09. Letter from Aruna Prabhala, Kevin Bundy, Ileene Anderson, Center for Biological Diversity, dated February 13, 2017

Comment No. 09-1:

I apologize, my inclusion of San Bernardino Valley Audubon Society in previous letter was in error. This letter is submitted on behalf of Center for Biological Diversity, Friends of Santa Clara River, SCOPE and Wishtoyo/Ventura Coastkeeper only.

Response No. 09-1:

The comment identifies a mis-statement in Comment No. 09-2 below concerning the identity of the organizations submitting the subject comment letter, specifically noting that the letter was not submitted on behalf of the San Bernardino Valley Audubon Society. The comment will be included as part of the record and made available to the decision makers prior to a final decision on the project. No further response is required because the comment does not raise an environmental issue.

Comment No. 09-2:

Please see attached comments from the Center for Biological Diversity, Friends of Santa Clara River, SCOPE and Wishtoyo Foundation and San Bernardino Valley Audubon Society's regarding the Additional Environmental Analysis for the Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Environmental Impact Report.

Response No. 09-2:

The comment is an introduction to comments that follow. No further response is required. Please also see **Response to Comment No. 09-1** above for information regarding the list of organizations submitting the comment letter.

Comment No. 09-3:

The Exhibits included in the letter are too large to send via email and have been mailed to your office today. Please confirm receipt of this email and the CD when it arrives.

Response No. 09-3:

The comment notes that the exhibits included in the letter are too large to send electronically, such that hard copies were sent via regular mail. In response to the comment's request, CDFW acknowledges receipt of the comment letter and the exhibits. No further response is required.

Comment No. 09-4:

If you have questions or concerns regarding the letter or its exhibits, please feel free to contact me.

Response No. 09-4:

The comment states that CDFW may contact the commenter with any questions or concerns regarding the comment letter or its exhibits. The comment will be included as part of the record and made available to the decision makers prior to a final decision on the project. No further response is required.

Comment No. 09-5:

These comments are submitted on behalf of the Center for Biological Diversity ("the Center"), Friends of the Santa Clara River, SCOPE and Wishtoyo/Ventura Coastkeeper (collectively "conservation groups") regarding the Additional Environmental Analysis ("AEA") for the Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Environmental Impact Report ("the project").

Response No. 09-5:

The comment identifies the list of organizations that are submitting the subject comment letter. The comment will be included as part of the record and made available to the decision makers prior to a final decision on the project. No further response is required.

Comment No. 09-6:

The stated purpose of the AEA is to respond to "direction from the California Supreme Court in its decision regarding the project's environmental impacts." (AEA 1-1, citing Center for Biological Diversity v. California Department of Fish and Wildlife (2015) 62 Cal. 4th 204.) However, the AEA is extremely limited in scope and covers only two topics: "consideration of the project applicant's proposed revisions to the GHG reduction measures" and "whether the modified bridge and bank stabilization design and construction methods would result in prohibited take or possession of unarmored threespine stickleback or other significant adverse impacts to the species not previously addressed in the 2010 Final EIR." (AEA 1-1.).

Response No. 09-6:

The comment restates information contained in the draft environmental documentation regarding the scope and purpose of the AEA. The comment characterizes the Draft AEA as "extremely limited in scope." For information on this subject, please see **Topical Response 1: Scope of the Additional Environmental Analysis**. As discussed in the referenced topical response, the AEA's scope is consistent with the California Supreme Court's 2015 Center for Biological Diversity v. California Department of Fish and Wildlife decision, the Second Appellate District's opinion on remand, as well as operative provisions of CEQA.

Comment No. 09-7:

As explained in further detail below, the AEA analysis of these two issues is inadequate and incomplete. Additionally, the AEA fails as a CEQA document and cannot be used to resolve the issues raised by the California Supreme Court in Center for Biological Diversity v. California Department of Fish and Wildlife (2015) 62 Cal. 4th 204.

Response No. 09-7:

The comment is an introduction to comments that follow, and generally states that the analysis of GHG emissions and impacts to unarmored threespine stickleback is inadequate and incomplete, such that the Draft AEA does not resolve the issues addressed in the California Supreme Court's 2015 decision. Please see the responses to comments that follow for information that is responsive to more specific comments. Given the general parameters of this comment, no further response is required. It will, however, be noted that the Draft AEA contains a complete and exhaustive analysis of the two aspects of the 2010 Final EIR that were found to be inadequate by the California Supreme Court.

Comment No. 09-8:

For these reasons, the conservation groups urge the Department of Fish and Wildlife ("Department") to substantially revise and re-release an environmental impact report that adequately addresses the environmental impacts of the project and complies with CEQA prior to moving forward with the project.

Response No. 09-8:

The comment requests that CDFW substantially revise and re-release an EIR for the project before moving forward with the project. Given the general parameters of this comment, a detailed response is not provided. However, please note that such detailed responses are provided below, in response to comments that call for preparation of a subsequent EIR. As demonstrated by those responses, no changes have triggered the need for preparation of a subsequent EIR under the operative CEQA provisions.

