Final EIR for the

Rancho de Paseo Valencia Project

SCH # 2009041015

MAY 2011

PREPARED FOR:

City Of Corona
Community Development Department
400 S. Vicentia Avenue
Corona, CA 92882

PREPARED BY:

DUDEK

1650 Spruce Street, Suite 240
Riverside, CA 92507

FINAL
ENVIRONMENTAL IMPACT REPORT
SCH # 2009041015

Rancho de Paseo Valencia

Lead Agency

City of Corona
400 S. Vicentia Ave
Corona, CA 92882
Contact: Mr. Jason Moquin, Senior Planner
951.736.2268

Prepared By:

DUDEK
Contact: Sarah Lozano
1650 Spruce Street, Suite 240
Riverside, California, 92507

MAY 2011

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SECTION 1.0
INTRODUCTION

The Draft Environmental Impact Report (DEIR) for the Rancho de Paseo Valencia (RdPV) was circulated for public review and comment beginning on February 3, 2011 and ending on March 21, 2011. As required by the California Environmental Quality Act (CEQA), this Final EIR document responds to comments received on the Draft EIR, plus any changes, corrections, or additions that will be made to the Draft EIR as a result of comments on or responses to comments on the DEIR.

As required by Section 15132 of the State CEQA Guidelines, this Final EIR will respond to comments regarding significant environmental issues and concerns raised in the public review and consultation process. This document provides responses to comments on significant environmental points, describing the disposition of the issue, explaining the DEIR analysis, supporting DEIR conclusions, or providing new information or corrections, as appropriate.

The FEIR document is organized as follows:

Section 1 This section provides a discussion of the relationship of this document with the Draft EIR. It also discusses the structure of this document.

Section 2 This section lists the agencies/organizations/individuals that commented on the contents of the Draft EIR.

Section 3 This section includes the comments received, and the responses to the comments that were received on the Draft EIR.

Section 4 This section summarizes changes or additions to the Draft EIR described in Section 3.

Section 5 This section summarizes the requirements of the Mitigation Monitoring Program that has been prepared for this project, consistent with CEQA requirements prior to certification of the Final EIR (see FEIR Appendix A).

The Response to Comments portion of this document (Section 3) is considered an integral part of the Final EIR, which also includes the DEIR and the technical appendices. These documents, and other information contained in the environmental record, constitute the Final EIR for the Rancho de Paseo Valencia project.

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SECTION 2.0
LIST OF COMMENTORS

A list of public agencies, organization, and individuals that provided comments on the DEIR is presented below. Each comment letter (L) has been assigned an alphanumeric designation (L1, L2, etc.). Each comment within each letter has been assigned an additional numerical designation so that each comment can be cross-referenced with an individual response (L1-1, L1-2, etc.). Responses follow each comment letter:

Letter	Sender	Date Received
L1	OPR Clearinghouse Distribution Record	March 24, 2011
L2	Department of Toxic Substances Control	March 16, 2011
L3	Pechanga Cultural Resources	March 17, 2011
L4	Regional Water Quality Control Board	March 18, 2011
L5	Department of Fish and Game	March 28, 2011

The following e-mail was also sent by a local resident and received by City staff during the public review period. The e-mail (EM) has been assigned an alphanumeric designation (EM1). Each comment within the e-mail has been assigned an additional numerical designation so that each comment can be crossed-referenced with an individual response (EM1-1, EM1-2, etc.). Responses follow the comment letter.

E-mail	Sender	Date Received
EM1	Mr. Samuel Contino	February 23, 2011

In addition, comments were presented by members of the public at a Planning Commission hearing on March 7, 2011. These comments were related to the overall project rather than the CEQA document and have been addressed separately.

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SECTION 3.0
COMMENT LETTERS AND RESPONSES TO COMMENTS

Following are the letters and e-mail received during the public review period on the DEIR, followed by responses to the comments that were received. Where a comment results in a change to the DEIR, the response provides a specific section reference, along with the new EIR text. Written letters (L) are presented first, then the e-mail (EM). In addition, the item containing the comments is presented first (i.e., letter, e-mail) followed by the written response.

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STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

JERRY BROWN
GOVERNOR

Received
MAR 24 2011
Community Development Dept.

March 22, 2011

Letter L1

Jason Moquin
City of Corona
400 S. Vincentia Avenue
Corona, CA 92882

Subject: Rancho de Paseo Valencia (Tract 34760, SPA08-005 & Annexation 110)
SCH#: 2009041015

Dear Jason Moquin:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on March 21, 2011, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

L1-1

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

1400 10th Street P.O. Box 3044 Sacramento, California 95812-3044
(916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

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Letter 1. Governor's Office of Planning and Research, State Clearinghouse

RESPONSE L1-1

This comment acknowledges that the City has complied with the review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. State and local agencies that submitted comments include the Department of Fish and Game, the Department of Toxic Substances Control and the Regional Water Quality Control Board. Those comments and responses are included herein. Any questions related to the public review period and other technicalities should be directed to the State Clearinghouse at 916.445.0613.

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Received
MAR 16 2011
Community Development Dept.

Department of Toxic Substances Control

Linda S. Adams
Acting Secretary for
Environmental Protection

Leonard E. Robinson
Acting Director
5796 Corporate Avenue
Cypress, California 90630

Edmund G. Brown Jr.
Governor

March 15, 2011

Letter L2

Mr. Jason Moquin, Senior Planner
City of Corona Community Development Department
400 South Vicentia Avenue
Corona, California 92882

NOTICE OF COMPLETION & ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE RANCHO DE PASEO VALENCIA PROJECT (SCH# 2009041015)

Dear Mr. Moquin:

The Department of Toxic Substances Control (DTSC) has received your submitted Notice of Availability of the Environmental Impact Report for the above-mentioned project. The following project description is stated in your document: "The proposed project would result in the subdivision of 64.3 acres into 34 single-family detached residential lots. As 39.9 acres is located in the City of Corona, 25.5 acres (which includes 1.1 acres that are not a part of the subdivision proposed project site) would require annexation from the unincorporated area of Riverside County in the City's Sphere of Influence. Project approvals include a Tentative Tract Map to subdivide the site into 34 single family residential lots, an amendment to the Mountain Gate Specific Plan to include the annexed 25.5 acres into the specific plan and zone it for residential purposes, and an annexation to incorporate the adjacent 25.5 acres into the City of Corona making the overall size of the project 65.4 acres within the City. The project will also include certification of an EIR by the City Council". L2-1

DTSC sent you comments on the Notice of Preparation on 4/23/2009. Based on the review of the submitted document DTSC has the additional following comments:

1) If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, Chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If it is determined that hazardous wastes will be generated, the facility should also obtain a United States Environmental Protection L2-2

Agency Identification Number by contacting (800) 618-6942. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting your local CUPA. L2-2 Cont.

2) DTSC can provide cleanup oversight through an Environmental Oversight Agreement (EOA) for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement (VCA) for private parties. For additional information on the EOA or VCA, please see www.dtsc.ca.gov/SiteCleanup/Brownfields, or contact Ms. Maryam Tasnif-Abbasi, DTSC's Voluntary Cleanup Coordinator, at (714) 484-5489. L2-3

If you have any questions regarding this letter, please contact me at ashami@dtsc.ca.gov, or by phone at (714) 484-5472. L2-4

Sincerely,

Al Shami
Project Manager
Brownfields and Environmental Restoration Program

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
state.clearinghouse@opr.ca.gov

CEQA Tracking Center
Department of Toxic Substances Control
Office of Environmental Planning and Analysis
P.O. Box 806
Sacramento, California 95812
ADelacr1@dtsc.ca.gov

CEQA # 3147

Letter 2. Department of Toxic Substances Control

Response L2-1

This comment provides the name and project description of the proposed project as stated in the DEIR. This comment does not raise any specific issues regarding the environmental analysis for the proposed project. No additional response is provided.

Response L2-2

This comment states that hazardous wastes generated by the proposed operations shall be managed in accordance with the California Hazardous Waste Control law, that a USEPA Identification Number shall be obtained, and that the local Certified Unified Program Agency shall be contacted to determine if authorization is necessary. As stated on page 5.7-4 of the DEIR, it has been determined that small quantities of household hazardous materials (e.g., oil, gasoline, paint, fertilizers, pesticides, cleaners) would be utilized during construction and operation of the proposed project. The use, handling, transport, storage and disposal of all hazardous materials will occur in accordance with all federal, state and local environmental health and safety regulations.

Response L2-3

A Phase I Environmental Site Assessment was conducted for the proposed project site. Page 5.7-5 of the DEIR describes the results of the Phase I. No evidence of hazardous materials, waste or petroleum contamination was observed. No evidence of above or underground storage tanks was observed. Agricultural residue soil sampling was conducted at the project site and did not result in detectable concentrations of restricted agricultural chemical residues. No hazards are expected. However, while not evident during the Phase I Assessment, concealed tanks or agricultural by-products could be encountered during initial site grading of the proposed project site; therefore mitigation is provided on page 5.7-7.

The City acknowledges that DTSC can provide cleanup oversight through an Environmental Oversight Agreement for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement for private parties. Oversight would be provided by a private consultant who will monitor during grading. Should tanks be found, they would be evaluated and/or removed in accordance with accepted standards and protocol. The website and contact information are noted.

Response L2-4

Comment noted.

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PECHANGA CULTURAL RESOURCES
Temecula Band of Luiseño Mission Indians

Post Office. Box 2183 • Temecula, CA 92593
Telephone (951) 308-9295 • Fax (951) 506-9491

Chairperson:
Germaine Arenas

Vice Chairperson:
Mary Bear Magee

Committee Members:
Evie Gerber
Darlene Miranda
Bridgett Barcello Maxwell
Aurelia Marruffo
Richard B. Scearce, III

Director:
Gary DuBois

Coordinator:
Paul Macarro

Cultural Analyst:
Anna Hoover

Monitor Supervisor:
Jim McPherson

March 17, 2011

VIA E-MAIL and USPS

Letter L3

Mr. Jason Moquin
Senior Planner
City of Corona Community Development Dept
400 S. Vicentia Avenue
Corona, CA 92882

Re: Pechanga Tribe Comments on the Draft Environmental Impact Report (DEIR) for the Rancho de Paseo Valencia (Tract 34760) Project

Dear Mr. Moquin:

Thank you for inviting us to submit comments on the above named Project. This comment letter is written on behalf of the Pechanga Band of Luiseño Indians (hereinafter, "the Tribe"), a federally recognized Indian tribe and sovereign government. The Tribe is formally requesting, pursuant to Public Resources Code §21092.2, to be notified and involved in the entire CEQA environmental review process for the duration of the above referenced project (the "Project").

The Tribe requests to be directly notified of all public hearings and scheduled approvals concerning this Project. Please also incorporate these comments into the record of approval for this Project. L3-1

The Tribe submits these comments concerning the Project's potential impacts to cultural resources in conjunction with the environmental review of the Project. The Tribe reserves the right to fully participate in the environmental review process, as well as to provide further comment on the Project's impacts to cultural resources and potential mitigation for such impacts. Further, the Tribe reserves the right to participate in any regulatory processes associated with the project and to provide comment on issues pertaining to the regulatory process and Project approval.

Sacred Is The Duty Trusted Unto Our Care And With Honor We Rise To The Need

THE CITY OF CORONA MUST INCLUDE INVOLVEMENT OF AND CONSULTATION WITH THE PECHANGA TRIBE IN ITS ENVIRONMENTAL REVIEW PROCESS

It has been the intent of the Federal Government[1] and the State of California[2] that Indian tribes be consulted with regard to issues which impact cultural and spiritual resources, as well as other governmental concerns. The responsibility to consult with Indian tribes stems from the unique government-to-government relationship between the United States and Indian tribes. This arises when tribal interests are affected by the actions of governmental agencies and departments. In this case, it is undisputed that the project lies within the Pechanga Tribe's traditional territory. Therefore, in order to comply with CEQA and other applicable Federal and California law, it is imperative that the City of Corona consult with the Tribe in order to guarantee an adequate basis of knowledge for an appropriate evaluation of the Project effects, as well as generating adequate mitigation measures. L3-2

PECHANGA CULTURAL AFFILIATION TO PROJECT AREA

The Pechanga Tribe asserts that the Project area is part of Luiseño, and therefore the Tribe's, aboriginal territory as evidenced by the existence of Luiseño place names, *tóota yixélval* (rock art, pictographs, petroglyphs), and an extensive Luiseño artifact record in the vicinity of the Project. This culturally sensitive area is affiliated with the Pechanga Band of Luiseño Indians because of the Tribe's cultural ties to this area as well as extensive history with both this Project and other projects within the area.

The Pechanga Tribe's knowledge of our ancestral boundaries is based on reliable information passed down to us from our elders; published academic works in the areas of anthropology, history and ethno-history; and through recorded ethnographic and linguistic accounts. Of the many anthropologists and historians who have presented boundaries of the Luiseño traditional territory, none have excluded the Murrieta/Temecula area from their descriptions (Sparkman 1908; Kroeber 1925; White 1963; Harvey 1974; Oxendine 1983; Smith and Freers 1994), and such territory descriptions correspond almost identically with that communicated to the Pechanga people by our elders. While historic accounts and anthropological and linguistic theories are important in determining traditional Luiseño territory, the most critical sources of information used to define our traditional territories are our songs, creation accounts, and oral traditions. L3-3

[1] See e.g., Executive Memorandum of April 29, 1994 on Government-to-Government Relations with Native American Tribal Governments, Executive Order of November 6, 2000 on Consultation and Coordination with Indian Tribal Governments, Executive Memorandum of September 23, 2004 on Government-to-Government Relationships with Tribal Governments, and Executive Memorandum of November 5, 2009 on Tribal Consultation.
[2] See California Public Resource Code §5097.9 et seq.; California Government Code §§65351, 65352.3 and 65352.4

Pechanga Cultural Resources • Temecula Band of Luiseño Mission Indians
Post Office Box 2183 • Temecula, CA 92592

Sacred Is The Duty Trusted Unto Our Care And With Honor We Rise To The Need

Luiseño history originates with the creation of all things at *'éxva Teméeku*, in the present day City of Temecula, and dispersing out to all corners of creation (what is today known as Luiseño territory). It was at Temecula that the Luiseño deity *Wuyóot* lived and taught the people, and here that he became sick, finally expiring at Lake Elsinore. Many of our songs relate the tale of the people taking the dying *Wuyóot* to the many hot springs at Elsinore, where he died (DuBois 1908). He was cremated at *'éxva Teméeku*. It is the Luiseño creation account that connects Elsinore to Temecula, and thus to the Temecula people who were evicted and moved to the Pechanga Reservation, and now known as the Pechanga Band of Luiseño Mission Indians (the Pechanga Tribe). From Elsinore, the people spread out, establishing villages and marking their territories. The first people also became the mountains, plants, animals and heavenly bodies. L3-3 Cont.

The Pechanga Tribe has a specific legal and cultural interest in this Project as the Tribe is culturally affiliated with the geographic area, which comprises the Project property. The Tribe has submitted information regarding cultural affiliation to the City in previous comment letters for this Project, including information regarding known village complexes, trade routes and ceremonial locations within the area. The Tribe would welcome the opportunity to meet with the City to further explain and provide documentation concerning our specific cultural affiliation to lands within your jurisdiction. L3-4

COMMENTS ON THE CULTURAL SETTING AND APPENDIX E OF THE DEIR

The Tribe has previously commented on the conclusion in the Phase I Archaeological Assessment[3] (Appendix E) that uses language as the indicator to determine that the Project area lies within the Gabrielino traditional territory, and that the Luiseño people came to this area at a later point in time. The Luiseño language belongs to the Takic family of languages and is generally associated with the southwest and Northern Mexico. While both the Numic and Takic families of language belong to the greater grouping of Uto-Aztecan languages they are separate and distinct families, as are the languages in each family. Misinterpretation of these associations often leads to misrepresentation of Luiseño Territory and life ways. L3-5

The Phase I Archaeological Assessment utilizes the Shoshonean wedge theory to conclude that the Luiseño people did not have original or clear ties to this geographic area. The "Shoshonean Wedge" theory cannot be archaeologically and linguistically supported to prove cultural affiliation. The theory asserts "Approximately 1,350 YBP, a Shoshonean-speaking group from the Great Basin region moved into Riverside County, marking the transition to the Late Prehistoric Period" (3.0-3). It is believed the Proto-Uto-Aztecan (PUA) homeland was

[3] Appendix E: *A Phase I Archaeological Assessment for the Rancho Paseo de Valencia Project, City of Corona, Riverside County, California, APNs 114-040-019, 114-040-020, 275-100-003, Tentative Tract Ma 24760*, Prepared by Sara Moreno, Brian F. Smith and Associates, May 14, 2007; Revised March 11, 2009.

somewhere in northern Mexico, western Arizona and eastern southern California[4]. PUA has generally been further divided into four subgroups: Hopic, Tubatulabalic, Takic and Numic. Luiseño, Gabrielino and Cahuilla are all language groups under the Takic umbrella. Current linguistic and DNA evidence shows the break up of the Proto-Uto-Aztecan groups into these subgroups to be between 5,000 and 3,500 years before present (B.P.). Takic languages are estimated to be at least 2,500 years old. This suggests the Takic speakers moved into their present homelands 1,000 years before the Numic speakers were in the Great Basin. Archaeologists use the "Shoshonean Wedge" theory to describe the southern descending movement of the Takic speakers (incorrectly identifying them as Shoshoneans) into southern California; however, linguistic evidence does not support this hypothesis[5]. Evidence based upon linguistic and DNA data indicate the Takic speakers were forced to move out of the southern San Joaquin Valley area by a wave of Yokustan (Penutians) prior to 3,500 years B.P. Forced to move south, these Takic speakers began replacing, and intermarried with, non-Takic speakers within the Los Angeles basin, and by extension those peoples farther south, prior to 3,500 years B.P. .[6] This new evidence contradicts the old theory of a "Shoshonean Wedge" and places the Takic speakers in California 1,000 years before the Numic speakers spread across the Great Basin. L3-5 Cont.

Further, according to the Archaeological Assessment and the DEIR, the 1978 Bean and Shipek Serrano map was used to conclude that the Project area was most likely Gabrielino territory (see references p8.0-1). Generally, anthropologists and ethnographers have used information from various sources to determine tribal boundaries, ranging from language and rock art to village locations and surface artifacts. As such, the use of one map to determine tribal territory is problematic and often misleading. In this instance, the use of certain ethnographic maps is problematic, especially when ethnographers often change their tribal territory boundaries for each new study or publication. For example, the map in Bean and Saubel[7] (1972), which was not referenced in the Archaeological Assessment, clearly shows the Project area in Luiseño territory. However, in 1978, six years later, Bean[8] has altered the map to extend Cahuilla territory into what was previously associated with the Luiseño and the Gabrielino. The Pechanga Tribe is aware of as many as eight different representations of their Territorial Boundaries. However, by doing a thorough review of these maps, and cross analyzing them with information passed down from our elders through songs and stories; published academic works in the areas of anthropology, history and ethno-history; unpublished ethnographic and linguistic field notes, and our Place Name Project, the Tribe has further refined its knowledge of its ancestral L3-6

[4] Campbell, Lyle. 1997. *American Indian Languages: The Historical Linguistics of Native America.* Oxford University Press, New York.
Hill, Jane. 2001. Proto-Uto-Aztecan: A Community of Cultivators in Central Mexico? *American Anthropologist* 103(4):913-934.
[5] Eg. Sutton, Mark, 2009. *A Reevaluation of Early Northern Uto-Aztecan Prehistory in California.* Presented at the 2009 annual Society of California Archaeology conference in Modesto, CA.
[6] Ibid
[7] Bean, Lowell J., and Katherine S. Saubel. *Temalpakh (from the Earth): Cahuilla Indian Knowledge and Usage of Plants.* Malki Museum Press, Banning, California, 1972
[8] Lowell J. Bean 1978. Cahuilla. In *Handbook of North American Indians, Volume, 8, California,* edited by Robert Heizer, pp. 575-587, Smithsonian Institution, Washington D.C.

boundaries. Based on this thorough assessment, the City of Corona is within the Luiseño aboriginal territory. L3-6 Cont.

