – No Impact

## Transportation and Traffic

- Changes in Air Traffic Patterns – Less than Significant Impact
- Emergency Access – No Impact

## Utilities and Service Systems

- Wastewater Treatment Requirements – No Impact
- Solid Waste Regulations – No Impact

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[1] CRM Tech. Historical/Archaeological Resources Survey Report, Claremont University Consortium Project. July 2007

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