Comment No. 09-9:

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.1 members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Los Angeles County.

SCOPE is a non-profit organization that works to promote, protect and preserve the environment of the Santa Clarita Valley. SCOPE monitors, reviews and takes action on proposals which would impact or affect the environment, ecology and/or quality of life in the Santa Clarita Valley.

Friends of the Santa Clara River is a non-profit environmental organization dedicated to protecting, restoring, and enhancing the natural qualities of the Santa Clara River, and preserving natural diversity within the Santa Clara River watershed.

Wishtoyo/Ventura Coastkeeper is a non-profit grassroots organization with over 700 members consisting of Ventura County's diverse residents and Chumash Native Americans. Wishtoyo's mission is to preserve and protect Chumash culture, the culture of all Ventura County's diverse communities, and the environment that out current and future generations depend upon.

Response No. 09-9:

The comment provides general, background information regarding the organizations that submitted the subject comment letter, including their respective missions. The comment will be included as part of the record and made available to the decision makers prior to a final decision on the project. No further response is required because the comment does not raise an environmental issue.

Comment No. 09-10:

I. The Revised Greenhouse Gas Analysis Fails to Satisfy CEQA's Requirements

A. The Greenhouse Gas Emissions Inventory Fails to Account for All Reasonably Foreseeable project Emissions.

1. The Assumption of a 30-Year project Life Is Unsupported.

The greenhouse gas inventory and mitigation measures discussed in the revised analysis[1] assume a 30-year project life from the date of construction. Indeed, the greenhouse gas emissions inventory appears to assume that all residential and commercial buildings, and all associated sources, will simply cease emitting beginning 30 years after buildings are completed. (See App. 1, App. K, Tables K-5 and K-6 [showing emissions declining to zero or near zero beginning 30 years after project construction].)[2] This assumption is unsupported by either the cited guidance document or any substantial evidence.

[1] *References to the "revised analysis" in this document encompass the Draft Additional Environmental Analysis ("AEA") and accompanying technical documentation prepared by the California Department of Fish and Wildlife. To the extent that Los Angeles County's Draft Recirculated EIRs for the Mission Village and Landmark Village projects rely on the same or substantially similar documents, the term "revised analysis" is intended to refer to the County's documents as well*.

[2] *References to "App. 1" throughout these comments refer to the Greenhouse Gas Emissions Technical Report and Appendices attached as Appendix 1 to the Department's Draft Additional Environmental Analysis and also included as an appendix to the recirculated portions of Los Angeles County's environmental impact reports (EIRs) for Mission Village and Landmark Village*.

According to the revised analysis, the 30-year project life assumption was drawn from a South Coast Air Quality Management District (SCAQMD) greenhouse gas threshold. (App. 1, App. K, Table K-5, n.1.) The cited

document, however, recommends amortization of construction emissions based on a 30-year project life for stationary and industrial sources where SCAQMD is the lead agency, not residential and commercial developments under the jurisdiction of other lead agencies.[3] Indeed, SCAQMD staff expressly declined to recommend a threshold for residential and commercial facilities that included a similar 30- year project life assumption.[4] The SCAQMD documents do not support the assumptions in the revised analysis.

[3] *South Coast Air Quality Management District, Board Letter Re: Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, Agenda No. 31 at 2 (Dec. 5, 2008) (explaining that proposal submitted to SCAQMD Board "applies only to industrial (stationary source) projects where the AQMD is the lead agency") (attached as Ex. A).*

[4] *South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold at 3-18, Table 3-4 (Oct. 2008) (explaining that 30-year offsite mitigation for residential/commercial projects "Not Recommended at this Time") (attached as Ex. B).*

There is no substantial evidence that all emissions from the project will cease 30 years after construction is complete. The revised analysis goes further than simply amortizing construction emissions over a 30-year period; as discussed above, the analysis also assumes virtually all operational emissions will cease 30 years after buildout. Residential neighborhoods are not typically abandoned and completely rebuilt after 30 years, and nothing in the revised analysis or prior environmental review shows Newhall Ranch would be any different. According to the housing element of the Los Angeles County General Plan, 70 percent of the housing stock in unincorporated Los Angeles County is more than 30 years old, and half of the stock is more than 50 years old.[5] Nothing in the revised analysis or prior environmental review contains an enforceable commitment that Newhall Ranch will be abandoned starting in 2050 and completely depopulated by 2060. To the contrary, the residential and commercial structures built from 2020 to 2030 will likely be in need of significant retrofitting when they reach 30 years of age.[6] The efficiency of building envelopes and major building components will be determined largely by methods used in their construction; absent significant retrofits, a substantial proportion of building-related emissions will likely continue for as long as the buildings themselves remain in service. The revised analysis speculates that emissions from energy and mobile sources after 2050 may be lower than they are today, but it fails to disclose and analyze emissions that foreseeably will continue well beyond the assumed 30-year life of the project. There is simply no evidence that the buildings themselves will cease emitting completely on the schedule assumed in Appendix K to the GHG technical report.