Additionally, the Tribe believes that the Cultural Setting: Prehistory subsection within the DEIR is incorrect. The Late Prehistoric Period Section (5.5-2) discusses ancestral Cahuilla and the Mojave Desert culture. This is not applicable to the Corona area and, while attributed to the Archaeological Assessment, the Assessment does not provide this information. Further, the Cahuilla were not located in the Corona area until later in the historic period. Most ethnographic evidence suggests the Cahuilla moved into the San Bernardino area after European contact. Kroeber's 1907 article "Shoshonean Dialects of California" includes information on territory boundaries for each of the southern California Uto-Aztecan languages. With information provided by consultants, BIA agents, and historic accounts, he determined the Cahuilla moved into the San Bernardino area during the 1840s-1850s. Presumably, they did not move farther west until about this time or possibly later, attracted by the employment possibilities from the Ranchos and ranching/agricultural families. L3-7

PROJECT IMPACTS TO CULTURAL RESOURCES AND TRIBAL CONSULTATION

The proposed Project is located in a highly sensitive region of Luiseño territory and the Tribe believes that the possibility for recovering subsurface resources during ground-disturbing activities is high. The Tribe has over thirty-five (35) years of experience in working with various types of construction projects throughout its territory. The combination of this knowledge and experience, along with the knowledge of the culturally-sensitive areas and oral tradition, is what the Tribe relies on to make fairly accurate predictions regarding the likelihood of subsurface resources in a particular location. L3-8

The Tribe is in receipt of the Draft Environmental Impact Report and Appendix E, the Archaeological Assessment for the Project. Despite earlier requests, the Tribe was not provided the opportunity to complete a field visit to the proposed Project. The fact that we were unable to physically assess the area, in conjunction with our knowledge of information provided in earlier letters, means we cannot agree that there are no cultural resources located within the Project boundaries. According to the Assessment, there were two sites and one isolate within a one-mile radius of the Project. While the Tribe agrees that these may be the only recorded resources in the area, as we have stated in previous comments, the presence of two Village Complexes, as well as a blue-line stream located approximately 1/3 of a mile to the southeast of the Project area, indicate that the probability of identifying resources during earthmoving activities is high. L3-9

Inadvertent discoveries are foreseeable impacts and thus need to be appropriately mitigated for within the confines of the Project. The identification of surface resources during an archaeological survey should not be the sole determining factor in deciding whether mitigation measures for inadvertent discoveries are required. The cultural significance of the area should play a large part in determining whether specifications concerning unanticipated discoveries L3-10

should be included. The Tribe is concerned that, although the mitigation language is in place, there is no discussion in the DEIR concerning the cultural significance of the area. The Tribe provided ample information in our comments to the Notice of Preparation and SB18 consultation letters however none of this information is located in the document. The Tribe requests, at a minimum, that our consultation letters be included in Appendix E as additional cultural information that is important to the Project. L3-10 Cont. L3-11

REQUESTED TRIBAL INVOLVEMENT AND MITIGATION

The proposed Project is on land that is within the traditional territory of the Pechanga Band of Luiseño Indians. The Pechanga Band is not opposed to this Project. The Tribe's primary concerns stem from the Project's proposed impacts on Native American cultural resources. The Tribe is concerned about both the protection of unique and irreplaceable cultural resources, such as Luiseño village sites, sacred sites and archaeological items which would be displaced by ground disturbing work on the Project, and on the proper and lawful treatment of cultural items, Native American human remains and sacred items likely to be discovered in the course of the work. L3-12

The CEQA Guidelines state that lead agencies should make provisions for inadvertent discoveries of cultural resources (CEQA Guidelines §15064.5). The Tribe believes that adequate cultural resources assessments and management must always include a component which addresses inadvertent discoveries. Every major State and Federal law dealing with cultural resources includes provisions addressing inadvertent discoveries (See e.g.: CEQA (Cal. Pub. Resources Code §21083.2(i); 14 CCR §1506a.5(f)); Section 106 (36 CFR §800.13); NAGPRA (43 CFR §10.4). Moreover, most state and federal agencies have guidelines or provisions for addressing inadvertent discoveries (See e.g.: FHWA, Section 4(f) Regulations - 771.135(g); CALTRANS, Standard Environmental Reference - 5- 10.2 and 5-10.3). Because of the extensive presence of the Tribe's ancestors within the Project area, it is not unreasonable to expect to find vestiges of that presence. Such cultural resources and artifacts are significant to the Tribe as they are reminders of their ancestors. Moreover, the Tribe is expected to protect and assure that all cultural sites of its ancestors are appropriately treated in a respectful manner. Therefore, as noted previously, it is crucial to adequately address the potential for inadvertent discoveries. L3-13

Further, the Pechanga Tribe believes that if human remains are discovered, State law would apply and the mitigation measures for the permit must account for this. According to the California Public Resources Code, § 5097.98, if Native American human remains are discovered, the Native American Heritage Commission must name a "most likely descendant," who shall be consulted as to the appropriate disposition of the remains. Given the Project's location in Pechanga territory, the Pechanga Tribe intends to assert its right pursuant to California law with regard to any remains or items discovered in the course of this Project. L3-14

PROJECT MITIGATION MEASURES

Environmental Impact Reports and any supplemental or subsequent documents must provide adequate protection for significant archaeological and cultural sites and adequately follow the provisions of CEQA and its Guidelines, including Calif. Pub. Res. Code § 21083.2(b) (avoidance as preferred method of preservation of archaeological resources), CEQA Guidelines § 15126.4(b)(3) (agencies should avoid effects on historical resources of archaeological nature), and CEQA Guidelines § 15020 (lead agency responsible for adequacy of environmental documents).

The Tribe generally agrees with the proposed mitigation measures for cultural resources presented in the February 2011 Draft Environmental Impact Report for this Project. We request the existing mitigation measures and the minor edits below be incorporated into the final EIR and added as conditions of approval for the Project. We further request that the Tribe be contacted by the Project Proponent at least 30 days prior to obtaining a grading permit or prior to initiating the construction of the Project to execute a Treatment Agreement (CUL-3) (underlines are additions; strikethroughs are deletions). In part, the Tribe believes it is important for the mitigation measures to be clear and consistent. All proposed revisions are in furtherance of this notion.

L3-15

CUL-1 The applicant shall retain a qualified archaeological monitor, who shall prepare an Archaeological Resources Mitigation and Monitoring Plan. The archaeologist shall attend all pre-grading meetings to inform the grading and excavation contractors of the archaeological resource mitigation program and shall consult with them with respect to its implementation. The archaeological monitor shall be on site at all times during the initial phases of clearing and rough grading to inspect cuts for contained archaeological resources. If such resources are discovered, the archaeological monitor shall recover them. In instances where recovery requires an extended salvage time, the archaeologist or monitor shall be allowed to temporarily direct, divert, or halt grading to allow recovery of resource remains in a timely manner. Recovered non-Native American archaeological resources, along with copies of pertinent field notes, photographs, and maps, shall be deposited in a ~~scientific institution with archaeological collections~~ federally recognized curational facility and any recorded archaeological ~~the~~ resources shall be recorded ~~in the California Archaeological Inventory Database~~ on appropriate DPR forms. A final monitoring report which shall include the completed DPR forms, shall be submitted to the City, the Developer/Applicant, the Eastern Information Center, and the Pechanga Tribe within 30 days of the end of monitoring activities.

CUL-2 All grading, excavation, and ground-breaking activities shall be monitored by a tribal monitor. The project applicant shall pay all fees associated with such tribal monitors from the Pechanga Band of Luiseño Indians. The tribal monitors will have the authority to temporarily stop and redirect grading activities, in conjunction with the archaeological monitor and the City.

CUL-3 Prior to issuance of grading permits, the applicant shall be required to enter into a Treatment Agreement with the Pechanga Band of Luiseño Indians. This agreement will address the treatment and disposition of cultural resources and human remains, including those that may be inadvertently uncovered during construction as well as the provisions for the tribal monitors pursuant to CUL-2.

CUL-4 The applicant shall relinquish ownership of all cultural resources discovered on site to the Pechanga Tribe. This may include sacred items, burial goods, and all archaeological artifacts that are found on the project site. All items shall be turned over to the ~~appropriate Indian tribe~~ Pechanga Tribe for proper treatment and disposition.

L3-15 Cont.

CUL-6 If human remains are encountered during site preparation or construction, the provisions of California Health and Safety Code Section 7050.5 shall be followed. If remains are uncovered, the Riverside County Coroner shall be immediately notified. Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to the origin of such remains. Further, pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines that the remains are Native American, the Native American Heritage Commission shall be contacted within ~~a reasonable timeframe~~ 24 hours. Subsequently, the Native American Heritage Commission shall identify the —most likely descendant. The "most likely descendant" shall then make recommendations and engage in consultations concerning the treatment of the remains as provided for in Public Resources Code Section 5097.98.

CUL-7 All sacred sites, should they be encountered within the project area, shall be avoided and preserved as the preferred mitigation, if feasible.

The Pechanga Tribe looks forward to working together with the City of Corona in protecting the invaluable Pechanga cultural resources found in the Project area. Please contact me at 951-308-9295 X8104 if you have any questions or comments. Thank you. L3-16

Sincerely,

Anna Hoover
Cultural Analyst

Cc Pechanga Office of the General Counsel
Brenda Tomaras, Tomaras & Ogas, LLP

Pechanga Cultural Resources • Temecula Band of Luiseño Mission Indians
Post Office Box 2183 • Temecula, CA 92592

Sacred Is The Duty Trusted Unto Our Care And With Honor We Rise To The Need

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Letter 3. Pechanga Cultural Resources

Response L3-1

The City recognizes the tribe's desire to be notified throughout the duration of the CEQA process and acknowledges the tribe's right to fully participate in the environmental review process. All comments submitted by the tribe will be incorporated into the record of approval and will be responded to by the City.

Response L3-2

The City acknowledges its responsibility to consult with Indian tribes, including the Pechanga Tribe, throughout the duration of the planning process. Direct consultation with the Native American Heritage Commission (NAHC) (Sacred Lands File Search) was requested by Brian F. Smith and Associates on March 20, 2007. The response from the NAHC on April 16, 2007 did not identify any Native American sacred or recorded sites in the project area.

The City requested formal consultation with Local Native American Tribes on July 30, 2007 during project planning. The Pechanga Tribe responded to the City's request for consultation on October 25, 2007 and subsequently to the Notice of Preparation (NOP) on April 27, 2009. In response, the City contacted the Tribe on May 5, 2009 to discuss the project. A discussion of the project, status, CEQA process, etc. occurred on May 7, 2009 between Jason Moquin, Senior Planner, City of Corona and Laura Miranda, Pechanga Office of General Counsel, Pechanga Band of Luiseno Indians.

Response L3-3

This comment describes the Pechanga Tribe's affiliation to the project area and provides a short description of the Tribe's account of their people's history in the area. This comment does not raise any specific issues regarding the environmental analysis for the proposed project. No additional response is necessary.

Response L3-4

The City acknowledges the Tribe's affiliation with the project area and the Tribe's legal and cultural interest. As described in Response L3-2, he City has consulted with the Tribe throughout the planning process and is available for future consultation.

Response L3-5

The March 11, 2009 Brian F. Smith & Associates Archaeological Assessment (included in Appendix E to the DEIR), provided a sample of a late prehistoric cultural setting. This information was not intended to surgically delineate cultural group boundaries, but was intended to provide the reader with a general view of the past. The information provided has been used for decades and was derived from the works of A.L. Kroeber, and while new information is constantly being added to the abundance of data available regarding culture histories from this portion of Riverside County, the reality is that different tribal groups have different opinions and oral traditions regarding tribal boundaries.

Response L3-6

See Response L3-5.

Response L3-7

Comment noted. The DEIR has been revised on page 5.5-3 to state the project area is attributed to the Luiseno and Gabrielino cultural traditions. The DEIR identifies the Cahuilla as having occupied portions of Riverside County, but does not attribute them to the project site.

Response L3-8

The City acknowledges the Tribe's experience and knowledge in making predictions regarding the likelihood of subsurface resources in a particular location. This comment does not specifically address any environmental issue; therefore, no additional response is required.

Response L3-9

The City acknowledges the Tribe's request, and as discussed in Response L3-2, the City requested formal consultation with Local Native American Tribes on July 30, 2007 during project planning. The Pechanga Tribe responded to the City's request for consultation on October 25, 2007 and subsequently to the Notice of Preparation (NOP) on April 27, 2009. In response, the City contacted the Tribe on May 5, 2009 to discuss the project. A discussion of the project, status, CEQA process, etc. occurred on May 7, 2009 between Jason Moquin, Senior Planner, City of Corona and Laura Miranda, Pechanga Office of General Counsel, Pechanga Band of Luiseno Indians. Since then staff has worked directly with Pechanga Cultural Analyst Anna M. Hoover to draft mitigation measures and including on-site monitoring during grading activities to ensure the protection and preservation of any cultural resources which may be unearthed during the grading and construction process.

Response L3-10

The proposed project site was previously surveyed in 1986 and again for the current project; in both cases no resources were identified. Furthermore, the records data search for the project indicated that within a one-mile radius of the project, only three prehistoric sites are currently recorded; two of these are not reflective of occupation, but rather are evidence of resource gathering and processing. Additionally, this property has been significantly disturbed by the installation of the existing citrus grove and the property is on a steep slope that was not typically employed by prehistoric groups as focused occupation areas; therefore the property area is not considered to be a culturally significant area, nor is it near a documented significant prehistoric village site.

Response L3-11

The Tribe's original response to the NOP is included in Appendix A of the DEIR, "Notice of Preparation (NOP) and NOP Comments." Additionally, this letter will be included in the FEIR.

Response L3-12

The City shares the Tribe's concerns about impacts to unique and irreplaceable cultural resources that could be discovered or displaced during the course of construction. As indicated on page 5.5-8 of the DEIR, Mitigation Measures CUL-1 through CUL-4 outline the process the City and applicant will undertake to ensure proper monitoring for Native American artifacts during all grading activities and the process by which potential resources are handled, removed from the site, reported, etc. that is consistent with Native American and specifically Pechanga Band of Luiseno Indians expectations. These mitigation measures were written with the help of the Pechanga Band of Luiseno Indian's NOP comment letter and past work between City and Tribe staff members on other similar projects.

Response L3-13

See Response L3-12. Further, as indicated on DEIR page 5.5-9, Mitigation Measure CUL-6 describes the process by which the City would ensure that any unintended discoveries of human remains be handled in a manner acceptable to Native American tribes.

Response L3-14

See Response L3-13. Mitigation Measure CUL-6 (see page 5.5-9 of the DEIR) outlines the process by which the Native American Heritage Commission will be contacted to make a "most likely descendant" declaration. The City has noted that the Pechanga Band of Luiseno Indians intends to assert its right as a most likely descendant under State law; however, as stated in Mitigation Measure CUL-6, pursuant to California Public Resources Code Section 5097.98(b), the ultimate decision of most likely descendant is the responsibility of the Native American Heritage Commission (NAHC), as an unbiased representative of all Native American groups.

Response L3-15

Due to the potential for more than one tribe to have existed within the project area, it is not appropriate at this time to assume that all artifacts are automatically the possession of the Pechanga Tribe such as suggested by the edits. Per Response L3-14 above, the California Public Resources Code Section 5097.98(b) states that the NAHC will serve as the unbiased body to make such a determination. Mitigation Measure CUL-4 on page 5.5-9 of the DEIR has been revised to further clarify this matter.

Avoidance and preservation of areas within an approved development plan would not be a practical approach to mitigation because that would involve significant changes to the development concept, grading plans, utility installations, and other planning elements that have been set in place. Any significant discoveries shall be respectfully relocated, subjected to data recovery, or treated in a manner consistent with CEQA as stated in Mitigation Measure CUL-6 on page 5.5-9 of the DEIR.

Response L3-16

Comment noted. This comment does not specifically address any environmental issue; therefore, no additional response is required.

California Regional Water Quality Control Board
Santa Ana Region

3737 Main Street, Suite 500, Riverside, California 92501-3348
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Linda S. Adams
Acting Secretary for Environmental Protection

Edmund G. Brown, Jr.
Governor

March 18, 2011

Letter L4

Jason Moquin, Senior Planner
City of Corona Community Development Department
400 S. Vincentia Avenue
Corona, CA 92882

DRAFT ENVIRONMENTAL IMPACT REPORT, RANCHO DE PASEO VALENCIA, TENTATIVE TRACT MAP NO. 34760, MOUNTAIN GATE SPECIFIC PLAN, SOUTH ENDS OF BOTH MOUNTAIN GATE DRIVE AND MALAGA STREET, CITY OF CORONA, SCH# 2009041015

Dear Mr. Moquin:

Staff of the Regional Water Quality Control Board, Santa Ana Region (Regional Board) have reviewed the Draft Environmental Impact Report (DEIR) for the above-referenced Project. The Project consists of a 34-lot residential development in an avocado and citrus orchard that straddles the southern border of the City of Corona (City) and to the south, Riverside County foothill slopes of the Santa Ana Mountains. The City proposes to annex 25.5 acres of this unincorporated acreage, and with the exception of 1.1 acres, combine it with the 39.8 acres of the City's existing Tentative Tract No. 34760. The total of approximately 64.3 acres will be subdivided, with open space to include a remnant orchard in the site's southeast corner. L4-1

The following comments discuss the topic of Regional Board permitting for the Project:

The DEIR omits, and at minimum must include within the Project Description Section 3.0, Biological Resources Section 5.4, and Hydrology and Water Quality Section 5.8, references to the Regional Board's requirement that the Project obtain Waste Discharge Requirements (WDRs) for impacts to waters of the state and the water quality standards that these waters support (including beneficial uses). These impacts will be caused by the excavation and/or filling of much of the lengths of six on-site drainages (Drainages A through F; DEIR p. 5.4-19 and 5.8-4). The DEIR does not reflect that these drainages have been recognized, measured, and extensively discussed between Project consultants and Regional Board staff (November 10, 2009 field meeting; subsequent electronic mail and telephone conversations). The DEIR should reflect that a Report of Waste Discharge (ROWD; Form 200 on our website) must be submitted to the Regional Board, pursuant to the California Water Code. The ROWD must indicate those segments of the six drainages that will be filled, excavated, or otherwise not avoided by the Project. WDRs must be issued by the Regional Board prior to approval of a grading permit. L4-2

We recognize that the U.S. Army Corps of Engineers (USACOE) has determined that these on-site surface waters are isolated from waters of the U.S. and are therefore outside of

federal jurisdiction[1]. Our April 30, 2009 letter commenting on the Project's Initial Study (DEIR Appendix A; also resubmitted as an attachment to this letter) stated that in that case, the Project may then be subject to individual waste discharge requirements. WDRs issued by the Regional Board for impacts to site drainages would be issued separately from those WDRs issued for stormwater discharges, and should be listed as such among probable permits on DEIR p. 3-16, Project Description. L4-3

For the California Department of Fish and Game (CDFG), the DEIR recognizes permanent impacts to riparian vegetation in a total of 0.08 acre within Drainages A and C (p. 5.4-14), and proposes mitigation through the conservation of either 0.225 acre of riparian habitat onsite (3:1 ratio), or 0.375 acre of riparian habitat offsite (5:1 ratio) (p.5.4-23). The DEIR should reflect that a mitigation plan similar to that for CDFG[2] must be discussed with Regional Board staff and submitted as part of the ROWD. Mitigation success criteria would be a component of the WDRs monitoring and reporting program. L4-4

The DEIR does not reflect our anticipated inclusion of the February 11, 2010 agreement between Regional Board staff, Armstrong & Brooks Consulting Engineers, and consulting biologist Michael D. Misenhelter (February 9 and 11, 2010 electronic mails are available to the City) that resulted in measurements of impacted waters of the state for the purposes of submittal of the ROWD, the one-time first-year fee, and mitigation plan. These consultants submitted a "Waters of the State Analysis" on January 25, 2010, and later determined with Regional Board staff that a total of 0.58 acre and a total length of 3,423 feet of on-site drainages would be impacted. L4-5

Regional Board staff acknowledge no "definable bed and bank" to these drainage courses, as considered by differing USACOE and CDFG delineations. Following discussion with Regional Board staff, the consultants determined the portions of the six drainages to be impacted by fill, excavation, vegetation removal, pipe burial, terracing, and hydromodification. They measured the length, varying widths, and consequent acreage of the recognized limits of beneficial use indicators along the drainages: riparian vegetation, agricultural flow, and cross sections of drainages that would convey modeled 10-year storm events. The supported beneficial uses include WILD, WARM, RARE, AGR, GWR, REC2, and others listed in the Region 8 Basin Plan (discussed in attachment). L4-6

If you have any questions, please contact me at (951) 782-3259, or grobertson@waterboards.ca.gov L4-7

Sincerely,

Glenn Robertson

Glenn Robertson
Engineering Geologist
Regional Planning Programs Section

[1] Specific references to USACOE determination: 1) DEIR pg. 5.4-19; 2) DEIR Appendix D, July 19, 2009 Jurisdictional Determination letter and July 31, 2009 Jurisdictional Delineation; 3) Subsequent October 2009 ruling onsite by James Mace of USACOE.