[5] *Los Angeles County Housing Element, 2014-2021 at 82 (attached as Ex. C).*

[6] *Ibid. [Housing Element at 82] ("Typically, most homes begin to require major repairs or rehabilitation at 30 or 40 years of age. Features, such as electrical capacity, plumbing, kitchen features, and roofs usually need updating if no prior replacement has occurred.")*

This faulty, unsupported assumption fatally undermines both the emissions inventory and the mitigation commitments set forth in the revised analysis. The document's conclusion that greenhouse gas emissions will be reduced to "net zero," and accordingly will be less than significant, thus lacks substantial evidentiary support. For the same reason, the document fails to commit to sufficient mitigation to reduce all of the project's foreseeable emissions over time to zero.

Response No. 09-10:

Please see **Topical Response 2: The 30-Year Project Life and Corresponding Duration of Mitigation Measure 2-13's GHG Emissions Mitigation Period** for information responsive to this comment. As detailed in the topical response, use of the 30-year project life is a methodological determination that is strongly supported on at least five grounds, each of which provides an independent basis for using the subject analytic framework:

1. CARB, the state agency charged with the responsibility and expertise to administer the state's GHG emissions policies (Health & Saf. Code, Section 38510), approved this project's use of a 30-year project

life. Specifically, CARB reviewed the emissions inventory for the project and determined that the Draft AEA "provides an adequate technical basis to determine that the project would not result in any net additional GHG emissions after the mitigation measures are fully implemented." (A copy of CARB's November 3, 2016 letter memorializing their technical evaluation of the project's emissions inventory data are located in Final AEA Appendix 1.) CARB also has identified this project as a recent example of a sustainable land use development project that has "demonstrated that it is feasible to design projects that achieve zero net additional GHG emissions" (see page 136 of the Draft 2017 Climate Change Scoping Plan Update). Relatedly, CARB has approved the use of a 30-year project life when certifying AB 900 "leadership projects" (see Pub. Resources Code Sections 21178-21189.3), which are required to mitigate all project-related GHG emissions to net zero (Pub. Resources Code, Section 21183(c)).

2. Guidance from SCAQMD supports using a 30-year project life to analyze a project's GHG emissions under CEQA.

3. A 30-year project life also is widely used in CEQA documents by expert consultants and lead agencies—including Los Angeles County, the local land use agency with jurisdiction over the project site—for analyzing a project's GHG emissions under CEQA.

4. EO S-3-05 established 2050 as the target year for an 80 percent reduction in statewide GHG emissions below 1990 levels. The regulatory framework for achieving this target will require transforming the state's transportation, energy, and industrial sectors. As such, the future GHG emission profiles for these sectors are not generally known. And, modeling emissions significantly beyond 2050 requires speculation about GHG emissions that is not knowable or known.

   In an effort to stretch the project's modeling window, the project's mitigation period extends to 30 years beyond the build-out year of 2030, effectively extending the modeling window and mitigation period 10 years beyond the 2050 horizon set forth in the state's climate policy. Given known and knowable information beyond 2050, a 30-year project life (that extends 10 years beyond the target year established by the referenced EO) has been established as the period of time for which GHG emissions can be reasonably estimated without undue speculation.

   The modeling analysis likely overestimates the project's GHG emissions because the modeling does not take into account reasonably foreseeable regulatory programs and other governmental strategies and technological factors that likely will result in further reductions in GHG emissions levels throughout California that are needed to achieve the 2030 and 2050 targets.[1]

Given the discretionary authority established by CEQA Guidelines Section 15064.4(a)(1), CDFW has determined that a 30-year project life is the appropriate methodological basis for determining the project's GHG emissions inventory for purposes of Mitigation Measure 2-13's applicable mitigation period. The 30-year project life, as documented in **Topical Response 2: The 30-Year Project Life and Corresponding Duration of Mitigation Measure 2-13's GHG Emissions Mitigation Period** and summarized above, presents the reasonable limits of scientific and evidentiary data for the project, given current modeling tools, the changing regulatory structure, the level of unknowns beyond 2050 with respect to regulatory programs mandating further reductions in GHG emissions, and other available information.

[1] For informational purposes, Ramboll Environ quantified the level of "overestimation" in the projected GHG emissions by estimating the project's emissions profile over a 50-year project life, assuming California were to achieve the 2030 and 2050 GHG reduction targets. Such an analysis is necessarily speculative, because the regulations, programs and technological changes have not been developed. As discussed in **Topical Response 2**, Ramboll Environ concluded that the project's mitigation obligation in Mitigation Measure 2-13 likely exceeds the mitigation obligation that would apply under a hypothetical 50-year period, assuming the 2030 and 2050 GHG reduction targets are achieved.

Comment No. 09-11:

2. Vegetation Change Emissions Estimates Lack Support

Estimates of vegetation change emissions in the revised analysis are also inadequately supported. Emissions are described as a simple, one-time loss of existing vegetation carbon stock based on acreage. (App. 1, Table 2-10b.) However, the emissions estimates fail to include any estimate of forgone future sequestration associated with continuing growth of existing vegetation. Removing vegetation not only eliminates existing carbon stock at the time of removal, but also eliminates the capacity of existing vegetation to continue growing and sequestering additional carbon into the future. The revised analysis contains no evidence that sequestration in new vegetation will be identical to, or in excess of, lost future sequestration capacity associated with removal of existing vegetation. This omission not only deprives the document's estimates of an evidentiary basis, but also results in a potential undercounting of emissions associated with vegetation change.

Response No. 09-11:

The comment expresses a concern regarding the methodology used to estimate the change in carbon sequestration-related emissions that will result from the project's changes to the existing, on-site vegetation conditions. However, the methodology presented in the Draft AEA follows widely accepted guidance and methodology that is based on established input parameters to estimate GHG emissions.

The results of the carbon release/sequestration analysis reported in the Draft AEA were estimated using the California Emissions Estimator Model® (CalEEMod®), which is recommended by SCAQMD for analyzing GHG emissions under CEQA and which follows the International Panel on Climate Change (IPCC) guidelines. CalEEMod® provides a platform to calculate both construction emissions and operational emissions from land use development projects, and estimates one-time vegetation sequestration changes resulting from permanent changes to the existing site conditions and new tree plantings. This model was developed for the California Air Pollution Control Officers Association (CAPCOA)[2] in collaboration with SCAQMD (the air district with jurisdictional boundaries covering the project area) and received input from other California air districts, and is currently used by numerous lead agencies for quantifying the emissions associated with development projects undergoing environmental review, including by Los Angeles County.[3] CalEEMod® uses widely accepted models for emission estimates combined with appropriate generalized data (referred to as "default" data, values or factors) that can be used if site-specific information is not available. CalEEMod® contains default values and existing regulation methodologies to use in each specific local air district region. Appropriate statewide default values can be used, if regional default values are not defined. Ramboll Environ used default factors for the Los Angeles County area (within the SCAQMD jurisdiction) when preparing the GHG emission inventory, unless otherwise noted.

As described in Appendix A, Calculation Details for CalEEMod, of the CalEEMod® User's Guide:

> "The program calculates GHG emissions from vegetation activities of land use change and the planting of new trees according to IPCC protocol for vegetation since it has default values that work well with the information typically available for development projects. This method is similar to the Climate Action Reserve (CAR) Forest Protocol[54] and the Center for Urban Forest Research Tree Carbon Calculator[55], but it has more general default values available that will generally apply to all areas of California without requiring detailed site-specific information[56].

[2] CAPCOA is a non-profit association of the air pollution control officers from all 35 local air quality agencies throughout California.

[3] See, e.g., Enhanced Watershed Management Programs Draft Program EIR, State Clearinghouse # 2014081106, at 3.6-13 (certified by Los Angeles County Flood Control District on May 26, 2015); Ford Theaters project Draft EIR, State Clearinghouse # 2014021013, at IV.C-28 (certified by County of Los Angeles on October 7, 2014); Los Angeles County General Plan 2035 Draft EIR, State Clearinghouse # 2011081042, at xv, 5.3-13 (certified by County of Los Angeles on October 6, 2015); Earvin "Magic" Johnson Recreation Area Master Plan Draft EIR, State Clearinghouse # 2014101035, at 4.6-21 (certified by Los Angeles County Department of Parks and Recreation in February 2016).

[54] CCAR. 2007. Forest Sector Protocol Version 2.1. Available at: http://www.climateregistry.org/resources/docs/protocols/industry/forest/forest_sector_protocol_version_2.1_sept2007.pdf

[55] Available at http://www.fs.fed.us/ccrc/topics/urban-forests/ctcc/

[56] The CAR Forest Protocol and Urban Forest Research Tree Carbon Calculator are not used since their main focus is annual emissions for carbon offset considerations. As such they are designed to work with very specific details of the vegetation that is not available at a CEQA level of analysis."[4]