[2] The DEIR does not definitively state whether a streambed alteration notification for all drainage segments has already been made to CDFG (DEIR p. 3-16 list of permits; p. 5.4-14 references to "potential" CDFG regulation). We are aware that such notification was requested by CDFG staff on November 4, 2009.

Attachment – April 30, 2009 Notice of Preparation Letter

cc: State Clearinghouse
U.S. Army Corps of Engineers, Prado Dam – James Mace
U.S. Fish and Wildlife Service, Carlsbad – Kathleen Pollett
California Department of Fish and Game, Ontario – Michael D. Flores/Leslie McNair
Sarah Lozano, DUDEK, Riverside
Michael D. Misenhelter, MDM Biological Consulting, Norco
Karen Kirtland, Natural Resources Assessment, Inc., Riverside
Benjamin J. Stables III, Armstrong & Brooks Consulting Engineers, Corona

X:Groberts on Magnolia/Data/CEQA/CEQA Responses/ DEIR -City of Corona – Rancho de Paseo Valencia.doc

California Environmental Protection Agency

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California Regional Water Quality Control Board
Santa Ana Region

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Secretary for Environmental Protection

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Arnold Schwarzenegger
Governor

April 30, 2009

Jason Moquin
City of Corona Community Development Department
400 S. Vincentia Avenue
Corona, CA 92882

NOTICE OF PREPARATION AND INITIAL STUDY FOR A DRAFT ENVIRONMENTAL IMPACT REPORT, RANCHO DE PASEO VALENCIA, TRACT NO. 34760, SOUTH ENDS OF MOUNTAIN GATE DRIVE AND MALAGA STREET, CITY OF CORONA, SCH# 2009041015

Dear Mr. Moquin:

Staff of the Regional Water Quality Control Board, Santa Ana Region (Regional Board) have reviewed the Initial Study (IS) for a Draft Environmental Impact Report (DEIR) for the above-referenced Project in the City of Corona (City). The Project consists of the proposed annexation of 25.5 acres of unincorporated Riverside County foothill slopes south of the City's current southern border, and the subdivision of this land and existing Tentative Tract Map No. 34760 into 34 residential lots (Project) and 15.28 acres of unspecified open space. This 65.4-acre Project would require an amendment to the Mountain Gate Specific Plan. L4-8

We believe that the DEIR should incorporate the following comments in order for the Project to best protect water quality standards (water quality objectives and beneficial uses) contained in the Water Quality Control Plan for the Santa Ana River Basin (Region 8 Basin Plan, 1995, as amended):

1. A citrus grove that currently occupies these foothill slopes of the Santa Ana Mountains will be demolished and it appears from the aerial photo (Locational Exhibit) that at least five natural drainages will be directly or indirectly impacted by the Project. Ephemeral flows from the Santa Ana Mountains through these drainages appear to support, at minimum, the following beneficial uses that should be discussed in the DEIR along with Project impacts to them: Agricultural Supply (AGR), Wildlife Habitat (WILD), Warm Freshwater Habitat (WARM), Groundwater Recharge (GWR), and Non-Contact Water Recreation (REC2). It is possible that Contact Water Recreation (REC1) and Rare, Threatened, or Endangered Species (RARE) are supported and impacted as well. Also, the Project's geographic relation to the proposed Foothill Parkway route should be discussed, including whether impacts to these drainages overlap between the projects. The DEIR should thoroughly discuss the potential impacts of the Project on riparian wildlife corridors and vegetation, and the potential for hydromodification posed by increased flows from increased impervious surface area. L4-9 L4-10 L4-11 L4-12

2. Because the Project appears to result in excavation of ("dredging") and/or placement of fill into these riparian drainages, which may include wetlands, this project may impact "waters of the United States," and therefore fall within the jurisdiction of the United States Army Corps of Engineers (USACE) and require their issuance of a Clean Water Act Section 404 permit (please contact Jason Lambert of USACE at 213-452-3361). Therefore, the Project should be conditioned to have the applicant conduct a jurisdictional delineation to establish whether or not the Project (or any part of the Project) falls under USACE jurisdiction, and if so, to apply for the prerequisite Section 401 Water Quality Standards Certification (Certification) from the Regional Board that construction and operation of the project will not adversely affect water quality standards. The jurisdictional delineation (and subsequent USACE staff determination) may find that these surface waters are isolated from waters of the U.S. and therefore outside of federal jurisdiction. The project applicant needs to be made aware that these so-called "isolated waters" are nevertheless waters of the State and consequently a project that impacts them may be subject to individual waste discharge requirements pursuant to the California Water Code. L4-13

The issuance of a 401 Certification represents a determination by the Executive Officer that discharges of waste to waters of the U.S. that are associated with the referenced project will comply with the applicable provisions of Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 303 (Water Quality Standards and Implementation Plans), 306 (National Standards of Performance), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act, and with other applicable requirements of State law. In order for such a determination to be meaningful, projects subject to Certification are evaluated for their direct, indirect, and cumulative impacts to waters of the U.S., specifically, impacts to water quality standards. Such impacts must be mitigated to receive a Certification and the DEIR should identify likely mitigation concepts. Information concerning Certification can be found at http://www.waterboards.ca.gov/santaana/water_issues/programs/401_certification/index.shtml . L4-14

3. The DEIR must reflect that appropriate Best Management Practices (BMPs) and management measures are being developed and implemented to control the discharge of point source and non-point source pollutants, both during construction and for the life of development projects. Post-construction BMPs must address all pollutant loads carried by dry weather runoff and first-flush storm water runoff from an entire project. BMPs utilized on projects receiving a Certification must meet Best Available Technology (BAT) standards that may go beyond BMPs typically needed under: 1) the State Water Resources Control Board's Water Quality Order No. 99-08-DWQ, "General Permit for Storm Water Discharges Associated with Construction Activity" (Please see web site at http://www.waterboards.ca.gov/water_issues/programs/stormwater/) and 2) the Regional Water Quality Control Board's Waste Discharge Requirements for Riverside County (NPDES Permit No. CAS618033, Order No. R8-2002-0011, Riverside County Flood Control and Water Conservation District, the County of Riverside, and the Incorporated Cities of Riverside County within the Santa Ana L4-15

Region Areawide Urban Runoff), also known as the Riverside County municipal separate storm sewer system, or "Riverside County MS4" permit (please see web site at http://www.waterboards.ca.gov/santaana/html/riverside_permit.html). All development must conform to the Water Quality Management Plan (WQMP) requirements of the MS4 by implementing a variety of structural and non-structural BMPs controlling pollutants from both point sources and non-point sources (NPS). If a Section 404 permit is not required, then the criteria for water quality permitting of the construction of the proposed facility will be those criteria required by the statewide Water Quality Order No. 99-08-DWQ and the WQMP requirement of the MS4 permit. L4-15 Cont.

4. The DEIR should encourage BMPs that utilize the principles of low impact development (LID) as part of a comprehensive, community-wide system for protecting water quality standards. LID makes use of project-level features such as grassed paseos and rain gardens to manage urban runoff quantity and quality while conserving water. These principles are intended to reverse the trend of increasingly paved and constructed areas that alter the rate and volumes of surface water runoff and groundwater recharge. LID is among the Ahwahnee Water Principles for Resource Efficient Land Use (see attachment), adopted in 2005 by the Local Government Commission (LGC). The LGC encourages communities to incorporate these principles into general plans. SWRCB management has expressed support of LID and the Ahwahnee principles as useful to address major goals and objectives. L4-16

To protect the wildlife habitat beneficial use of natural drainage courses, the number of subsurface utility crossings through the drainage(s) must be minimized, and all road crossings over drainages should take the form of bridges or arched open-bottomed culverts so as to provide movement corridors to terrestrial wildlife. Also, a streambed alteration agreement may be required by the California Department of Fish and Game. L4-17 L4-18

If you have any questions, please contact Glenn Robertson at (951) 782-3259, grobertson@waterboards.ca.gov, or me at (951) 782-3234, or madelson@waterboards.ca.gov L4-19

Sincerely,

Glenn Robertson, for

Mark G. Adelson, Chief
Regional Planning Programs Section

Attachment

cc: State Clearinghouse
U.S. Army Corps of Engineers, Los Angeles – Jason Lambert
California Department of Fish and Game, Ontario – Anna Milloy/Michael Flores
Sarah Lozano, DUDEK, Riverside

X:Groberts on Magnolia/Data/CEQA/CEQA Responses/ IS-City of Corona – Rancho de Paseo Valencia, Tract 34760.doc

California Environmental Protection Agency

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The Ahwahnee Water Principles For Resource Efficient Land Use

Preamble

Cities and counties are facing major challenges with water contamination, storm water runoff, flood damage liability, and concerns about whether there will be enough reliable water for current residents as well as for new development. These issues impact city and county budgets and taxpayers. Fortunately there are a number of stewardship actions that cities and counties can take that reduce costs and improve the reliability and quality of our water resources.

The Water Principles below complement the Ahwahnee Principles for Resource-Efficient Communities that were developed in 1991. Many cities and counties are already using them to improve the vitality and prosperity of their communities.

Community Principles

1. Community design should be compact, mixed use, walkable and transit-oriented so that automobile-generated urban runoff pollutants are minimized and the open lands that absorb water are preserved to the maximum extent possible. (see the Ahnwahnee Principles for Resource-Efficient Communities) L4-20

2. Natural resources such as wetlands, flood plains, recharge zones, riparian areas, open space, and native habitats should be identified, preserved and restored as valued assets for flood protection, water quality improvement, groundwater recharge, habitat, and overall long-term water resources sustainability.

3. Water holding areas such as creek beds, recessed athletic fields, ponds, cisterns, and other features that serve to recharge groundwater, reduce runoff, improve water quality and decrease flooding should be incorporated into the urban landscape.

4. All aspects of landscaping from the selection of plants to soil preparation and the installation of irrigation systems should be designed to reduce water demand, retain runoff, decrease flooding, and recharge groundwater.

5. Permeable surfaces should be used for hardscape. Impervious surfaces such as driveways, streets, and parking lots should be minimized so that land is available to absorb storm water, reduce polluted urban runoff, recharge groundwater and reduce flooding.

6. Dual plumbing that allows grey water from showers, sinks and washers to be reused for landscape irrigation should be included in the infrastructure of new development.

7. Community design should maximize the use of recycled water for appropriate applications including outdoor irrigation, toilet flushing, and commercial and industrial processes. Purple pipe should be installed in all new construction and remodeled buildings in anticipation of the future availability of recycled water.

8. Urban water conservation technologies such as low-flow toilets, efficient clothes washers, and more efficient water-using industrial equipment should be incorporated in all new construction and retrofitted in remodeled buildings.

9. Ground water treatment and brackish water desalination should be pursued when necessary to maximize locally available, drought-proof water supplies.

Implementation Principles

1. Water supply agencies should be consulted early in the land use decision-making process regarding technology, demographics and growth projections.

2. City and county officials, the watershed council, LAFCO, special districts and other stakeholders sharing watersheds should collaborate to take advantage of the benefits and synergies of water resource planning at a watershed level.

3. The best, multi-benefit and integrated strategies and projects should be identified and implemented before less integrated proposals, unless urgency demands otherwise.

4. From start to finish, projects and programs should involve the public, build relationships, and increase the sharing of and access to information. The participatory process should focus on ensuring that all residents have access to clean, reliable and affordable water for drinking and recreation.

5. Plans, programs, projects and policies should be monitored and evaluated to determine if the expected results are achieved and to improve future practices.

L4-20 Cont.

Authors: Celeste Cantu, Martha Davis, Jennifer Hosterman, Susan Lien Longville, Jonas Minton, Mary Nichols, Virginia Porter, Al Wanger, Kevin Wolfe

Editor: Judy Corbett

For more information, contact the LGC Center for Livable Communities: 916-448-1198, ext 321

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Letter 4. Regional Water Quality Control Board

Response L4-1

This comment provides the name and project description of the proposed project as stated in the DEIR. This comment does not raise any specific issues regarding the environmental analysis for the proposed project. No additional response is necessary.

Response L4-2

A site meeting with Glenn Robertson of the RWQCB was held on November 10, 2009. Following the site meeting, RWQCB expressed their belief that the drainages onsite provide beneficial uses (WILD, WARM, RARE, etc.). Therefore, the project engineer determined the acreage impacted for each drainage based on the lengths of drainages as measured from County flood control maps and site measurements taken during the delineation. Mr. Robertson directed the team to quantify each drainage by the width of the of a ten-year flood event multiplied by the length of impacted drainage. Using this method, the total acreage impact of the Project was determined to be 0.58 acres. Per correspondence on February 11, 2010, it was determined that a Report of Waste Discharge must be submitted to the RWQCB. Clarification on this topic has been added to Section 3, Project Description, page 3-17.

Response L4-3

It has been determined that a Report of Waste Discharge must be submitted to meet Waste Discharge Requirements. Clarification on this topic has been added to Section 3, Project Description, page 3-17.

Response L4-4

Comment noted.

Response L4-5

See Response L4-2. Measurements were conducted which determined that 0.58 acres of on-site drainages would be impacted. Per correspondence with the RWQCB on February 11, 2010, it was determined that a one-time mitigation fee of $40,000 would be required and would mitigate for impacts to these drainage areas.

Response L4-6

Comment noted. See discussion above under Response L4-2 acknowledging impacts to on-site drainages which the RWQCB believes supports beneficial uses.

Response L4-7

Comment noted. This comment does not address the adequacy of the CEQA analysis contained in this document; therefore, no additional response is necessary.

Response L4-8

This comment provides the name and project description of the proposed project as stated in the DEIR. The city appreciates the RWQCB's comments. No further response is necessary.

Response L4-9

The various drainage channels were analyzed and plant communities evaluated within the property limits and outside the property when possible. All of the channels found on site lack true bed and banks and are completely artificial as they clearly convey excess runoff from the citrus orchard. Inspections of the uphill portions of these artificial channels show the dry folds representative of this topography, and clearly definable bed and banks are not present. The channel located just outside the property line lies in a well-defined wash and supports individual willow (Salix sp.), western sycamore (Platanus racemosa), and California walnut (Juglans californica) trees that appear to have persisted over time. The presence of these trees might indicate a high water table and therefore may represent a native stand of riparian habitat. However, even the finding of "native stand" is questionable given the past history of the site and the lack of riparian habitat upstream and on adjacent properties. Therefore, there is no significant nexus to the Santa Ana River and no wetland habitat along any of the drainages on site.

All of the channels drain into a debris basin that was constructed in the past to hold runoff. The debris basin has an outlet structure to allow for the draining of floodwaters that exceed the basin's capacity, but otherwise retains local flows.

Response L4-10

The Foothill Parkway project is located over a mile from the proposed project site and consists of the construction of a master planned roadway. The project was evaluated under a separate EIR and the drainage areas of these two projects are distinct from one another.

Response L4-11

Impacts to riparian vegetation are discussed on page 5.4-14 of the DEIR. The removal of 0.8 acre of riparian habitat would result in an impact to riparian vegetation; therefore, mitigation is provided on DEIR pages 5.4-22 and 5.4-23. As the riparian vegetation does not support special-status wildlife species, no special-status riparian wildlife or migratory fish would be impacted by the proposed project (see DEIR page 5.4-14).

As noted on DEIR page 5-24, the proposed project would not result in an impact on migratory fish or wildlife movement, particularly within the unnamed drainages on the project site.

Response L4-12

As discussed on DEIR page 5.8-14, the project includes specific design elements to manage increased runoff from increased impervious surfaces. All runoff from the project would drain into two proposed

water quality basins via vegetated swales, street curbs and gutters, and a series of proposed catch basins with connecting storm drain pipes. Therefore, hydromodification resulting from increased flows would be limited and result in less than significant impacts (see page 5.8-14 of the DEIR).

Response L4-13

As discussed on page 5.4-19, a wetlands delineations has been conducted for the project site and none of the drainages on the project site were found to fall within jurisdiction of the USACE; therefore Section 404 permits are not necessary. As indicated in Response L4-2, the project applicant has coordinated with RWQCB staff to determine the relationship of the on site drainages to State jurisdictional requirements. This coordination effort has resulted in the determination that the project site does support waters of the state and therefore a Report of Waste Discharge must be submitted to the RWQCB. Off-site wetlands would not be impacted by the proposed project.

Response L4-14

Waste Discharge Requirements for impacts to site drainages would be issued by the RWQCB for the project separately from those Waste Discharge Requirements issued for stormwater discharges. Additional clarification has been added to Section 3, Project Description, outlining this requirement.

Response L4-15

Best Management Practices (BMPs) are listed as mitigation on DEIR pages 5.8-17 and 5.8-18 to control discharge of pollutants and runoff containing sediment during both construction and operation of the proposed project. As stated on DEIR pages 5.8-16 through 5.8-18, the project applicant will submit a Storm Water Pollution Prevention Plan and Water Quality Management Plan describing specific measures.