CalEEMod® (and, by extension, the AEA) follows published guidance on how the loss of carbon sequestration should be estimated upon the removal of existing vegetation. In accordance with IPCC guidelines,[5] the total amount of carbon released from the project's vegetation removal activities is calculated based on the assumption that the existing vegetation becomes dead organic matter (DOM) upon removal during the site preparation phase. Therefore, the 70,149 MT CO_2e identified in Draft AEA Table 2.3-2, Vegetation Change Evaluation, is the carbon released as estimated by converting the DOM biomass from the existing vegetation to CO_2e emissions in accordance with IPCC guidelines. (See also Draft AEA Appendix 1, Section 2.2.2 and Table 2-10b.) The estimated 70,149 MT CO_2e is the one-time release of GHG emissions from removed vegetation biomass; it is not assumed that the vegetation can absorb more CO_2e each year if it remains in place. It is also worth noting that, as stated by IPCC, "the accumulation of carbon in biomass slows with age, and thus for trees greater than 20 years of age, increases in biomass carbon are assumed [to be] offset by losses from pruning and mortality."[6] IPCC's position is also that, when trees and vegetation reach maturity (aka, are "full grown"), there will be no further net carbon sequestration (i.e., the carbon released from dead biomass would be balanced with carbon sequestration from the growing biomass).[7]

Also of note, while CARB is working to develop carbon sequestration quantification methods that can inform its assessment of statewide GHG emissions reduction targets, these methods are not yet finalized and are being designed for use in statewide or regional contexts, rather than to account for project-specific vegetation changes in the CEQA context. (CARB's quantification methods are being developed as part of the "California natural and working LANDs Carbon Model [CALAND]."[8])

In summary, the CalEEMod® platform is the best available modeling tool for use in estimating carbon sequestration-related emissions in the CEQA context. The CalEEMod® platform provides substantial, scientifically accepted evidence that: (i) the carbon sequestration-related emissions of the project were accurately estimated through the use of CalEEMod®, (ii) CalEEMod®'s reliance on IPCC guidelines to account for emissions associated with the release of DOM from existing vegetation is consistent with adopted protocols, and (iii) the use of default values in CalEEMod®, which specifically were intended to generally apply to all areas within California, is fully appropriate for the purpose of analyzing emissions in the CEQA context.

Comment No. O9-12:

Estimates of sequestration from new tree growth similarly lack support. The document does not describe the basis for the estimated number of new trees, nor does it explain the methodology by which emissions

[4] "Appendix A: Calculation Details for CalEEMod," prepared for CAPCOA and prepared by ENVIRON International Corporation and California Air Districts (July 2013), p. 45, available at http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2. Accessed: February 17, 2017..

[5] IPCC, "2006 IPCC Guidelines for National Greenhouse Gas Inventories" (2006), Volume 4: Agriculture, Forestry and Other Land Use, Chapter 2: Generic Methodologies Applicable to Multiple Land-Use Categories, p. 2.25, available at http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_02_Ch2_Generic.pdf. Accessed: February 17, 2017.

[6] IPCC, "IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry" (2003), Appendix 3a.4, p. 3.298, available at http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_files/Chp3/App_3a4_Settlements.pdf. Accessed: February 17, 2017.

[7] "Appendix A: Calculation Details for CalEEMod," prepared for CAPCOA and prepared by ENVIRON International Corporation and California Air Districts (July 2013), p. 47, available at http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2. Accessed: February 17, 2017.

[8] ARB, "The 2017 Climate Change Scoping Plan Update" (January 20, 2017 Draft), Appendix G: Natural and Working Lands Modeling, available at https://www.arb.ca.gov/cc/scopingplan/app_g_nwl_modeling.pdf. Accessed: February 17, 2017.

reductions from new trees were determined. (See App. 1, Tables ES-2, 2-10a, 2-10b.) The CalEEMod output files attached to the greenhouse gas technical report provide no meaningful information. (See App. 1, App. B, "ES 2030 Unmitigated" scenario, p. 2 of 40 ["Vegetation based on project information"], "NRSP 2030 Unmitigated" scenario, p. 2 of 45 [same]; "VCC 2030 Unmitigated" scenario, unpaginated [same].) The revised analysis also refers to Intergovernmental Panel on Climate Change (IPCC) recommendations in computing sequestration from new tree growth, but no specific source is identified. Nor is there any evidence that generic IPCC recommendations are applicable to the particular mix of trees and other vegetation likely to be planted, and to grow, in this particular portion of Los Angeles County. What mix of species is assumed? Will the trees be irrigated or fertilized? Were N2O emissions from fertilizer factored into the estimates? What planting success/mortality/replanting rates are assumed? Without site- specific answers to these questions, any estimate of future sequestration from vegetation growth lacks an evidentiary basis.

Response No. 09-12:

The comment expresses a concern regarding the methodology used to estimate the change in GHG emissions related to carbon sequestration from tree planting. However, as described in **Response to Comment No. 09-11** above, the Draft AEA relied upon CalEEMod® to estimate the subject GHG emissions – that modeling platform, which is recommended by the SCAQMD for estimating GHG emissions in CEQA documents and is widely used by CEQA lead agencies, including Los Angeles County, and has become the industry standard model in the CEQA consultant community, uses widely-accepted guidance and protocols to calculate carbon sequestration for new tree growth.[9]

As mentioned in the **Response to Comment No. 09-11** and as stated by IPCC, "the accumulation of carbon in biomass slows with age, and thus for trees greater than 20 years of age, increases in biomass carbon are assumed [to be] offset by losses from pruning and mortality."[10] Because trees are assumed to reach maturity in 20 years under IPCC guidelines and CalEEMod® calculation details,[11] the Draft AEA's analysis assumed 20 years of sequestration potential to estimate the total carbon sequestered over that time by the new vegetation.

As to the basis for the estimated number of new trees[12], the tree count is based on conservatively calculated, project-specific estimates provided by the project applicant that were informed by the density of landscaping in the existing neighboring community of Valencia, as well as the operative provisions of the Newhall Ranch Specific Plan (May 27, 2003) and Valencia Commerce Center Design Guidelines (August 29, 2006). Based on the mix of land use categories, new tree plantings are a reasonably foreseeable element of the landscaping plans for: single-family and multi-family residential lots[13], public and private recreational areas (e.g., parks of various sizes, trails), streetscapes (e.g., medians and landscaped setbacks between developed areas and roadways), parking lots and common areas in non-residential development areas, slopes, biological restoration areas, schools, etc. Based on the breadth of developed areas that would be comprehensively landscaped to enhance the planned community's aesthetic attributes and serve other functions (e.g., reduce the amount of impervious surfaces), the tree counts used in the analysis are consistent with what actually would be planted over the course of the build-out period. Relatedly, the analysis conservatively does not incorporate specific estimates for other small bushes, shrubs and landscaping that would be included in the project (and which also would provide carbon sequestration).

[9] "Appendix A: Calculation Details for CalEEMod," prepared for CAPCOA and prepared by ENVIRON International Corporation and California Air Districts (July 2013), p. 47, available at http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2. Accessed: February 17, 2017.

[10] IPCC, "IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry" (2003), Appendix 3a.4, p. 3.298, available at http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_files/Chp3/App_3a4_Settlements.pdf. Accessed: February 17, 2017.

[11] IPCC, "2006 IPCC Guidelines for National Greenhouse Gas Inventories" (2006), Volume 4: Agriculture, Forestry and Other Land Use, Chapter 2: Generic Methodologies Applicable to Multiple Land-Use Categories, pp. 2.13 and 2.25 to 2.26, available at http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_02_Ch2_Generic.pdf. Accessed: February 17, 2017.

[12] The tree count used is consistent with that assumed in the 2010 Final EIR.

[13] For example, based on standard practice, it is reasonable to assume that each detached single-family residence will have a minimum of one new tree planted.

As to the mix of tree species assumed in the emissions analysis, the amount of CO_2 sequestered does depend on the type of tree. However, as described in CalEEMod® Appendix A, the vegetation calculation has "general default values available that will generally apply to all areas of California without requiring detailed site-specific information."[14] The analysis presented in the Draft AEA has assumed a broad species class of "Miscellaneous" for purpose of the carbon sequestration calculation. Miscellaneous is the "[a]verage of all other broad species classes. To be assumed if tree type is not known."[15] In this case, and given the scale of the planned community, the specific tree types that would be planted to landscape the project site cannot be reasonably determined. Use of the "Miscellaneous" classification is appropriate and represents a reasonable estimate of the related GHG emissions.

As for whether the trees would be irrigated or fertilized, as described above, the project's GHG emissions were estimated based on CalEEMod®, which captures the GHG emissions indirectly emitted as a result of supplying and treating water. Here, outdoor, irrigation-related water use was accounted for in the project's water demand study; thus, the corresponding GHG emissions are included in the project's emissions inventory.[16] (See Draft AEA Table 2.3-3 and Draft AEA Appendix 1, Table 2-15b (Project Water Demand) and Table 2-15d (GHG Emissions Associated with Water Usage).)

CalEEMod® was developed based on available information to estimate construction emissions from projects. As discussed in **Response to Comment No. O9-11**, CalEEMod® is recommended by the SCAQMD for analyzing GHG emissions under CEQA and is widely used by CEQA lead agencies, including Los Angeles County. For purposes of the Draft AEA's GHG analysis, reliance on CalEEMod to estimate construction-related GHG emissions satisfies CEQA Guidelines Section 15064.4(a)(1), which allows a lead agency to select the model and methodology it considers most appropriate for the analysis, even if the model or methodology may have some limitations. Here, various activities associated with planting vegetation are incorporated into CalEEMod® and reflected in construction-related GHG emissions. Minimal nitrogen fertilizer usage, if it were to occur, is reasonably anticipated to be covered by a broader construction estimate in CalEEMod®, even if fertilizer use is not identified as a specific emissions source because the model cannot account for every possible sub-activity that could be associated with a construction project. Given the attributes of the project, which do not propose large-scale agricultural operations, no fertilizer application may be needed for the vegetation plan, or if fertilizer is used, it would likely be limited. As described in a University of California, Davis publication on fertilizing landscape trees, nitrogen deficiency is uncommon in established landscape plants and fertilizers are only required for newly planted trees in very sandy or highly leached soils, plants growing in containers, palm trees or if there is visual damage; therefore, for the project, fertilizer use may be unnecessary.[17]