Response L4-16

As described on DEIR page 5.8-13, project features have been incorporated to reduce the impacts resulting from an increase in impervious surfaces as a result of the proposed project. Approximately 70% of the site will remain pervious by maintaining large open space areas. Proposed streets have been designed to minimum widths per local development codes and storm water flows will be directed towards vegetated and bio-swales to allow for retention and groundwater percolation.

Response L4-17

Comment noted. The drainage features which will continue to occupy the site are situated within the westerly portion of the project in an area which will not be impacted by the project's site construction of roadways.

Response L4-18

The drainages on-site have been determined to be non-jurisdictional due to a lack of definable features; a request for concurrence of the determination of non-jurisdiction for state waters under Section 1600 et al was submitted to CDFG on January 27, 2010. CDFG responded on March 25, 2010 that a determination could not be made until completion of the environmental document. Prior to issuance of grading permits, the applicant shall demonstrate to the City Community Development Direct that they've reached an agreement as to CDFG-jurisdictional boundaries.

Response L4-19

Comment noted. This comment explains future RWQCB staff contact details. Because it does not relate to the adequacy of the EIR, no further response is required.

Response L4-20

Comment noted. At the time project development occurs, the applicant will be required to adhere to the City's development standards and incorporate BMP's applicable to the development and conservation of natural resources.

California Natural Resources Agency
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov
Inland Deserts Region
3602 Inland Empire Blvd., Suite C-200
Ontario, CA 91764
(909) 484-0167

EDMUND G. BROWN, JR., Governor
JOHN MCCAMMAN, Director

Received
MAR 28 2011
Community Development Dept.

March 20, 2011

Letter L5

Mr. Jason Moquin
City of Corona
400 S. Victoria Avenue
Corona, CA 92882

Re: Draft Environmental Impact Report for the Rancho de Paseo Valencia Project
City of Corona -- SCH # 2009041015

Dear Mr. Moquin:

The Department of Fish and Game (Department) appreciates this opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Rancho de Paseo Valencia Project. The Department is responding as a Trustee Agency for fish and wildlife resources [Fish and Game Code sections 711.7 and 1802 and the California Environmental Quality Act Guidelines (CEQA) section 15386] and as a Responsible Agency regarding any discretionary actions (CEQA Guidelines section 15381), such as a Lake and Streambed Alteration Agreement (Section 1600 *et seq.*) or a California Endangered Species Incidental Take Permit (Fish and Game Code Sections 2080 and 2080.1). L5-1

For this project the Department will be acting as a Trustee [and Responsible] Agency. As per Section 15096 of the California Environmental Quality Act statute, as a Responsible Agency the Department is obligated to focus its comments on any shortcomings in the CEQA document, the appropriateness of the CEQA document utilized, and additional alternatives or mitigation measures which the CEQA document should include.

The 39.9 acre-site is located in the City of Corona and is bounded on the south by the Cleveland National Forest, on the east by vacant land, on the north by residential development and on the west by vacant land. The project consists of the development of 34 single-family residences. The 65.4 acre property includes 39.9 acres in the City of Corona and 25.5 acres within unincorporated Riverside County. The unincorporated County land will be annexed to the City of Corona. The City portion of the site is primarily agricultural 35 acres of citrus and avocado groves) and the County portion consists of dense chaparral and coastal sage scrub. L5-2

MSHCP

The project is located within the boundary of the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) and is subject to the provisions and policies of that plan. The MSHCP is a Natural Communities Conservation Plan that provides coverage for 146 L5-3

Conserving California's Wildlife Since 1870

species and up to 510,000 acres. Participants in the MSHCP are issued take authorization for covered species and do not require Federal or State Endangered Species Act Permits. L5-3 Cont.

The site is located within the Temescal Canyon Area Plan and is not within an MSHCP Criteria Area/Cell. Surveys are required for burrowing owl. L5-4

Recommendations

Per section 15096 of the CEQA statute, as a Responsible Agency the Department is obligated to focus its comments on any inadequacies of the CEQA document and additional alternatives or mitigation measures which should be included in the CEQA document. As a Responsible Agency the Department will be obligated to consult the final CEQA document to prepare a Lake and Streambed Alteration Agreement or a California Endangered Species Incidental Take Permit. If the final CEQA document fails to identify and adequately mitigate all of the impacts of the proposed project and any alternatives, the project proponents will be required to reinitiate the CEQA process at their expense, or fund another CEQA process under the direction of the Department to identify and adequately mitigate all impacts associated with any Department discretionary actions. L5-5

There are four issues the Department requests be clarified in the Final Environmental Impact Report. First, the FEIR should include a discussion of open space (how much) and how it will be protected and managed. Second, the FEIR should include a discussion of the two on-site drainages that will be included in open space. In particular, the FEIR should discuss how much of a buffer is provided between the project grading and the drainages and what measures will be taken to protect the drainages during construction. Third, the FEIR should include a discussion of whether project grading will impact the Cleveland National Forest public lands and also discuss fire clearance. Fourth, the FEIR should include a general discussion on revegetation in the open space areas and maintenance and monitoring concerns. L5-6 L5-7 L5-8 L5-9

The Department recommends that the Lead Agency clarify these issues and provide a response to these comments in the Final Environmental Impact Report. L5-10

Streambed Alteration Agreements and CEQA

The Riparian/Riverine policy in the MSHCP differs from the requirements of the Department's Lake and Streambed Alteration Agreement program (Agreement). The MSHCP policy is habitat based. The Department retains jurisdiction over the bed, bank and channel of any stream, regardless of vegetation. It is possible for a project to have different mitigation requirements for the MSHCP and an Agreement for the same resources. The wetland delineation appears to be compatible with the State Jurisdiction requirements. standards. L5-11

The project will retain the two major site drainages on the east and west. Permanent loss of .075 acres of riparian habitat will be impacted. The applicant is proposing in Mitigation Measure BIO-3 to implement one of two mitigation measures: conserve 0.225 acres (3:1 ratio) of wetland resources on the site in perpetuity or conserve 0.375 acres of riparian habitat (5:1 ratio) in a CDFG-approved conservation program or bank. Recommendations L5-12

concerning riparian resources are located on page 2 of this letter and in the paragraphs below. L5-12 Cont.

If the CEQA documents do not fully identify potential impacts to lakes, streams, and associated resources and provide adequate avoidance, mitigation, monitoring, funding sources, a habitat management plan and reporting commitments, additional CEQA documentation will be required prior to execution (signing) of the Agreement. In order to avoid delays or repetition of the CEQA process, potential impacts to a stream or lake, as well as avoidance and mitigation measures need to be discussed within this CEQA document. L5-13

The Department opposes the elimination of drainages, lakes and their associated habitats. The Department recommends avoiding the stream and riparian habitat to the greatest extent possible. Any unavoidable impacts need to be compensated with the creation and/or restoration of in-kind habitat either on-site or off-site at a minimum 3:1 replacement-to-impact ratio, depending on the impacts and proposed mitigation. Additional mitigation requirements through the Department's Streambed Alteration Agreement process may be required depending on the quality of habitat impacted, proposed mitigation, project design, and other factors. L5-14

We recommend submitting a notification early on, since modification of the proposed project may be required to avoid or reduce impacts to fish and wildlife resources. To obtain a Streambed Alteration Agreement notification package, please call (562) 430-7924. L5-15

The following information will be required for the processing of a Streambed Alteration Agreement and the Department recommends incorporating this information to avoid subsequent CEQA documentation and project delays: L5-16

1) Delineation of lakes, streams, and associated habitat that will be temporarily and/or permanently impacted by the proposed project (include an estimate of impact to each habitat type);
2) Discussion of avoidance measures to reduce project impacts; and,
3) Discussion of potential mitigation measures required to reduce the project impacts to a level of insignificance.

Section 15370 of the CEQA guidelines includes a definition of mitigation. It states that mitigation includes: L5-17

1) Avoiding the impact altogether by not taking a certain action or parts of an action,
2) Minimizing impacts by limiting the degree or magnitude of the action and its implementation,
3) Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment,
4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action,
5) Compensating for the impact by replacing or providing substitute resources or environments.

In the absence of specific mitigation measures in the CEQA documents, the Department believes that it cannot fulfill its obligations as a Trustee and Responsible Agency for fish and wildlife resources. Permit negotiations conducted after and outside of the CEQA process deprive the public of its rights to know what project impacts are and how they are being mitigated in violation of CEQA Section 15002. L5-18

Also, because mitigation to offset the impacts was not identified in the CEQA document, the Department does not believe that the Lead Agency can make the determination that impacts to jurisdictional drainages and/or riparian habitat are "less than significant" without knowing what the specific impacts and mitigation measures are that will reduce those impacts. L5-19

Thank you for this opportunity to comment. Please contact Robin Maloney-Rames at (909) 980-3818, if you have any questions regarding this letter. L5-20

Sincerely,

Robin Maloney-Rames

Robin Maloney-Rames
Environmental Scientist

Letter 5. Department of Fish and Game

Response L5-1

The City acknowledges that the Department of Fish and Game will act as both a Trustee for fish and wildlife resources and as a Responsible Agency for any discretionary actions such as a Lake and Streambed Alteration Agreement or a California Endangered Species Incidental Take Permit.

Response L5-2

This comment provides a description of the proposed project as stated in the DEIR. This comment does not raise any specific issues regarding the environmental analysis for the proposed project. No additional response is provided.

Response L5-3

This comment provides a brief description of the MSHCP and does not raise any specific issues regarding the environmental analysis for the proposed project. The DEIR describes the MSHCP on page 5.4-1 and 5.4-2. Project consistency with the MSHCP is discussed in detail on page 5.4-21. The DEIR is consistent with this comment. No additional response is necessary.

Response L5-4

The DEIR acknowledges that the proposed project site is within the Temescal Canyon Area Plan of the DEIR MSHCP on page 5.4-2; the statement in the DEIR is consistent with this comment. Survey requirements for burrowing owl are also noted on this page. On page 5.4-21, the DEIR states that "suitable habitat for the burrowing owl does not exist on the project site." Therefore, focused burrowing owl surveys are not required and the proposed project would not impact burrowing owls.

Response L5-5

The City acknowledges the Department's obligations as a Responsible Agency. This comment does not raise any specific issues regarding the environmental analysis for the proposed project.

The original analysis showed that there are drainages present on the site. However, the status of these drainages was determined to be non-jurisdictional due to a lack of definable features by the project biologist. However, as requested by the City and per recent standard practice of the California Department of Fish and Game (CDFG), a request for concurrence of the determination of non-jurisdiction for state (=California) waters under Section 1600 et al was sent to the CDFG on January 27, 2010. The request was sent using the standard application for the notification of alteration of a streambed. The CDFG responded on March 25, 2010 that they were unable to respond to the notification because the Project did not have a completed environmental document or Notice of Determination from the City of Corona. Therefore, the project biologist does not know if the CDFG will claim jurisdiction and require a streambed alteration agreement.

The responsibility for the determination of whether a streambed alteration agreement is necessary lies with the CDFG, not the project biologist. The project biologist can only recommend that the project proponent submit notification (not an agreement) for streambed alteration. As noted above, this has already been done.

Because the City is a participant in the MSHCP (as outlined in DEIR pg. 5.4-1 and 5.4-2), the incidental take permits to cover potential impacts to state-regulated species under the California Endangered Species Act were already issued to all participating entities, such as the City of Corona. In order for the City to be able to utilize the take permit that has already been issued, the project's consistency with the MSHCP must be determined (see page. 5.4-21 of the DEIR). As stated on page. 5.4-21 of the DEIR, the City has made the determination that the project is consistent with the MSHCP; therefore no additional permit for impacts to state-listed threatened or endangered species is necessary.

Response L5-6

A brief description of open space included in the project design has been added to the Project Description on page 3-3 and to the Biological Resources Impact discussion on page 5.4-13. Approximately 15.2 acres of the project site will be left as open space. The open space will be managed by an outside firm such as The Riverside Lands Conservancy.

Response L5-7

The western drainage is located well within the western open space area and is not expected to be impacted during grading/construction. The eastern drainage runs mostly through the proposed open space portion of the existing citrus grove. The portion of the drainage that runs through the proposed Project tennis court will be channelized. It is expected that Best Management Practices will be used during grading and construction in order to minimize/avoid impacts to each drainage where it exists in designated open space areas.

Response L5-8

As stated in mitigation measure BIO-10, DEIR page 5.4-24, all grading shall be maintained within the proposed project footprint. No temporary or off-site grading is proposed with the development. The Cleveland National Forest is located entirely outside of the proposed project boundaries, and therefore, would not be impacted by project grading.

A Fire Protection Plan has been prepared for the project site, as discussed on DEIR page 5.7-6. Areas within the project site will have to be cleared and replanted with fire resistant plants to reduce potential hazards from wildfires. Fuel Modification Zone 1 will consist of the areas within 30 feet of a structure and will be the responsibility of the homeowner to plant and maintain. Manufactured slopes that fall within the lot boundary will also be maintained by the homeowner; those outside of the lot boundaries will be maintained by the HOA. In both cases, this area may or may not be irrigated; however, they will be cleared of all native vegetation and replanted with "firewise" approved plants. At a minimum, weed

abatement regulations will be followed. Natural slopes will undergo thinning in which highly flammable species will be removed, including removal of 50% of available fuel in shrub form and removal of all grasses and invasives. All vegetation removal will occur on site and will not impact vegetation in the Cleveland National Forest.

Response L5-9

It is the understanding of the project biologist and project proponent that the management of open space areas will be taken up by an outside land management agency with an established reputation and practices regarding protection, enhancement, and maintenance and monitoring of protected lands.

Response L5-10

Responses to all comments will be included in the FEIR. Additional language has been added to the errata data to provide additional clarification on issues raised by the Department.

Response L5-11

Comment noted which describes the difference between CDFG and MSHCP definitions of waters over which they claim jurisdiction. The comment does not raise any specific issues regarding the environmental analysis for the proposed project. Therefore, no additional response is necessary.

Response L5-12

This comment does not raise any specific issues regarding the environmental analysis for the proposed project. Therefore, no additional response is necessary.

Response L5-13

This comment addresses the CEQA process and does not raise any issues regarding the environmental analysis for the proposed project. The City acknowledges the Department's recommendations for including a comprehensive discussion of all potential impacts to a stream or lake as well as a discussion of avoidance and mitigation measures in the CEQA document. No additional response is necessary.

Response L5-14

Attempts have been made to minimize impacts to stream and riparian habitat. The removal of riparian habitat would impact 0.08 acres, or less than 0.001% of the entire project site. The project proposes to mitigate unavoidable impacts to wetland resources either on site at a 3:1 ratio or off-site at a 5:1 ratio.

Response L5-15

The project biologist contacted Mr. Jeff Brandt of CDFG regarding the project on June 1, 2009. Mr. Brandt responded that Mr. Michael Flores of his department would review the project for Section 1602 issues. MS. Magdalena Rodriguez was identified as the CDFG contact regarding MSHCP/DBESP issues. On

December 17, 2009, Ms. Rodriguez stated in a telephone conversation that, after reviewing the project biological documents, the CDFG had decided that MSHCP/DBESP would be addressed by following whatever mitigation was determined to be necessary for Section 1602 compliance.

As noted in response to L5-5 above, a Streambed Notification Application was sent to the CDFG who responded that they could not review it at that time due to the absence of an official environmental document. However, on March 26, 2009, Mr. Flores made the following preliminary recommendations for project impacts to CDFG jurisdictional issues.

> "From what I have seen from the site photographs and from the fact that the impacts to streambed are permanent, either the applicant shall restore 0.225 acres of streambed found on the areas of open space located on the project site (3:1 ratio for permanent loss) or the applicant shall contribute matching funds of 0.375 acres (5:1 ratio for permanent loss) to a Department-approved habitat conservation entity."

The original analysis showed that there are drainages present on the site. However, the status of these drainages was determined to be non-jurisdictional due to a lack of definable features by the project biologist. But, as requested by the City and per recent standard practice of the California Department of Fish and Game (CDFG), a request for concurrence of the determination of non-jurisdiction for state (=California) waters under Section 1600 et al was sent to the CDFG on January 27, 2010. The request was sent using the standard application for the notification of alteration of a streambed. The CDFG responded on March 25, 2010 that they were unable to respond to the notification because the Project did not have a completed environmental document or Notice of Determination from the City of Corona. Therefore, the project biologist does not know if the CDFG will claim jurisdiction and require a streambed alteration agreement.

The responsibility for the determination of whether a streambed alteration agreement is necessary lies with the CDFG, not the project biologist. The project biologist can only recommend that the project proponent submit notification (not an agreement) for streambed alteration. As noted above, this has already been done.

Response L5-16

Comment noted. This comment does not raise any specific issues regarding the environmental analysis for the proposed project. Therefore, no additional response is necessary.

Response L5-17

Comment noted. This comment does not raise any specific issues regarding the environmental analysis for the proposed project. Therefore, no additional response is necessary.

Response L5-18

Comment noted, See L5-14.

Response L5-19

Comment noted. As discussed in response to L5-15, the department failed to assert jurisdiction based on the biological reports prepared for the project and the numerous attempts to obtain clarification pertaining to the drainage features. Based on the recommendations by the department's staff, specific mitigation measures have been crafted should CDFG choose to assert jurisdiction post certification of the EIR. Therefore based on the technical studies referenced in the EIR and the mitigation measures proposed by the CDFG, the Lead Agency is capable of determining that the potential impacts are "less than significant."

Response L5-20

Comment noted. The City thanks the Department for submitting a comment letter for this project.

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E-mail EM1

From: s c [mailto:maspc13@hotmail.com]
Sent: Wednesday, February 23, 2011 12:53 PM
To: Jason Moquin
Subject: Rancho De Paseo Valencia proposed building site

Mr. Moquin,

My name is Samuel Contino, I live in the Sky Ranch Estate homes. This is N/W of the purposed home site. I have reviewed the EIR report and have concerns. I will address them below. EM1-1

NATURAL HABITAT

The EIR failed to mention the Kangaroo rat, which is an endangered species. I know that this area is their habitat due to the restrictions our homes have over lighting into the hill area. EM1-2 In regards to no game or migration trails in the area, you can go to Google Earth and clearly see the trails on the map. They are S/E and West of the cite. I have Deer, Coyote, and Pumas (I have personally seen all three as well as their droppings and prints) that regularly come by my property and for your report to say that there is no trail is false for this type of activity of game to be a constant by my residence. The purposed area is a hunting ground for the Coyotes (which I here almost every night in that area) and the Puma. I am sure that the Fish and Game department can confirm this if consulted. I know for a fact that two Pumas live just above the site. They have GPS trackers and are regularly checked by Fish and Game as well as the Department of Forestry. In this regard I feel that by removing this natural hunting area. It will force these animals to hunt in our neighborhoods and jeopardize or children and domestic animals. I am also sure that environmental groups would take offense to the removal of this habitat. EM1-3 EM1-4

FAULT and SLIDE area

I am sure You are aware that to date there have been three reported hill slides on the West side of the purposed site. There is also an active fault in the site area. In checking with the USGS. Prolonged vibration in relation to removing dirt in a fault area can cause the fault to activated. Your own report suggests that a magnitude of 6.0 could occur. I feel that the construction of these homes could jeopardize the entire Mountain Gate Community by prematurely causing the fault to shift. A 6.0 Quake in this area would be devastating. I also believe that the moving of earth in that area will cause more hills to slide. By allowing this build the City would be placing vicarious liability on itself for allowing to occur. EM1-5

ECONOMY

The current economy does not warrant more homes being built in the area. There is no guarantee that these homes will even be purchased. This is evident by the vacant lot at Foothill and Turdy. This area has been an eyesore for the past three years and still homes are not built on the lots. I fear that by allowing this site it will also become an eyesore to the community and unfortunately it will be too late if they are allowed to start. EM1-6

CONCLUSION

I know that the city is trying to find new ways to obtain revenue and I applaud that, however I do not feel that this is the way. We will be left with vacant lots, empty homes, animals hunting in our neighborhood due to loss of their habitat and mud slides during the rainy season. EM1-7

Thank You for taking the time to read my letter. I hope that it will be attached to the study and presented at the hearing.