Nevertheless, for additional informational purposes, the specific component of the potential GHG emissions associated with fertilizer use in general is provided here. To begin, estimating nitrous oxide (N_2O) emissions requires information about the trees being planted. As noted above, fertilizer may not be required for tree plantings, but if it is used, an average amount of three pounds of nitrogen fertilizer may be appropriate for every 1,000 square feet of root spread.[18] The root spread for a tree is calculated by multiplying its crown spread by 1.5. The average crown spread for urban trees is about 2.98 meters.[19] Based on these tree characteristics, 57,432 lbs of nitrogen fertilizer could be required for the project's tree plantings. IPCC

[14] "Appendix A: Calculation Details for CalEEMod," prepared for CAPCOA and prepared by ENVIRON International Corporation and California Air Districts (July 2013), p. 45, available at http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2. Accessed: February 17, 2017.

[15] "Appendix A: Calculation Details for CalEEMod," prepared for CAPCOA and prepared by ENVIRON International Corporation and California Air Districts (July 2013), p. 48, available at http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2. Accessed: February 17, 2017.

[16] As an aside, the project's tree palette would need to comply with Los Angeles County's Green Building Standards Code, which is located in Title 31 of the County's Municipal Code. The County requires the use of non-invasive, drought-tolerant plant and tree species to minimize water consumption.

[17] Perry, Ed, "Publication 8045: Fertilizing Landscape Trees." Available at: http://anrcatalog.ucanr.edu/pdf/8045.pdf. Accessed: February 17, 2017.

[18] Clemson University, Cooperative Extension Program, "Fertilizing Trees and Shrubs" webpage. Available at: http://www.clemson.edu/extension/hgic/plants/landscape/trees/hgic1000.html. Accessed: February 17, 2017.

[19] Pretzsch et al., "Crown size and growing space requirement of common tree species in urban centres, parks, and forests" (2015). Available at: http://www.sciencedirect.com/science/article/pii/S1618866715000473. Accessed: February 2017.

guidelines[20] set the default emission factor at 1% of the fertilizer applied to estimate N_2O emissions. Considering the global warming potential of N_2O (298), 0.002 MT CO_2e would be emitted per tree per year from fertilizer usage. For informational purposes, by comparison, when applied to the project's total tree count estimate, this roughly corresponds to 0.015 percent of the project's unmitigated inventory. Note that, because this estimate is based on the average crown spread for fully grown, mature trees and the guidance listed above indicates that fertilizers are only required for newly planted trees (with much smaller crown radii), the estimate is highly conservative.

In summary, the Draft AEA's carbon release/sequestration analysis is informed by a substantiated and reasonable methodology. The methodology uses conservative assumptions (in terms of the number of trees and other vegetation that would be planted) and default inputs CalEEMod® that are generally applicable to development projects in the California region, including the project.

Comment No. 09-13:

3. Grid Emissions Factors May Underestimate Energy Emissions

Sections 2.1.3 and 2.3.2 of the Draft AEA detail a methodology used to determine the greenhouse gas emissions associated with indirect and direct sources, expressed as GHGs embedded in energy use for the new site over the period of analysis. The document uses a unit value (GHGs/MW) based on the GHG intensity of current electricity sources for Southern California Edison (SCE) in Section 2.1.3 for indirect emissions. It also assumes that, over the course of the analysis period, the mix of electricity sources will change in line with statewide Renewable Portfolio Standards (the RPS). Renewable sources, the document assumes, will grow as a percentage of the source portfolio and reduce the GHG intensity of a MW of electricity for SCE.

Using this procedure may underestimate the GHG intensity of the fuel mix used to generate electricity if current trends continue. For instance, the large increase in renewables is leading utilities to look at options for load balancing on the grid. Natural gas speaker plants, hydro pumped storage, and various energy storage technologies are among these options. To date, many small natural gas plants have been brought online to help meet peak demands. New trends in grid management frequently assume the need for power plants that can be quickly ramped up and down to meet short-term demands. Natural gas is currently viewed as an appealing option for this use based on both technological and economic considerations.

Thus, in a future grid mix of energy sources where flexible natural gas generation increasingly supplants less flexible but lower GHG-intensity sources such as hydropower or nuclear, the GHG intensity of a unit of power may actually increase. It is not clear whether the modeling in the revised analysis considers this situation at all for grid supplied energy that makes up for the shortfalls in on-site generation. If that would occur, it could complicate meeting zero net energy (ZNE) goals as years progress.

Response No. 09-13:

The comment raises questions about the Draft AEA's estimates of GHG emissions from energy use. To address this question, it is helpful to provide a brief description of the Utility GHG Intensity Factor (which represents the pounds of carbon dioxide associated with each megawatt-hour of electricity delivered by SCE) used in the project GHG emissions analysis, which is found on page 2-18 of the Draft AEA; a more comprehensive discussion is found in Sections 2.1.3 and 2.3.2 of Draft AEA Appendix 1 (GHG Technical Report).