Sincerely,

Samuel Contino

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E-mail 1. Mr. Samuel Contino

Response EM1-1

This comment states Mr. Contino's name and provides information on Mr. Contino's residence location. The City appreciates Mr. Contino's review and comment. No additional response is provided.

Response EM1-2

The project site does not contain suitable habitat for the Stephens kangaroo rat (SKR). Additionally, as discussed in Appendix B, Biological Resources Reports, the County of Riverside created a specific Habitat Conservation Plan in 1996 to preserve SKR, and as part of the plan identified a Kangaroo Rat Fee Area within which all development projects would pay a fee for the mitigation of impacts to SKR. The project site is not located within the fee area, and therefore, the SKR fee is not applicable.

Further, as stated on pages 5.4-1 and 5.4-2 of the DEIR, the SKR is a "covered" species in the Western Riverside County Multiple Species Habitat Conservation Plan, of which the City of Corona is a signatory/participant. The MSHCP was established to promote a regional strategy for the conservation of special-status plant and wildlife species. The MSHCP allows the participating jurisdictions, such as the City of Corona, to authorize "take" of plant and wildlife species identified within the plan area in exchange for the assembly and management of a coordinated MSHCP conservation area. The MSHCP folded in conservation planning provisions for other smaller plans, the SKR Plan being one. Therefore, the conservation of SKR in the Corona area is guided by the MSHCP. Implementation guidelines for determining where conservation would occur were developed and are outlined in EIR Section 5.4.3. Because the SKR is a species that is "covered" under the MSHCP, and because the City has found the project consistent with the site and species-specific and general conservation planning context applicable as outlined in the MSHCP (see Section 5.4.5, pg. 5.4-21), impacts to SKR would not occur.

Response EM1-3

Wildlife movement does occur throughout the project area. However, as stated on page 5.4-20 of the DEIR, since the proposed development would be adjacent to already existing developed areas, no potential wildlife corridor or habitat linkage would be disrupted. Wildlife would continue to utilize the open space and protected areas to the south and east of the project. Additionally, the MSHCP was intended to cover the needs of large mammals such as mountain lion and therefore delineated the regionally significant movement corridors and linkages. The project site is not located in an area identified as a movement corridor or linkage.

Response EM1-4

This comment does not raise any specific issues regarding the environmental analysis for the proposed project. No further response is necessary.

Response EM1-5

A Fault Zone Analysis and Geotechnical study have been prepared for the proposed project site. On pages 5.6-8 through 5.6-12 of the DEIR, the potential for ground failure, including liquefaction, landslides, lateral spreading, subsidence or collapse, is recognized. Previous landslides on site have been mapped and will be completely removed during project grading. The project has been designed such that open space areas and landscaped slopes fall within the fault zone area. Mitigation measures are provided to address the potential for ground failure and reduce all potential impacts (see pages 5.6-13 through 5.6-41). Mitigation measures include the removal and compaction of all undocumented fill, debris impact walls and other slope considerations. There is no potential for grading to activate the fault.

Response EM1-6

Residential development has been lackluster since 2006; however, demand for housing is on the rise. Specifically, the project at Foothill Parkway and Trudy has recently been purchased and is now under development once again by Standard Pacific Homes. The property owner has a legal right to develop the property for residential purposes. As to the timing of market entry and sales, it is solely a business decision born by the property owner. Lastly, CEQA does not afford any specific provisions or protections due to economic factors.

Response EM1-7

Comment noted. No further response is necessary.

SECTION 4.0
SUMMARY OF CHANGES AND ADDITIONS TO DRAFT EIR

Section 3 identifies various changes and additions to the DEIR in response to comments received from agencies and the public. The EIR text has been modified in several areas to clarify the intent or scope of the analysis, proposed mitigation measures, etc. In this section, text to be added to the DEIR is underlined (i.e., added text), while text to be removed is striked out (i.e., ~~to be removed~~). Please see Section 3 for a complete review of changes and additions to the Draft EIR based on comments from various agencies and individuals.

3.0 Project Description

3.4.1 Site Plan/Tentative Tract Map (DEIR page 3-3)

The following text is added to the end of the section describing the Project's Site Plan and Tentative Tract Map (See response L5-6 in Section 3, Letter-5).

Approximately 15.2 acres of the project site will be left as open space and will not be disturbed during project construction or operation. Land use in the proposed open space areas will not change from its current land use. Approximately 3 acres of existing orchard will remain in the southeastern portion of the property and approximately 12 acres of the property along the western border will remain naturally vegetated with a mix of chaparral, oak and sycamore trees.

3.5 Discretionary Actions (DEIR page 3-17)

The following text has been added to the Project Description to provide clarification on the RWQCB's jurisdiction on the project.

In addition, the Santa Ana Regional Water Quality Control Board will consider the EIR in issuing a Storm Water Discharge Requirements (WDR) Permit and approval of the Storm Water Pollution Prevention Plan (SWPPP). In addition, the project applicant must submit a Report of Waste Discharges (ROWD) to obtain Waste Discharge Requirements (WDRs) for impacts to site drainages. Additionally, the project may require notification of the California Department of Fish & Game for streambed alteration under Section 1602 of the Fish and Game Code and/or U.S. Army Corps of Engineers permit under Section 404 of the Clean Water Act (CWA) and Regional Water Quality Control Board permits under Sections 401 and 402 of the CWA.

5.0 Environmental Impact Analysis

5.4 Biological Resources

5.4.5 Impacts

Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Services? (DEIR page 5.4-13; DEIR page 5.4-14)

The following text was added to clarify impacts to open space based on comments by the Department of Fish and Game (See response L5-6 in Section 3, Letter-5).

Table 5.4-3 provides a summary of impacts to on-site habitats. Figure 5.4-3 provides a graphical image of existing biological resources overlain by the proposed project impact area. With the exception of the riparian vegetation, none of these habitats are identified as sensitive in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Services. Approximately 15.2 acres of the project site will be left as open space and will not be disturbed during project construction or operation. Land use in the proposed open space areas will not change from its current land use. Approximately 3 acres of existing orchard will remain in the southeastern portion of the property and approximately 12 acres of the property along the western border will remain naturally vegetated with a mix of chaparral, oak and sycamore trees.

The following reference to a Mitigation Measure was changed based on a comment by the City's attorney.

On-site riparian vegetation would be potentially regulated by the CDFG. The riparian vegetation does not support special-status wildlife species that would trigger regulation by the USFWS. The removal of the 0.08 acre of riparian habitat would result in an impact to riparian vegetation potentially regulated by the CDFG resulting in a potentially significant impact. Therefore, mitigation is provided (see Section 5.4.6, Mitigation Measures, Mitigation Measure BIO-~~1~~3).

5.4.6 Mitigation Measures (DEIR page 5.4-23)

Mitigation Measure BIO-3 was revised to include specific reference to the Regional Water Quality Control Board (RWQCB) based on comments by the agency (See response L4-4 in Section 3, Letter-4).

BIO-3 In order to mitigate impacts to wetland resources onsite, one of the following options shall be implemented in order to mitigate for the permanent loss of 0.075 acre of riparian habitat:

1) Conserve 0.225 acre of riparian habitat (3:1 ratio). This habitat must be of similar or greater quality than the existing riparian habitat associated with Drainage A. Further, this conservation must occur on-site and in perpetuity.

2) Conserve 0.375 acre of riparian habitat (5:1 ratio) through participation in a CDFG-approved habitat conservation program or bank. Participation in the bank or regional conservation program shall ensure that conservation is in perpetuity.

Prior to issuance of a grading permit, the applicant must provide the City with written documentation from CDFG and the Regional Water Quality Control Board indicating that this mitigation requirement has been fulfilled to ~~their~~ these agencies' satisfaction.

5.5 Cultural Resources

5.5.3 Existing Conditions

The following text was changed based on comments by Anna Hoover, Cultural Analyst on behalf of the Pechanga Tribe (See response L3-3 in Section 3, Letter-3).

Protohistoric Period (Late Holocene: 1790 to present) (DEIR page 5.5-3)

Evidence indicates three Shoshonean speaking groups occupied portions of Riverside County during the Protohistoric period, including the Cahuilla, Gabrielino, and the Luiseño. The geographic boundaries between these groups are difficult to place; however, the project vicinity is within areas attributed to the ~~known~~ Gabrielino ~~ancestral land near their boundary with the~~ and Luiseño cultural traditions. At the time of Spanish contact in the sixteenth century, the Cahuilla occupied territory including the San Bernardino Mountains, Orocopia Mountains, the Salton Sea and Borrego Springs to the south, Palomar Mountain and Lake Mathews to the west, and the Santa Ana River to the north. The territory of the Gabrielino in this time period was located in much of current Los Angeles and Orange Counties. They were known to extend to Aliso Creek to the south, just east of present day San Bernardino to the east, the San Fernando Valley to the north, and to the Santa Monica Mountains to the west. They also occupied several of the Channel Islands off the coast of present day Santa Barbara. The Luiseño were a seasonal hunting and gathering people with cultural elements that were distinct from the Archaic period peoples, including cremation, the use of the bow and arrow, and the use of the acorn as a main food staple (BFSA 2007a).

5.5.5 Impacts

Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (DEIR page 5.5-8)

The following reference to a Mitigation Measure was changed based on a comment by the City's attorney.

Although no paleontological resources or unique geologic features have been recorded within the project boundaries or observed during the pedestrian survey of the site, there are records of several old but poorly located fossil localities on the northeast slopes of the Santa Ana Mountains. The fossil record of the

Paleocene Silverado Formation, within in the project vicinity, lacks sufficient data. Therefore, while potentially significant impacts are unlikely, an impact to unidentified resources would be significant, and mitigation is provided (see Section 5.5.6, Mitigation Measures, Mitigation Measure CUL-~~2~~5).

5.5.6 Mitigation Measures (DEIR page 5.5-9)

The following text has been added to Mitigation Measure CUL-4 based on direction from the Cultural Resources technical consultant, BFSA Consultants.

CUL-4 The applicant shall relinquish ownership of all cultural resources discovered on site. This may include sacred items, burial goods, and all archaeological artifacts that are found on the project site. All items shall be recovered by the consulting archaeologist and subsequently subjected to laboratory analysis to record, analyze and document all recovered artifacts, excluding human remains. Following completion of all scientific study, artifacts shall be turned over to the NAHC for distribution to the appropriate Indian tribe for proper treatment and disposition.

5.6 Geology and Soils

5.6.6 Mitigation Measures (DEIR pages 5.6- through 5.6-x)

The text in the mitigation measures below has been revised per a comment by the City's attorney to change the word "should" to the word "shall."

GEO-1 Geotechnical recommendations regarding necessary testing, monitoring and inspecting at various stages throughout project design and implementation are made in the following documents, attached as Appendix F of this EIR, and ~~should~~ shall be consulted and implemented to the satisfaction of the City of Corona Engineer during project design and construction:

- Updated Preliminary Geotechnical Investigation, and Updated Fault Rupture Hazard Evaluation, Tentative Tract 34760, Corona, Riverside County, California 92882, dated October 9, 2006, by GeoSoils, Inc.
- Memorandum "Slope Stability and Value Engineering, Existing Slope-Non-Grading Option, Tentative Tract No. 34760, City of Corona, Riverside County, California," dated November 20, 2007, by GeoSoils, Inc.
- Memorandum "Tentative Tract Map Review, Tentative Tract No. 34760, Corona, Riverside County, California," dated June 12, 2008, by GeoSoils, Inc.
- Memorandum "Geotechnical Review of Fire Protection/Fuel Modification Plan, Tentative Tract No. 34760, Corona, Riverside County, California," dated November 6, 2008, by GeoSoils, Inc.

The recommended observations and/or testing ~~should~~ shall be performed by GSI at each of the following construction stages:

- During grading/recertification.
- During excavation.
- During placement of subdrains, toe drains, or other subdrainage devices, prior to placing fill and/or backfill.
- After excavation of building footings, retaining wall footings, and free standing walls footings, prior to the placement of reinforcing steel or concrete.
- Prior to pouring any slabs or flatwork, after presoaking/presaturation of building pads and other flatwork subgrade, before the placement of concrete, reinforcing steel, capillary break (i.e., sand, pea-gravel, etc.), or vapor retarders (i.e., visqueen, etc.).
- During retaining wall subdrain installation, prior to backfill placement.
- During placement of backfill for area drain, interior plumbing, utility line trenches, and retaining wall backfill.
- During slope construction/repair.
- When any unusual soil conditions are encountered during any construction operations, subsequent to the issuance of this report.
- When any developer or homeowner improvements, such as flatwork, spas, pools, walls, etc., are constructed, prior to construction. GSI ~~should~~ shall review and approve such plans prior to construction.
- A report of geotechnical observation and testing ~~should~~ shall be provided at the conclusion of each of the above stages, in order to provide concise and clear documentation of site work, and/or to comply with code requirements.
- GSI ~~should~~ shall review project sales documents to homeowners/homeowners associations for geotechnical aspects, including irrigation practices, the conditions outlined above, etc., prior to any sales. At that stage, GSI will provide homeowners maintenance guidelines which ~~should~~ shall be incorporated into such documents.
- The following mitigation measures are contained within the geotechnical reports titled "Geotechnical Review of Fire Protection/Fuel Modification Plan, Tentative Tract No. 34760, Corona, Riverside County, California," "Slope Stability and Value Engineering, Existing Slope-Non-Grading Option, Tentative Tract No. 34760, City of Corona, Riverside County, California," and "*Updated Preliminary Geotechnical Investigation, and Updated Fault Rupture Hazard Evaluation, Tentative Tract 34760, Corona, Riverside County, California 92882.*" All mitigation measures

~~should~~ shall be implemented to the satisfaction of the City of Corona Engineer during project design, construction and operation.

Earthwork Construction

General

GEO-2 Prior to the start of the grading operation, the site ~~should~~ shall be cleaned of all vegetation (including roots), trash, construction and other deleterious materials.

Slope Stability

GEO-3 Only the amount of irrigation necessary to sustain plant life ~~should~~ shall be provided. Over-watering the landscape areas will adversely affect proposed site improvements. Graded slope areas ~~should~~ shall be planted with drought resistant vegetation. Consideration ~~should~~ shall be given to the type of vegetation chosen and their potential effect upon surface improvements (i.e., some trees will have an effect on concrete flatwork with their extensive root systems). Trees planted in close proximity to improvements have been known to adversely or negatively impact the long-term performance of the improvement. The location of tree planting ~~should~~ shall be considered in light of this geotechnical concern. Consideration ~~should~~ shall be given to providing retaining devices, up-hill and down-hill, for significant plantings that are "benched" into slope faces to mitigate the potential for slope creep. From a geotechnical standpoint leaching is not recommended for establishing landscaping. If the surface soils are processed for the purpose of adding any amendments, they ~~should~~ shall be recompacted to 90 percent minimum relative compaction.

GEO-4 Water has been shown to weaken the inherent strength of all earth materials over time. Slope stability is significantly reduced by overly wet soil conditions. Positive surface drainage away from slopes ~~should~~ shall be maintained and only the amount of irrigation necessary to sustain plant life ~~should~~ shall be provided for planted slopes. Over-watering ~~should~~ shall be avoided as it adversely affects site improvements, and causes perched groundwater conditions. Graded slopes constructed utilizing on-site materials would be erosive. Eroded debris may be minimized and surficial slope stability enhanced by establishing and maintaining a suitable vegetation cover soon after construction. Compaction to the face of fill slopes would tend to minimize short-term erosion until vegetation is established. Plants selected for landscaping ~~should~~ shall be light weight, deep rooted types that require little water and are capable of surviving the prevailing climate. Jute-type matting or other fibrous covers may aid in allowing the establishment of a sparse plant cover. Utilizing plants other than those recommended above will increase the potential for perched water, staining, mold, etc., to develop. A rodent control program to prevent burrowing ~~should~~ shall be implemented. Irrigation of natural

(ungraded) slope areas is generally not recommended. These recommendations regarding plant type, irrigation practices, and rodent control ~~should~~ shall be provided to each homeowner. Over-steepening of slopes ~~should~~ shall be avoided during building construction activities and landscaping.

GEO-5 Based on our analyses, an adequate factor of safety (FS>1.5) for the natural slope can be achieved if the groundwater level is kept below an elevation of ±1445 mean sea level (MSL). Therefore, to facilitate proper slope drainage, we recommend the placement of either hydro-auger drains to be drilled into the slope to an appropriate depth, or construction of a french drain system along the existing access trails located at the bottom and middle of the slope.

GEO-6 The proposed pad grades of the lots below the subject slope be raised ±5 feet, to approximate elevations of 1398 and 1410 MSL, respectively, in order to accommodate the potential total volume of landslide material on the slope. In addition, we recommend the construction of a debris wall along the southeast property boundaries for the upper most lots on the street cul-de-sac.

GEO-7 Considering the noncohesive nature of some of the on-site material, some caving and sloughing may be expected to be a factor in subsurface excavations and trenching. This would be primarily associated with trenches excavated for utilities and foundation systems. Additional shoring or laying back excavations may be necessary to mitigate caving or sloughing. All trench excavations ~~should~~ shall conform to OSHA and local safety ordinances.

GEO-8 On-site materials may be reused as compacted fill provided that major concentrations of vegetation and debris are removed prior to fill placement.

GEO-9 In fill areas where cavities or loose soils remain after surficial processing, the loose areas ~~should~~ shall be cleaned out, observed by the soil engineer, processed, and replaced with fill which has been moisture conditioned to at least optimum moisture content. The soils ~~should~~ shall be compacted to at least 90 percent of the laboratory standard.

Demolition/Grubbing

GEO-10 Any existing surficial/subsurface structures, major vegetation, and any miscellaneous debris ~~should~~ shall be removed from the areas of proposed grading.

GEO-11 Cavities or loose soils (including all previous exploratory test pits) remaining after demolition and site clearance ~~should~~ shall be cleaned out, inspected by the soils engineer, processed, and replaced with fill that has been moisture conditioned to at

least optimum moisture content and compacted to at least 90 percent of the laboratory standard (ASTM D-1557).

Treatment of Existing Ground

GEO-12 Removal of all undocumented artificial fill, colluvium, alluvium, surficial landslide deposits, and generally near surface weathered Tertiary Silverado Formation materials will be necessary prior to fill placement, in areas proposed for development. GSI believe that most of the alluvium, and all of the colluvium and undocumented fill will be removed during remedial grading. However, for preliminary planning purposes, removal depths are estimated to be on the order of ±1 to ±12 feet, with locally deeper removals, in areas proposed for development. Generally, removals ~~should~~ shall extend to non-porous, competent materials (dry density of 105 pcf and/or 85 percent saturation [which has been previously demonstrated as acceptable mitigation]), be moisture conditioned, and recompacted if not removed by proposed excavation within areas proposed for settlement-sensitive improvements.

GEO-13 Where planned cuts are equal to or greater than the recommended removal depth, the area ~~should~~ shall be cut to grade, subgrade observed and tested by the geotechnical consultant, then the upper 12 inches below finish grade ~~should~~ shall be scarified, brought to at least optimum moisture content, and recompacted to a minimum relative compaction of 90 percent of the laboratory standard.

GEO-14 Where the planned cuts are less than the recommended removal depth, the additional removals to attain the recommended removal ~~should~~ shall be accomplished. The exposed removal surface ~~should~~ shall be scarified to a depth of 12 inches, moisture conditioned (if necessary), and then compacted prior to fill placement to finish pad grade.

GEO-15 Removed colluvium, alluvium, landslide deposits, and Tertiary Silverado Formation materials, may be reused as compacted fill provided that major concentrations of organic material (roots and tree remains), and miscellaneous trash and debris are removed prior to fill placement. Rock or earth particles of greater than 12 inches may be cleared from these soils. Due to the expansive nature of some of the Tertiary Silverado Formation materials, fill soils derived from this unit ~~should~~ shall not be placed closer than 7 feet from finish grade, on a preliminary basis.

Fill Placement

GEO-16 Fill materials ~~should~~ shall be brought to at least optimum moisture, placed in thin 6- to 8-inch lifts and mechanically compacted to obtain a minimum relative compaction of 90 percent of the laboratory standard.

GEO-17 Fill materials ~~should~~ shall be cleansed of major vegetation and debris prior to placement.

GEO-18 Any oversized rock materials greater than 8 inches in diameter ~~should~~ shall be stockpiled and placed under the observation of the soils engineer. As per UBC (ICBO, 1997) requirements, no rock materials greater than 12 inches in diameter ~~should~~ shall be placed within 10 feet of finish grade, unless prior approval has been granted by the governing agency and geotechnical engineer.

GEO-19 Basal fill materials below a fill depth of 50 feet ~~should~~ shall be compacted to 95 percent of the laboratory standard.

GEO-20 Note that some of the claystone layers in the Silverado Formation have high plasticity and could result in high expansion (E.I. >90) if used as fill. Highly expansive soils ~~should~~ shall be placed deeper than 7 feet from finish grade. Non-plastic, very low expansive granular soils, such as poorly graded sands, ~~should~~ shall be blended with silts, clays, and gravels, prior to use in the outer portions of slopes.

Subdrains

GEO-21 Subdrains are recommended within drainage/canyon areas where proposed fills exceed 10 feet in height, as well as in some abutting areas where the as-built fill thickness exceeds 10 feet. Additionally, subdrainage systems for the control of localized groundwater seepage ~~should~~ shall be anticipated following grading due to excess irrigation or precipitation. Subdrains in stabilization fills are also recommended.

GEO-22 Subdrains ~~should~~ shall be constructed of a minimum 6-inch perforated pipe (SDR 35, or equivalent, with perforations oriented downward) encased in clean, crushed gravel, and wrapped in filter fabric (Mirafi 140 or equivalent). Subdrains greater than 500 feet in linear feet ~~should~~ shall be constructed per the recommendations stated above. However, the diameter of the perforated pipe ~~should~~ shall be increased to 8 inches. Subdrains ~~should~~ shall be constructed to flow at a 1 percent gradient to a suitable outlet, in accordance with the recommendations of the design civil engineer. For subdrain details in keyways/buttress designs, refer to Appendix G.

Slope Considerations and Slope Design

GEO-23 All slopes ~~should~~ shall be designed and constructed in accordance with the minimum requirements of the UBC (ICBO, 1997) and/or the County and the following:

1. Fill or stabilized fill over cut slopes ~~should~~ shall be designed and constructed at a 2:1 (h:v) gradient, or flatter, and ~~should~~ shall not exceed about 135 feet in height, otherwise, further evaluation will be necessary. Fill slopes ~~should~~ shall be properly built

and compacted to a minimum relative compaction of 90 percent throughout, including the slope surfaces. Fill slopes may be properly overbuilt by ±3 to ±5 feet and trimmed/cut back to proposed finish grades. Guidelines for slope construction are presented in Appendix G.

2. Cut slopes with favorable geology ~~should~~ shall be designed at gradients of 2:1 (h:v), or flatter, and ~~should~~ shall not exceed about 30 feet in height at a 2:1 inclination. Otherwise, further evaluation will be necessary. Stabilization of most cut slopes is anticipated, as in the southern and middle portions of the tentative tract. Locally adverse geologic conditions (i.e., daylighted joints/fractures, severely weathered fan deposits, or sandy lenses) may be encountered which may require remedial grading, stabilization, or laying back of the slope to an angle flatter than the adverse geologic condition.

3. Daylight cut lots will have some potentially compressible/erodible colluvium/topsoil exposed at the cut/natural interface adjoining slopes. This area will be more subject to erosion, and down-slope movement. Accordingly, improvements and/or foot traffic ~~should~~ shall not be allowed in this area, and proper drainage is imperative to the stability of this zone. This potential will be mitigated by the recommended setbacks, from a geotechnical viewpoint. These conditions will need to be disclosed to all homeowners and any homeowners association as well as all interested/affected parties. The actual location of this zone ~~should~~ shall be evaluated during grading.

4. Local areas of highly to severely weathered Tertiary Silverado Formation materials may be present. Should these materials be exposed in cut slopes, the potential for long term maintenance or possible slope failure exists. Evaluation of cut slopes during grading would be necessary in order to identify any areas of severely weathered materials or cohesionless sands. Should any of these materials be exposed during construction, the soils engineer/geologist, would assess the magnitude and extent of the materials and their potential effect on long-term maintenance or possible slope failures. Recommendations would then be made at the time of the field inspection.

5. Landslides have been mapped on site. Surficial localized earth failures (i.e., slumps, slopewash, etc.) were noted on some existing natural slopes/cliffs associated with the incised canyon drainage courses on site. In general, these surficial slumps will be completely removed by the proposed grading, and as such, ~~should~~ shall not pose a major constraint to development, providing our recommendations are properly implemented. This discussion does not include the existing slopes boundary at the residence that may remain as depicted in Cross-Section D-D'.

The potential for mass wasting, mudflow debris and rock fall, ~~should~~ shall be properly mitigated in site locations as indicated on plans (Plate 1). Additional walls or mitigation may be recommended elsewhere. It is recommended that debris impact walls or other

comparable mitigative devices (GSI, 1995a) be incorporated into the project design, in accordance with the recommendations of the design civil engineer. Should other mass wasting features be encountered in natural or cut slopes above the proposed residential development, and not be removed by the proposed grading, then appropriate mitigation ~~should~~ shall be considered by the design engineer, where these features intercept the proposed development and/or cut slopes.

6. Loose rock debris and fines remaining on the face of the cut slopes ~~should~~ shall be removed during grading. This can be accomplished by high pressure water washing or by hand scaling, as warranted.

7. Where loose materials are exposed on the cut slopes, the project's engineering geologist would require that the slope be cleaned as described above prior to making their final inspection. Final approval of the cut slope can only be made subsequent to the slope being fully cut and cleaned.

Transition and Overexcavation Areas

GEO-24 To reduce the potential for differential settlements between cut and fill materials, and/or materials of differing expansion potentials, the entire cut portion of cut/fill transitions ~~should~~ shall be overexcavated to a minimum depth of 3 feet below finish grade, or to a maximum ratio of fill thickness of 3:1 (maximum to minimum), and replaced with compacted fill. A maximum/minimum fill thickness ratio ~~should~~ shall be constructed such that 25 feet maximum fill differential is maintained within a lot, in order to keep differential settlements within tolerance. Overexcavation may also be necessary in deep cuts for heave mitigation. In these deep cut areas (more than 50 feet of Silverado Formation is removed), a 10-foot overexcavation and replacement with compacted fill is recommended.

GEO-25 Based on our rock hardness evaluation, trenching for foundations and underground utility improvements will likely encounter difficulty and/or refusal at depths generally greater than ±25 feet below the existing grade. Therefore, overexcavation, during grading, of cut lots to provide a 3-foot compacted fill blanket and street right-of-ways to 1 foot below the lowest utility invert elevation in areas where finish grade/finish surface is generally greater than ±25 feet below the existing grade may be considered to better facilitate trenching. A minimum of 2 feet of fill is recommended below all shallow foundation elements. Drilled pier supported improvements may penetrate cut fill transitions with adequate design/capacity.

Additionally, due to the high expansion potential of portions of the Tertiary Silverado Formation, lots where these sediments are observed to be less than 7 feet below finish grade (after removals), ~~should~~ shall be overexcavated to provide a 7-foot low or

medium expansive compacted fill cap. The purpose of overexcavating this highly expansive formation is to minimize its shrinking/swelling effects on the proposed foundations.

Temporary Construction Slopes

GEO-26 "Slot cuts" will need to be excavated for Cross-Section A-A' buttress backcut as previously discussed. The possible instability of temporary cut slopes during stabilization and shear key excavation, or canyon clean-out, cannot be precluded, and ~~should~~ shall be emphasized to the grading contractor. The temporary stability depends on many factors, including the slope angle, structural features in the bedrock, shearing strength along planes of weakness, height of the slope, groundwater conditions, and the length of time the cut remains unsupported and exposed to equipment vibrations and rainfall. The possibility of temporary cut slopes failing during canyon clean-outs, stabilization key excavations, etc., may be reduced by:

1. Minimizing the operations extent, in both duration and physical dimensions.

2. Limiting the length of a cut exposed to destabilizing forces at any one time.

3. Cutting no steeper than those backcut inclinations specified by the geotechnical consultant.

4. Avoiding operation of heavy equipment or stockpiling materials on or near the top of the backcut or trench. All OSHA requirements with regard to excavation safety ~~should~~ shall be implemented by the grading contractor and subcontractors, especially concrete pump trucks.

5. Provide temporary drainage and diversion retarders for the grading work to reduce the potential for ponding and erosion.

Shrinkage and Bulking Factors

GEO-27 The volume change of excavated on-site materials upon recompaction is expected to vary with materials, density, insitu moisture content, location, and compaction effort. The in-place and compacted densities of soil materials vary and accurate overall determination of shrinkage and bulking cannot be made. Therefore, we recommend site grading include, if possible, a balance area or ability to adjust grades, slightly to accommodate some variation. Based on our experience with similar materials, the following values are provided as guidelines:

Earthwork Shrinkage and Bulking Estimates	
Geologic Unit	*Estimated Shrinkage/Bulking*
Colluvium/Slopewash/Topsoil/ Younger Alluvium/Landslide Deposits	10 to 25 percent shrinkage
Silverado Formation	-5 percent shrinkage to 15 percent bulking

These values ~~should~~ shall be considered estimates only and will be dependent upon the average relative compaction obtained during grading, which is determined by the grading contractor. If possible, we suggest that provisions be made to allow for final adjustment of grades to balance the earthwork operations. Contractors ~~should~~ shall review available insitu densities, relative compaction curves, and evaluate shrinkage and bulking based on local experience. If deemed necessary, contractors may wish to provide independent boring programs to evaluate shrinkage and bulking. Subsidence in bedrock areas is estimated to be nil.

Settlement

GEO-28 Dynamic densification may increase the post-construction settlement effects and was estimated as 0.25 percent within artificial fills. The differential settlement of 0.75 to 1.5 inches over 40 lateral feet on site is possible given fill thickness of up to approximately 100 feet. GSI ~~should~~ shall re-evaluate these estimates of dynamic densification at the 40-scale plan review. The estimated of dynamic densification do not include the effects of lateral slope deformation on foundations. Mitigation of grading settlements may include a combination of:

1. Decreasing the slope of the cut/fill transition under building areas;

2. Using either post-tensioned slabs, or mat foundations; and/or,

3. Monitoring of engineered fill settlements.

Preliminary Settlement Evaluation

GEO-29 Any settlement-sensitive structures ~~should~~ shall be evaluated and designed for the combination of site-specific soil parameters and the estimated settlements and angular distortion values provided below. The 1997 UBC setbacks ~~should~~ shall be adhered to when planning improvements on the deeper fill lots. Time estimates of settlements as well as settlement magnitudes ~~should~~ shall be revisited during grading when fill materials are being placed. Where not already specified in fill (fill slopes) the use of drains within the upper 50 feet of fills may be considered to reduce wait times for settlements.

Depth of Fill (feet)	Ultimate Differential Settlement (in)	Ultimate Angular Distortion (Build at Completion of Grading)	Suggested building Wait Period Until 50% Primary Consolidation (months)	Estimated Angular Distortion after Waiting Period**
0-25	<1	1/480	0 to 3	1/480
25-50	1½	1/400*	1 to 4	1/480
50-110	3	1/275*	3 to 15	1/480

* Non-buildable immediately after grading.

** After the waiting period differential settlement is approximately 1/480, or 1 inch in 40 feet. Does not include the effects of seismic deformation or lateral slope deformation.

Preliminary Foundation Design

General

GEO-30 The proposed foundation systems ~~should~~ shall be designed and constructed in accordance with the guidelines contained in the UBC (ICBO, 1997) and the differential settlement and angular distortion discussed previously and herein. Conventional foundations may be utilized for soils with an E.I. of less than 90 (i.e., very low to medium classification) and fill depths under 25 feet in thickness. Where expansive soils are exposed at finish grade and/or compacted fills in excess of 25 feet in thickness exist, post-tensioned slabs will likely be required.

Conventional Foundation Design

GEO-31 Mitigation of foundation design includes:

1. Conventional spread and continuous footings may be used to support the proposed residential structures provided they are founded entirely in properly compacted fill or other suitable bearing material (excluding the highly expansive Tertiary Silverado Formation).

2. Analyses indicate that an allowable bearing value of 1,500 pounds per square foot (psf) may be used for design of footings which maintain a minimum width of 12 inches (continuous) and 24 inches square (isolated), and a minimum depth of at least 12 inches into the properly compacted fill or competent fan deposits, or the Tertiary Silverado Formation bedrock unit. The bearing value may be increased by one-third for seismic or other temporary loads. This value may be increased by 200 psf for each additional 12 inches in depth, to a maximum of 2,500 psf.

3. For lateral sliding resistance, a 0.35 coefficient of friction may be utilized for a concrete to soil contact when multiplied by the dead load.

4. Passive earth pressure may be computed as an equivalent fluid having a density of 250 pcf with a maximum earth pressure of 2,500 psf.

5. When combining passive pressure and frictional resistance, the passive pressure component ~~should~~ shall be reduced by one-third.

6. All footings ~~should~~ shall maintain a minimum 7-foot horizontal distance between the base of the footing and any adjacent descending slope, and minimally comply with the guidelines depicted on Figure No. 18-I-1 of the UBC (ICBO, 1997).

Lateral Pressure

GEO-32 Mitigation of lateral pressure includes:

1. For lateral sliding resistance, a 0.35 coefficient of friction may be utilized for a concrete to soil contact when multiplied by the dead load.

2. Passive earth pressure may be computed as an equivalent fluid having a density of 225 pcf with a maximum earth pressure of 2,500 psf.

3. When combining passive pressure and frictional resistance, the passive pressure component ~~should~~ shall be reduced by one-third.

Foundation Construction

GEO-33 The following preliminary conventional foundation construction recommendations are for soils in the top 7 feet of finish grade, which will have a very low to medium expansion potential, for planning and design considerations.

1. Conventional continuous footings ~~should~~ shall be founded at a minimum depth of 12 inches below the lowest adjacent ground surface for one-story floor loads and 18 inches below the lowest adjacent ground surface for two-story floor loads. Interior footings may be founded at a depth of 12 inches below the lowest adjacent ground surface.

Footings for one-story floor loads ~~should~~ shall have a minimum width of 12 inches, and footings for two-story floor loads ~~should~~ shall have a minimum width of 15 inches. All footings ~~should~~ shall have one No. 4 reinforcing bar placed at the top and one No. 4 reinforcing bar placed at the bottom of the footing. Isolated interior or exterior footings ~~should~~ shall be founded at a minimum depth of 24 inches below the lowest adjacent ground surface.

2. A grade beam, reinforced as above, and at least 12 inches square, ~~should~~ shall be provided across the garage entrances. The base of the reinforced grade beam ~~should~~ shall be at the same elevation as the adjoining footings.

3. Concrete slabs in residential and garage areas ~~should~~ shall be a minimum of 5 inches thick, and underlain with a vapor retarder consisting of a minimum of 10-mil, polyvinyl-chloride membrane with all laps sealed. This membrane ~~should~~ shall be covered, above and below with a minimum of 2 inches of sand (total of 4 inches) to aid in uniform curing of the concrete and to prevent puncture of the vapor retarder.

4. Concrete slabs, including garage slabs, ~~should~~ shall be reinforced with No. 3 reinforcement bars placed on 18-inch centers, in two horizontally perpendicular directions (i.e., long axis and short axis). All slab reinforcement ~~should~~ shall be supported to ensure proper mid-slab height positioning during placement of the concrete. "Hooking" of reinforcement is not an acceptable method of positioning.

5. Garage slabs ~~should~~ shall be poured separately from the residence footings and be quartered with expansion joints or saw cuts. A positive separation from the footings ~~should~~ shall be maintained with expansion joint material to permit relative movement.

6. The residential and garage slabs ~~should~~ shall have a minimum thickness of 5 inches, and the slab subgrade ~~should~~ shall be free of loose and uncompacted material prior to placing concrete.

7. Presaturation is not necessary for these soil conditions; however, the moisture content of the subgrade soils ~~should~~ shall be equal to or greater than optimum moisture to a depth of 12 inches below the adjacent ground grade in the slab areas, and verified by this office within 72 hours of the vapor retarder placement.

8. Soils generated from footing excavations to be used on site ~~should~~ shall be compacted to a minimum relative compaction 90 percent of the laboratory standard, whether it is to be placed inside the foundation perimeter or in the yard/right-of-way areas. This material must not alter positive drainage patterns that direct drainage away from the structural areas and toward the street.

9. Foundations near the top of slope ~~should~~ shall be deepened to conform to the latest edition of the UBC (ICBO, 1997) and provide a minimum 7-foot horizontal distance from the slope face. Rigid block wall designs located along the top of slope ~~should~~ shall be reviewed by a soils engineer.

10. Based on post-construction settlement analyses, areas where compacted fill materials in excess of 25 feet exist, an engineered post-tension foundation system will likely be required.

11. Post-tension foundations will likely be required if medium to highly expansive soils are exposed at finish grade, minimum to maximum fill thickness variation does not comply with recommendations herein, or if fills exceed about 25 feet in thickness.

12. As an alternative to conventional foundation systems, an engineered post-tension foundation system may be used. Recommendations for post-tensioned slab design are provided in following sections.

Preliminary Post-Tensioned Slab Design

GEO-34 From a soil expansion/shrinkage standpoint, a fairly common contributing factor to distress of structures using post-tensioned slabs is a significant fluctuation in the moisture content of soils underlying the perimeter of the slab, compared to the center, causing a "dishing" or "arching" of the slabs. To mitigate this possible phenomenon, a combination of soil presaturation and construction of a perimeter "cut-off" wall grade beam ~~should~~ shall be employed.

Perimeter foundations ~~should~~ shall be a minimum of 12, 18, and 24 inches deep for very low to low, medium, and highly expansive soils, respectively. Slab thickness ~~should~~ shall be a minimum of 5 inches and may need to be creased by the slab design based on steel reinforcement/cable requirements. The walls ~~should~~ shall be a minimum of 12 inches in thickness. In moisture sensitive slab areas, a vapor retarder ~~should~~ shall be utilized and be of sufficient thickness to provide a durable separation of foundation from soils (10-mils thick). The vapor retarder ~~should~~ shall be sealed to provide a continuous water-proof retarder under the entire slab. The vapor retarder ~~should~~ shall be sandwiched by two 2-inch thick layers of sand (SE>30). Specific soil presaturation is not required for very low to low expansive soils; however, the moisture content of the subgrade soils ~~should~~ shall be at or above the soils' optimum moisture content to a depth of 12 inches below grade. On a preliminary basis, specific soil presaturation is required for medium to highly expansive soils. For medium expansive soils, the slab subgrade moisture content ~~should~~ shall be at or slightly above 120 percent of the soil's optimum moisture content to a depth of 18 inches below grade. For highly expansive soils, the slab subgrade moisture content ~~should~~ shall be at or slightly above 130 percent of the soil's optimum moisture content to a depth of 24 inches below grade.

Post-tensioned slabs ~~should~~ shall be designed. Based on review of laboratory data for the on-site materials, the average soil modulus subgrade reaction K, to be used for design, is 100 pounds per cubic inch (pci). This is equivalent to a surface bearing value of 1,000 psf.

Post-tensioned slabs ~~should~~ shall be designed using sound engineering practice and be in accordance with the recommendations of the Post-Tensioning Institute Method, as well as local and/or national code requirements. Soil related parameters for post-tensioned slab design are presented below:

Allowable surface bearing value	1,000 psf
Modulus of subgrade reaction	75 psi per inch
Coefficient of friction	0.35
Passive pressure	250 pcf

Post-Tensioning Institute Method: Post-tensioned slabs ~~should~~ shall have sufficient stiffness to resist excessive bending due to non-uniform swell and shrinkage of subgrade soils. The differential movement can occur at the corner, edge, or center of slab. The potential for differential uplift can be evaluated using the 1997 UBC Section 1816, based on design specifications of the Post-Tensioning Institute. The following table presents suggested minimum coefficients to be used in the Post-Tensioning Institute design method.

Thornthwaite Moisture Index	-20 inches/year
Correction Factor for Irrigation	20 inches/year
Depth to Constant Soil Suction	7 feet
Constant soil Suction (pf)	3.6
Modulus of Subgrade Reaction (pci)	75
Moisture Velocity	0.7 inches/month

Deepened footings/edges around the slab perimeter must be used to minimize non-uniform surface moisture migration (from an outside source) beneath the slab. An edge depth of 12 inches ~~should~~ shall be considered a minimum. The bottom of the deepened footing/edge ~~should~~ shall be designed to resist tension, using cable or reinforcement ("passive" steel reinforcement bars) per the structural engineer.

Slope Setback Considerations for Footings

GEO-35 Footings ~~should~~ shall maintain a horizontal distance, X, between any adjacent descending slope face and the bottom outer edge of the footing. For top of slope, the horizontal distance, X, may be calculated by using X = h/3, where h is the height of the slope. X ~~should~~ shall not be less than 7 feet, nor need not be greater than 40 feet. X may be maintained by deepening the footings. For bottom (toes) of slopes, setbacks ~~should~~ shall be X/2, but need not exceed 15 feet (see UBC [ICBO, 1997], Figure 18-I-1).

Soil Moisture Considerations

It ~~should~~ shall be noted that the foundation construction recommendations provided in GSI (1995a) were not intended to preclude the transmission of water or vapor through the slab, as indicated in current code. Foundation systems and slabs ~~should~~ shall not allow water or water vapor to enter into the structure so as to cause damage to another building component, or to limit the installation of the type of flooring materials typically used for the particular application (State of California, 2006). Therefore, the following ~~should~~ shall be considered by the structural engineer/foundation/slab designer to mitigate the transmission of water or water vapor through the slab.

GEO-36 Concrete slabs ~~should~~ shall be a minimum of 5 inches thick for very low expansive soil conditions, and be minimally reinforced as previously discussed. All slab reinforcement ~~should~~ shall be supported to provide proper mid-slab height positioning during placement of the concrete. "Hooking" of reinforcement is not an acceptable method of positioning. Increase of concrete slab thickness would tend to reduce moisture vapor transmission though slabs.

GEO-37 Concrete slab underlayment ~~should~~ shall consist of a 10-mil to 15-mil vapor retarder, or equivalent, with all laps sealed per the UBC/CBC (ICBO, 1997 and 2001) and the manufacturer's recommendation. The vapor retarder ~~should~~ shall comply with the ASTM E-1745 Class A or B criteria and be installed per the recommendations of the manufacturer, including all penetrations (i.e., pipe, ducting, rebar, etc.). The manufacturer ~~should~~ shall provide instructions for lap sealing, including minimum width of lap, method of sealing, and either supply or specify suitable products for lap sealing (ASTM E-1745). In order to break the capillary rise of soil moisture, the vapor retarder ~~should~~ shall be underlain by 2 inches of fine or coarse, washed, clean gravel (80 to 100 percent greater than #4 sieve) and be overlain by at least 2 inches of clean, washed sand (SE >30) to aid in concrete curing.

GEO-38 Concrete ~~should~~ shall have a maximum water/cement ratio of 0.50.

GEO-39 Where slab concrete compressive strength is increased, add mixtures used, and water/cement ratios are adjusted herein, the structural consultant ~~should~~ shall also make changes to the concrete in the grade beams and footings in kind so that the concrete used in the foundation and slabs are designed and/or treated for more uniform moisture protection.

GEO-40 The use of a penetrating slab surface sealer may be considered in rooms where permeable floor tile or wood will be used. In all planned floorings, the waterproofing specialist ~~should~~ shall review the manufacturer's recommendations and adjust installation as needed. Homeowner(s) ~~should~~ shall be advised which areas are suitable for tile or wood floors.

Wall Design Parameters Considering Expansive Soils

Conventional Retaining Walls

GEO-41 The design parameters provided below assume that either very low expansive soils (Class 2 permeable filter material or Class 3 aggregate base) or native materials are used to backfill any retaining walls. The type of backfill (i.e., select or native), ~~should~~ shall be specified by the wall designer, and clearly shown on the plans. Building walls, below grade, ~~should~~ shall be water-proofed. Footings ~~should~~ shall be embedded a minimum of 18 inches below adjacent grade (excluding landscape layer, 6 inches) and ~~should~~ shall be 24 inches in width. There ~~should~~ shall be no increase in bearing for footing width. Preliminary recommendations for specialty walls (i.e., crib, earthstone, geogrid, etc.) are provided below.

Restrained Walls

GEO-42 Any retaining walls that will be restrained prior to placing and compacting backfill material or that have re-entrant or male corners, ~~should~~ shall be designed for an at-rest equivalent fluid pressure (EFP) of 65 pcf, plus any applicable surcharge loading. For areas of male or re-entrant corners, the restrained wall design ~~should~~ shall extend a minimum distance of twice the height of the wall (2H) laterally from the corner.

Cantilevered Walls

GEO-43 The recommendations presented below are for cantilevered retaining walls up to 10 feet high. Design parameters for walls less than 3 feet in height may be superseded by City and/or County standard design. Active earth pressure (Equivalent Fluid Pressure or Weight, EFW) may be used for retaining wall design, provided the top of the wall is not restrained from minor deflections. An equivalent fluid pressure approach may be used to compute the horizontal pressure against the wall. Appropriate fluid unit weights are given below for specific slope gradients of the retained material. These do not include other superimposed loading conditions due to traffic, structures, seismic events or adverse geologic conditions. These EFWs do not include the effects of expansive soils. When wall configurations are finalized, the appropriate loading conditions for superimposed loads can be provided upon request. Considering the level of PHSA (10 percent probability of exceedance in 50 years), GSI recommends that, for walls over 6 feet in height and in close proximity to residences or main access roads, the designer consider using a seismic increment of 15H be used for a surcharge, to model seismic loadings. The pressure ~~should~~ shall be added as a uniform pressure where H is the height of the wall from footing bottom (excluding keys) to top of backfill.

Retaining Wall Backfill and Drainage

GEO-44 Positive drainage must be provided behind all retaining walls in the form of gravel wrapped in geofabric and outlets. A backdrain system is considered necessary for

retaining walls that are 2 feet or greater in height. Backdrains ~~should~~ shall consist of a 4-inch diameter perforated PVC or ABS pipe encased in either Class 2 permeable filter material or 0.5 inch to 0.75 inch gravel wrapped in approved filter fabric (Mirafi 140 or equivalent). For low expansive backfill, the filter material ~~should~~ shall extend a minimum of 1 horizontal foot behind the base of the walls and upward at least 1 foot. For native backfill that has up to medium expansion potential, continuous Class 2 permeable drain materials ~~should~~ shall be used behind the wall. This material ~~should~~ shall be continuous (i.e., full height) behind the wall, and it ~~should~~ shall be constructed in accordance with the enclosed Detail 1 (Typical Retaining Wall Backfill and Drainage Detail). For limited access and confined areas, (panel) drainage behind the wall may be constructed in accordance with Detail 2 (Retaining Wall Backfill and Subdrain Detail Geotextile Drain). Materials with an E.I. potential of greater than 90 ~~should~~ shall not be used as backfill for retaining walls. For more onerous expansive situations, backfill and drainage behind the retaining wall ~~should~~ shall conform with Detail 3 (Retaining Wall and Subdrain Detail Clean Sand Backfill).

Outlets ~~should~~ shall consist of a 4-inch diameter solid PVC or ABS pipe spaced no greater than ±100 feet apart, with a minimum of two outlets, one on each end. The use of weep holes in walls higher than 2 feet ~~should~~ shall not be considered. The surface of the backfill ~~should~~ shall be sealed by pavement or the top 18 inches compacted with native soil (E.I. ?90). Proper surface drainage ~~should~~ shall also be provided. For additional mitigation, consideration ~~should~~ shall be given to applying a water-proof membrane to the back of all retaining structures. The use of a waterstop ~~should~~ shall be considered for all concrete and masonry joints.

Segmental Retaining Walls

GEO-45 The geotechnical design parameters provided below are for the proposed ±17-foot high segmental retaining wall to be located along approximately 870 feet of the eastern site boundary. These design parameters assume that either non-expansive soils (typically Class 2 permeable filter material or Class 3 aggregate base) or native on-site materials (up to and including an E.I. of 30, P.I. <10) are used to backfill any segmental retaining walls. The type of backfill (i.e., select or native), ~~should~~ shall be specified by the wall designer, and clearly shown on the plans. Building walls, below grade, ~~should~~ shall be water-proofed or damp-proofed, depending on the degree of moisture protection desired.

Foundation

GEO-46 The following mitigation measures are intended to mitigate any potential impacts resulting from slope design:

1. Prior to excavation for the wall base, the alignment and grade for the wall ~~should~~ shall be established in the field by the project civil engineer or project surveyor.

2. The contractor ~~should~~ shall have a qualified grade checker on site to continually verify the gradient (or batter) and alignment of the base excavation and wall during construction.

3. The project surveyor ~~should~~ shall spot-check wall gradient (face of wall slope) and alignment at least every 10 feet vertically and 50 feet horizontally.

4. When locating the base of the wall, structural setbacks established by the governing agency, and/or geotechnical engineer ~~should~~ shall be followed.

5. Walls ~~should~~ shall be founded on compacted fill, bedrock, or other suitable materials, as described in our referenced reports.

6. The recommended equivalent fluid pressure for design of the segmented walls ~~should~~ shall be 45 pcf for level backfill and 65 pcf for 2:1 backfill, assuming a select very low to low expansive granular backfill material (E.I. <30, P.I. <10, ϕ = 28 degrees, c = 200). These equivalent fluid pressures are based solely on static soil conditions and do not include seismic, footing surcharge, earthwork surcharge, or traffic loading which will need to be included, as necessary.

7. Utilize a seismic increment of 10 to 15H when evaluating internal gridwall stability in accordance with the Retaining Wall section of this report. For global stability of gridwalls, a seismic factor (pseudo-static) of 0.15 *i*, ~~should~~ shall be used.

8. A bearing value of 1,500 psf may be utilized for a 1 foot deep footing. A friction coefficient of 0.35 may be used for a concrete to soil contact. A friction angle of 25 degrees and a soil unit weight of 115 to 130 pcf may be utilized for the compacted fill, dense competent Silverado Formation, as verified by observation and/or testing. In addition, a cohesion value of 0 psf, for reinforced fill, 100 psf for retained fill, and 100 psf for foundation fill may be utilized.

9. Prior to placement of the segmented members, the base excavation ~~should~~ shall be observed by representatives of this firm.

10. A concrete/crushed stone leveling pad may be used to provide a uniform surface for the wall base. It is recommended that a concrete slab base be provided.

11. If it is necessary to locally deepen the wall base to obtain suitable bearing materials, the contractor ~~should~~ shall consult the project design engineer to determine if the wall location or design of the wall is affected.

12. Segmented wall height at the terminal ends of the wall ~~should~~ shall not exceed 4 feet unless lateral support is provided.

Backfill

GEO-47 1. Backfill within, behind, and in front of the segmented walls, which do not utilize geogrid fabric, ~~should~~ shall be compacted to a minimum of 90 percent relative compaction unless otherwise specified by the manufacturer. Backfill behind segmented walls, which utilize geogrid fabric, ~~should~~ shall be compacted to a minimum of 95 percent relative compaction. Any backfill other than the "unit core fill (0.75 inch crushed rock or stone)" ~~should~~ shall be placed in controlled lifts not to exceed 6 inches in thickness, and moisture-conditioned as necessary to achieve at least optimum moisture content. Backfill within and immediately behind the walls ~~should~~ shall also be as indicated on the (precise and rough) grading plans.

2. Backfill materials ~~should~~ shall be free draining, and free from organic materials, with a maximum of 15 percent fines passing the No. 200 sieve. Lifts ~~should~~ shall be placed horizontally and compaction equipment ~~should~~ shall not be allowed to damage the geogrid fabric, if utilized.

3. If gravel or other select granular material is used as backfill within or behind the segmented wall, it ~~should~~ shall be capped with a minimum 18 inches compacted fill composed of relatively impervious material.

4. During construction, the unfilled section of wall ~~should~~ shall not be stacked more than 2 feet above the fill behind the wall. If gravel is used to fill the wall, the wall may be stacked 3 feet above adjacent grades. The maximum gravel size ~~should~~ shall be less than 0.75 inches.

5. Adequate space ~~should~~ shall be provided both behind and in front of the wall so that sufficient compaction can be obtained for all backfill. The slope of the geogrid walls and beaching (in cross section and alignment) ~~should~~ shall be in accordance with the manufacturers recommendations and as approved by the geotechnical consultant.

Wall Backdrains

GEO-48 A drainage system ~~should~~ shall be installed behind segmented walls in excess of 3 feet. The design of the system will depend on specific conditions. For most cases, a schedule 40 perforated collector pipe, wrapped in Mirafi 140 or equivalent, may be placed at the heel of the wall with a full height gravel drain, separated from the native backfill materials by Mirafi 140 or equivalent. In areas where native bedrock and/or terrace deposits are retained, a secondary backdrain system, as indicated previously, ~~should~~ shall also be

placed at the rear of the backcut. If necessary, outlets may pass below the base of the wall at a minimum 2 percent gradient. Outlets ~~should~~ shall be tight-lined to an approved outlet area. The trenches for the outlets may be filled with either compacted material or gravel. If gravel is used, a concrete cut-off wall ~~should~~ shall be provided at the soil/gravel interface. Seepage ~~should~~ shall be anticipated below all segmented walls, and this ~~should~~ shall be disclosed to all homeowners and any homeowners association, and all interested/affected parties.

Materials and Wall Construction

GEO-49 Only sound segmented wall members that meet all required specifications ~~should~~ shall be used for construction of walls. Members should shall be free of honeycombing, cracks, broken lugs, or slumped bearing surfaces. All geogrid fabric utilized ~~should~~ shall comply with the required technical specifications. Geogrid fabric ~~should~~ shall be placed horizontally to the required length/width behind the wall.

Footing Setbacks for Segmented Walls

GEO-50 It is recommended that settlement-sensitive structures be built behind a 1:1 (h:v) projection above the heel of the foundation for the segmented wall. In addition, all footings ~~should~~ shall be setback behind a 1:1 projection from the heel of the geogrid reinforced excavation. If structures are located between the two 1:1 projections, the segmented wall ~~should~~ shall be designed to accommodate the additional surcharge loading from the structure, and deepened building footings may be required depending on the height of the segmented wall. All appurtenant structures (i.e., A/C pads, screen walls, light standards, pools, spas, etc.) ~~should~~ shall be placed outside a 1:1 (h:v) projection upward from the heel of the wall. Alternately, footings may be constructed such that bearing surfaces are below the 1:1 projection. Appurtenant structures, including pools, utilities, and landscaping, ~~should~~ shall not disrupt the geogrid behind the walls. All structures proposed within the setback zone will be subject to both horizontal and vertical deflections. All construction proposed within the setback area ~~should~~ shall be reviewed by the design civil engineer and GSI.

Debris Impact Walls

Containment of Mudflow Debris and Rock Fall

GEO-51 A potential for mudflow and possible rock fall exists for lots located below significant proposed cut slopes or below re-entrant canyons. Consequently, these lots ~~should~~ shall be protected with reinforced concrete-deflector walls designed to intercept and contain mudflow debris and rock fall. The deflector walls ~~should~~ shall be constructed along the tops of uphill-graded slopes bordering the lots located below these cut slopes. Locations

of walls will vary depending on as-graded conditions upon completion of rough grading. GSI has depicted the proposed locations on Plate 1. Design parameters for walls ~~should~~ shall also be based on as-graded site conditions and on a determination of probable quantities of mudflow debris that may accumulate behind the walls, as evaluated by the design engineer.

In lieu of concrete-deflector walls, suitable alternates may possibly consist of debris basins, or raising pad grades, so that there is an ascending minimum ±5-foot slope at the toe of the descending proposed significant cut slopes. However, locations, capacities, and other design considerations ~~should~~ shall be based on as-graded site conditions. Figure 5 (Debris Device Control Methods) may be used for alternative methods to contain potential debris or mud.

For design purposes, the active earth pressures ~~should~~ shall utilize an EPF of 125 pcf. Impact and debris walls should hall be designed in a similar manner. The debris walls and impact walls ~~should~~ shall be supported by footings with a minimum embedment of 18 inches into competent bedrock. Consideration ~~should~~ shall be given to supporting debris and impact walls on 12-inch diameter drilled piers embedded a minimum 6 feet into engineered fill or competent bedrock. The actual design for the piers or footings ~~should~~ shall be performed by the structural consultant using the foundation parameters in this report.

Top-Of-Slope Walls/Fences/Improvements and Expansive Soils

Expansive Soils and Slope Creep

GEO-52 The developer ~~should~~ shall provide information regarding the possibility for expansive soils to affect structures and property to any homeowners and homeowners association.

Top of Slope Walls/Fences

GEO-53 Due to the potential for slope creep for slopes higher than about 10 feet, some settlement and tilting of the walls/fence with the corresponding distresses, ~~should~~ shall be expected. To mitigate the tilting of top of slope walls/fences, we recommend that the walls/fences be constructed on a combination of grade beam and caisson foundations, for slopes comprised of expansive soils with an E.I. greater than 50. The grade beam ~~should~~ shall be at a minimum of 12 inches by 12 inches in cross section, supported by drilled caissons, 12 inches minimum in diameter, placed at a maximum spacing of 6 feet on center, and with a minimum embedment length of 7 feet below the bottom of the grade beam. The strength of the concrete and grout ~~should~~ shall be evaluated by the structural engineer of record. The proper ASTM tests for the concrete and mortar ~~should~~ shall be provided along with the slump quantities. The concrete used

~~should~~ shall be appropriate to mitigate sulfate corrosion, as warranted. The design of the grade beam and caissons ~~should~~ shall be in accordance with the recommendations of the project structural engineer, and include the utilization of the following geotechnical parameters:

Creep Zone: 5-foot vertical zone below the slope face and projected upward parallel to the slope face.

Creep Load: The creep load projected on the area of the grade beam ~~should~~ shall be taken as an equivalent fluid approach, having a density of 60 pcf. For the caisson, it ~~should~~ shall be taken as a uniform 900 pounds per linear foot of caisson's depth, located above the creep zone.

Point of Fixity: Located a distance of 1.5 times the caisson's diameter, below the creep zone.

Passive Resistance: Passive earth pressure of 300 psf per foot of depth per foot of caisson diameter, to a maximum value of 4,500 psf may be used to determine caisson depth and spacing, provided that they meet or exceed the minimum requirements stated above. To determine the total lateral resistance, the contribution of the creep prone zone above the point of fixity, to passive resistance, ~~should~~ shall be disregarded.

Allowable Axial Capacity: Shaft capacity: 350 psf applied below the point of fixity over the surface area of the shaft.

Tip capacity: 4,500 psf

Expansive Soils, Driveway, Flatwork, and Other Improvements

GEO-54 To reduce the likelihood of distress related to expansive soils, the following recommendations are presented for all exterior flatwork:

1. The subgrade area for concrete slabs ~~should~~ shall be compacted to achieve a minimum 90 percent relative compaction, and then be presoaked to 2 to 3 percentage points above (or 125 percent of) the soils' optimum moisture content, to a depth of 18 inches below subgrade elevation. The moisture content of the subgrade ~~should~~ shall be verified within 72 hours prior to pouring concrete.

2. Concrete slabs ~~should~~ shall be cast over a relatively non-yielding surface, consisting of a 4-inch layer of crushed rock, gravel, or clean sand, that should hall be compacted and level prior to pouring concrete. The layer ~~should~~ shall wet-down completely prior to pouring concrete, to minimize loss of concrete moisture to the surrounding earth materials.

3. Exterior slabs ~~should~~ shall be a minimum of 4 inches thick. Driveway slabs and approaches ~~should~~ shall additionally have a thickened edge (12 inches) adjacent to all landscape areas, to help impede infiltration of landscape water under the slab.

4. The use of transverse and longitudinal control joints are recommended to help control slab cracking due to concrete shrinkage or expansion. Two ways to mitigate such cracking are: a) add a sufficient amount of reinforcing steel, increasing tensile strength of the slab; and, b) provide an adequate amount of control and/or expansion joints to accommodate anticipated concrete shrinkage and expansion.

In order to reduce the potential for unsightly cracks, slabs ~~should~~ shall be reinforced at mid-height with a minimum of No. 3 bars placed at 18 inches on center, in each direction. The exterior slabs ~~should~~ shall be scored or saw cut, ½ to 3/8 inches deep, often enough so that no section is greater than 10 feet by 10 feet. For sidewalks or narrow slabs, control joints ~~should~~ shall be provided at intervals of every 6 feet. The slabs ~~should~~ shall be separated from the foundations and sidewalks with expansion joint filler material.

5. No traffic ~~should~~ shall be allowed upon the newly poured concrete slabs until they have been properly cured to within 75 percent of design strength. Concrete compression strength ~~should~~ shall be a minimum of 2,500 psi.

6. Driveways, sidewalks, and patio slabs adjacent to the house ~~should~~ shall be separated from the house with thick expansion joint filler material. In areas directly adjacent to a continuous source of moisture (i.e., irrigation, planters, etc.), all joints ~~should~~ shall be additionally sealed with flexible mastic.

7. Planters and walls ~~should~~ shall not be tied to the house.

8. Overhang structures ~~should~~ shall be supported on the slabs, or structurally designed with continuous footings tied in at least two directions.

Development Criteria

Slope Deformation

GEO-55 Suitable mitigative measures to reduce the potential of lateral deformation typically include: setback of improvements from the slope faces (per the 1997 UBC and/or adopted CBC), positive structural separations (i.e., joints) between improvements, and stiffening and deepening of foundations. Expansion joints in walls ~~should~~ shall be placed no greater than 20 feet on-center, and in accordance with the structural engineer's recommendations. All of these measures are recommended for design of structures and improvements. The

ramifications of the above conditions, and recommendations for mitigation, ~~should~~ shall be provided to each homeowner and/or any homeowners association.

Slope Maintenance and Planting

GEO-56 Water has been shown to weaken the inherent strength of all earth materials. Slope stability is significantly reduced by overly wet conditions. Positive surface drainage away from slopes ~~should~~ shall be maintained and only the amount of irrigation necessary to sustain plant life ~~should~~ shall be provided for planted slopes. Over-watering ~~should~~ shall be avoided as it adversely affects site improvements, and causes perched groundwater conditions. Graded slopes constructed utilizing on site materials would be erosive. Eroded debris may be minimized and surficial slope stability enhanced by establishing and maintaining a suitable vegetation cover soon after construction. Compaction to the face of fill slopes would tend to minimize short-term erosion until vegetation is established. Plants selected for landscaping ~~should~~ shall be light weight, deep rooted types that require little water and are capable of surviving the prevailing climate. Jute-type matting or other fibrous covers may aid in allowing the establishment of a sparse plant cover. Utilizing plants other than those recommended above will increase the potential for perched water, staining, mold, etc., to develop. A rodent control program to prevent burrowing ~~should~~ shall be implemented. Irrigation of natural (ungraded) slope areas is generally not recommended. These recommendations regarding plant type, irrigation practices, and rodent control ~~should~~ shall be provided to each homeowner. Over-steepening of slopes ~~should~~ shall be avoided during building construction activities and landscaping.

Lot Surface Drainage

GEO-57 Adequate lot surface drainage is a very important factor in reducing the likelihood of adverse performance of foundations, hardscape, and slopes. Surface drainage ~~should~~ shall be sufficient to prevent ponding of water anywhere on a lot, and especially near structures and tops of slopes. Lot surface drainage ~~should~~ shall be carefully taken into consideration during fine grading, landscaping, and building construction. Therefore, care ~~should~~ shall be taken that future landscaping or construction activities do not create adverse drainage conditions. Positive site drainage within lots and common areas ~~should~~ shall be provided and maintained at all times. Drainage ~~should~~ shall not flow uncontrolled down any descending slope. Water ~~should~~ shall be directed away from foundations and not allowed to pond and/or seep into the ground. In general, the area within 5 feet around a structure ~~should~~ shall slope away from the structure. We recommend that unpaved lawn and landscape areas have a minimum gradient of 1 percent sloping away from structures, and whenever possible, ~~should~~ shall be above adjacent paved areas. Consideration ~~should~~ shall be given to avoiding construction of planters adjacent to structures (buildings, pools, spas,

etc.). Pad drainage ~~should~~ shall be directed toward the street or other approved area(s). Although not a geotechnical requirement, roof gutters, down spouts, or other appropriate means may be utilized to control roof drainage. Down spouts, or drainage devices ~~should~~ shall outlet a minimum of 5 feet from structures or into a subsurface drainage system. Areas of seepage may develop due to irrigation or heavy rainfall, and ~~should~~ shall be anticipated. Minimizing irrigation will lessen this potential. If areas of seepage develop, recommendations for minimizing this effect could be provided upon request.

Toe of Slope Drains/Toe Drains

GEO-58 Where significant slopes intersect pad areas, surface drainage down the slope allows for some seepage into the subsurface materials, sometimes creating conditions causing or contributing to perched and/or ponded water. Toe of slope/toe drains may be beneficial in the mitigation of this condition due to surface drainage.

Erosion Control

GEO-59 Cut and fill slopes will be subject to surficial erosion during and after grading. On site earth materials have a moderate to high erosion potential. Consideration ~~should~~ shall be given to providing hay bales and silt fences for the temporary control of surface water, from a geotechnical viewpoint.

Landscape Maintenance

GEO-60 Only the amount of irrigation necessary to sustain plant life ~~should~~ shall be provided. Over-watering the landscape areas will adversely affect proposed site improvements. We would recommend that any proposed open-bottom planters adjacent to proposed structures be eliminated for a minimum distance of 10 feet. As an alternative, closed-bottom type planters could be utilized. An outlet placed in the bottom of the planter, could be installed to direct drainage away from structures or any exterior concrete flatwork. If planters are constructed adjacent to structures, the sides and bottom of the planter ~~should~~ shall be provided with a moisture retarder to prevent penetration of irrigation water into the subgrade. Provisions ~~should~~ shall be made to drain the excess irrigation water from the planters without saturating the subgrade below or adjacent to the planters. Graded slope areas ~~should~~ shall be planted with drought resistant vegetation. Consideration ~~should~~ shall be given to the type of vegetation chosen and their potential effect upon surface improvements (i.e., some trees will have an effect on concrete flatwork with their extensive root systems). From a geotechnical standpoint leaching is not recommended for establishing landscaping. If the surface soils are processed for the purpose of adding amendments, they ~~should~~ shall be recompacted to 90 percent minimum relative compaction.

Utility Trench Backfill

GEO-61 1. All interior utility trench backfill ~~should~~ shall be brought to at least 2 percent above optimum moisture content and then compacted to obtain a minimum relative compaction of 90 percent of the laboratory standard. As an alternative for shallow (12-inch to 18-inch) under-slab trenches, sand having a sand equivalent value of 30 or greater may be utilized and jetted or flooded into place. Observation, probing and testing ~~should~~ shall be provided to evaluate the desired results.

2. Exterior trenches adjacent to, and within areas extending below a 1:1 plane projected from the outside bottom edge of the footing, and all trenches beneath hardscape features and in slopes, ~~should~~ shall be compacted to at least 90 percent of the laboratory standard. Sand backfill, unless excavated from the trench, ~~should~~ shall not be used in these backfill areas. Compaction testing and observations, along with probing, ~~should~~ shall be accomplished to evaluate the desired results.

3. All trench excavations ~~should~~ shall conform to CAL-OSHA, state, and local safety codes.

4. Utilities crossing grade beams, perimeter beams, or footings ~~should~~ shall either pass below the footing or grade beam utilizing a hardened collar or foam spacer, or pass through the footing or grade beam in accordance with the recommendations of the structural engineer.

5.7 Hazards and Hazardous Materials

5.7.6 Mitigation Measures (DEIR page 5.7-8)

The text in the mitigation measure below has been revised per a comment by the City's attorney to change the word "should" to the word "shall."

HAZ-3 Prior to approval of the final tract map, the applicant shall submit a draft of the Rancho de Paseo Valencia Community Covenants, Conditions, and Restrictions (CC&Rs) for review by City staff. The CC&Rs shall require the Home Owner's Association (HOA) to keep the fuel modification treatment area cleared in accordance with its original design. All manufactured slopes shall be vegetated and irrigated as directed by the Fire Protection Plan (FIREWISE 2000, Inc. 2008). Further, for all lots that abut the fuel modification treatment area, the individual lot CC&Rs shall specifically state that all private land owners must engage in upkeep of the fuel modification zone consistent with all City and/or County directives.

Disturbances of native or fill soils in slope areas ~~should~~ shall be minimized or avoided during implementation of fuel modification zone activities. Loosened/disturbed soils would have an increased potential for erosion and/or instability. A representative of GSI

~~should~~ shall observe fuel modification activities (i.e., thinning and/or pruning) to evaluate and/or comment on the effects on site soils.

6.0 Cumulative Impacts

6.4 Impacts to Environmental Factors

The following conclusions regarding significant impacts were revised based on comments from the City's attorney.

Geology and Soils (DEIR page 6-7)

The project and related projects may expose people and structures to geologic hazards. Geology and soil hazards associated with development of surrounding projects would be site specific and can be mitigated on a project-by-project basis through best management practices and appropriate building techniques and processes. The project site, as well as the other potential cumulative projects in the area, would be subject to similar potential impacts and the same building requirements suitable to such a risk. The project would not have a significant cumulative impact with regard to geology and soils.

Aesthetics (DEIR page 6-8)

The proposed project along with the two related projects represent a continuation of the residential uses in this area of south Corona and would contribute to a gradual change in visual character with the conversion of vacant or agricultural property to residential uses. ~~Additionally, the proposed project is inconsistent with policies of the Hillside Development Ordinance related to the maintenance of the natural character and environmental and aesthetic values of hillside areas.~~ Cumulative development would represent a substantial cumulative degradation in visual quality.

7.0 Other California Environmental Quality Act Requirements

7.1 Significant Effects Which Cannot be Avoided (DEIR page 7-1)

The following text was revised based on a comment from the City's attorney.

Section 15126.2(b) of the CEQA Guidelines (14 CCR 15000 et seq.) requires an EIR to identify significant environmental effects that cannot be avoided if the proposed project is implemented. As discussed in this EIR, implementation of the proposed project could result in significant impacts related to aesthetics, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, noise, public services and utilities, and traffic. However, all of these impacts would be mitigated to below a level of significance with implementation of mitigation measures identified in this EIR, with the exceptions of 1) aesthetic impacts to visual character; 2) construction noise impacts relating to a) creating noise levels in excess of standards established in the general plan and b) creating a substantial temporary or periodic increase in ambient noise levels in the project

vicinity existing without the project; 3)cumulative aesthetic impacts to visual character. ~~However, all of these impacts would be mitigated to below a level of significance with implementation of mitigation measures identified in this EIR. There are no feasible mitigation measures to reduce impacts for loss of agricultural lands associated with the proposed project. A Statement of Overriding Considerations for Citywide loss of agriculture was adopted in association with the City of Corona General Plan EIR (2004).~~

8.0 Effects Not Found to be Significant (DEIR page 8-1)

The following text was revised based on a comment from the City's attorney.

The State CEQA Guidelines (14 CCR 15000 et seq.) require that the environmental document include a brief discussion of various environmental issues that were determined not to be significant. This EIR addresses all probable or foreseeable possible effects of the proposed project. Based on the analysis presented in Section 5.0, with mitigation incorporated as applicable, effects were found to be not significant for the following issue areas: Aesthetics, Agriculture Resources, Air Quality, Biological Resources, Cultural Resources, Geology /Soils, Hazards and Hazardous Materials, Hydrology/Water Quality, Land Use/Planning, Noise, Public Services and Utilities, ~~and~~ Transportation/Traffic, and Greenhouse Gases.

8.2 Population and Housing (DEIR page 8-2)

The following reference was corrected per direction from the City's attorney.

It should be noted that Appendix G of the CEQA Guidelines also asks the following question, which is outlined in Section ~~6~~7.3 of this EIR:

9.0 Project Alternatives

9.3 Alternatives Under Consideration (DEIR page 9-3)

The following text was revised based on a comment from the City's attorney.

An analysis of alternatives has been provided in this document to provide decision makers with a reasonable range of possible alternatives to be considered. Each of the alternatives is described below. For each alternative, only those issues that resulted in significant impacts under the proposed project are compared pursuant to CEQA Guidelines 15126.6(a). As described in the various sections of Section 5.0 of this EIR, there are ~~no~~ significant project impacts ~~that cannot be reduced to below a level of significance~~ to aesthetics and noise, as well as cumulative impacts in regards to aesthetics.

9.3.1 No Project Alternative

(DEIR page 9-3)

The following text was revised based on a comment from the City's attorney.

Land Use and Planning

Under the No Project alternative, existing land use designations (ER Cluster in the City, RM in the unincorporated County) would remain. The No Project alternative would result in the continuation of the existing land use and the site would continue to be occupied by the orchard. ~~However, while~~ As the No Project alternative would result in the continuation of a less intensive land use scenario, it is ~~not viewed as~~ environmentally superior to the project.

(DEIR page 9-6)

The following text was revised based on a comment from the City's attorney.

Noise

Although the project would be required to adhere to the hours set forth in the City of Corona Noise Ordinance, the No Project alternative would ~~not result in an increase of short-term construction~~ avoid significant and unavoidable impacts associated with construction noise and is, therefore, ~~viewed as slightly~~ superior to the project in that regard. The noise analysis determined that traffic associated with the project would not result in a substantial increase in noise on the surrounding roadways. Nonetheless, the No Project alternative would be superior to the project in that no contribution to ~~of~~ additional short-term and long-term noise sources would result ~~occur~~.

9.3.2 Reduced Density Alternative (DEIR page 9-9)

The following text was revised based on a comment from the City's attorney.

Aesthetics

This alternative would consist of a smaller development project, which would slightly reduce impacts to the visual character of the site and improve the project's conformance with the Hillside Development Ordinance policies. However, the project would likely still be visible from the surrounding community and/or areas in the Cleveland National Forest, and would contain new sources of lighting which would result in significant impacts and require similar mitigation measures as the proposed project. Therefore, this alternative would be only slightly superior to the proposed project.

Noise

The Reduced Density alternative would be required to adhere to the hours set forth in the City of Corona Noise Ordinance~~, similar to the project~~. ~~However,~~ S~~s~~imilar to the proposed project, a temporary increase in ambient noise levels would occur during project construction and would result in short-term significant, unavoidable impacts. The noise analysis determined that traffic associated with the project would not result in a substantial increase in noise on the surrounding roadways. Assuming a reduced density alternative may be set-back further from existing residential or open space land uses, this

alternative can be viewed as slightly superior to the project in that it would provide a greater distance between urban and natural uses and may result in a slight reduction of potential noise generated at residences.

9.3.3 **Cluster Alternative** (DEIR page 9-13 through 9-14)

The following text was revised based on a comment from the City's attorney.

Noise

The Cluster alternative would be required to adhere to the hours set forth in the City of Corona Noise Ordinance~~, similar to the project~~. ~~However, s~~Similar to the proposed project, a temporary increase in ambient noise levels would occur during project construction that would result in short-term significant and unavoidable impacts. Assuming a "Cluster" alternative may be set-back further from existing residential or open space land uses, this alternative can be viewed as slightly superior to the project in that it would provide a greater distance between urban and natural uses and may result in a slight reduction of potential noise generated at residences.

SECTION 5.0
MITIGATION MONITORING REQUIREMENTS

The California Environmental Quality Act (CEQA) requires public agencies to develop monitoring programs for the purpose of ensuring compliance with those mitigation measures adopted as conditions of project approval in order to mitigate or avoid significant environmental effects identified in environmental impact reports. Mitigation measures identified within this EIR have been described in sufficient detail to provide the necessary information to identify the parties responsible for carrying out the mitigation, when the mitigation will be implemented, and why the mitigation has been required.

A mitigation, monitoring and reporting program, incorporating the mitigation measures set forth in the EIR as modified by the Responses to Comments in Section 3, will be adopted at the time of certification of the Final EIR. A copy of the Mitigation Monitoring and Reporting Plan (MMRP) is included in Appendix A of this document.

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