The Draft AEA's Utility GHG Intensity Factor is derived from an approach based on CalEEMod®'s calculation of such emission factors. Appendix A of the CalEEMod® User's Guide explains:

[20] IPCC, "2006 IPCC Guidelines for National Greenhouse Gas Inventories," Chapter 11: N2O Emissions from Managed Soils, and CO_2 Emissions from Lime and Urea Application, Table 11.1, p. 11.11. Available at: http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_11_Ch11_N2O& CO_2.pdf. Accessed: February 17, 2017.

> "The default carbon intensities for the major utility companies as well as a state-wide default are based on Table G6 of the California Air Resources Board ([C]ARB) Local Government Operation Protocol version 1.1 or the latest public utilities inventory reports. This is consistent with recommendations in the California Air Pollution Control Officer Association (CAPCOA) Quantifying Greenhouse Gas Mitigation Measures document.[21]"

Therefore, the derivation of the Draft AEA's Utility GHG Intensity Factor relies upon SCE's 2007 Power/Utility Protocol (PUP) Report data, which is accounted for in the default parameters of CalEEMod®, and also incorporates the SCE's 2006 PUP Report data to create an average to account for potential variations in annual data. The Utility GHG Intensity Factor used in the project's GHG emissions analysis then was adjusted to account for the adopted 2030 RPS. Specifically, SB 350[22] requires utilities to procure 50 percent of their electricity load from defined renewable sources by 2030. As such, the Utility GHG Intensity Factor was adjusted based on the existing mix of SCE's power generation sources multiplied by the percentage of energy delivered by SCE from non-renewable energy sources as detailed in Section 2.1.3 and Table 2-12 (Utility GHG Intensity Factor Associated with RPS) of Draft AEA Appendix 1 (GHG Technical Report).

The comment expresses a concern on the method used to calculate the Utility GHG Intensity Factor as it relates to the potential mix of power generation sources used by SCE. However, the concern raised regarding the potential future use of natural gas-fired peaker plants is speculative as there is no evidence to indicate that SCE will trend towards that energy source. In fact, there are numerous publications which indicate otherwise – such as Edison International's discussion of its own load-balancing strategies. In Edison International's 2015 Corporate Sustainability Report, Edison International outlines its plan to achieve California's 2030 energy goals.[23] Under the section "Foreword: Welcome to 2030," Edison International projects that its need to use peaker plants will be less in the years to come due to its innovative power distribution plans:

> "It is June 21, 2030; the longest day of the year, and it is a scorcher in Southern California. Fifteen years ago, Edison International's Southern California Edison utility might have needed 'peaker' power plants to keep customers cool and businesses running on long, hot days. Today, however, 50 percent of the state's energy comes from renewable resources, aided by SCE's modernized distribution network and bolstered by clean energy technologies supported by SCE and other Edison International companies.[24]"

The 2015 Corporate Sustainability Report further explains that Edison International's Distribution Resources Plan, filed with state regulators in 2015, will help California reach its 2030 clean energy goals by using five clean energy technologies: (1) energy efficiency, (2) demand response, (3) EV charging, (4) renewable energy, and (5) energy storage. The load balancing methods for the future described make no reference to the use of peaker plants.

Similarly, in a 2015 interview with Bloomberg, Colin Cushnie, SCE's Vice President of Energy Procurement & Management, spoke about how SCE intends to prioritize the use of electricity storage over the use of peaker plants for grid balance in the future. Mr. Cushnie explained that SCE recognizes the important role of battery storage and how it can help meet the peak demands at lower emissions than the peaker plants:

> "Batteries can also meet peak demands with lower emissions than natural gas-fired peakers by charging during low-demand periods when excess wind and solar energy is being generated, and

[21] "Appendix A: Calculation Details for CalEEMod," prepared for CAPCOA and prepared by ENVIRON International Corporation and California Air Districts (July 2013), p. 2, available at: http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2. Accessed: February 17, 2017.

[22] SB 350 (De Leon, 2015) is available at: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350. Accessed: February 17, 2017.

[23] Edison International is the parent company of Southern California Edison.

[24] Edison International, "2015 Corporate Responsibility Report" (November 2016), available at: http://www.edison.com/content/dam/eix/documents/aboutus/citizenship/2015-eix-corporate-responsibility-report.pdf. Accessed: February 17, 2017.

> discharging during peak demand periods, which displaces the need to burn incremental natural gas in a peaker; and[25]
>
> We don't want to put peakers on the grid if cleaner-cost options are available.[26]"

Recent examples highlight the potential for incorporating new technologies. For example, SCE partnered with Tesla to commence operations of a battery storage facility in January 2017 at SCE's Mira Loma substation, which is east of Los Angeles. Known as the "Powerpack Project," the battery storage facility will support grid operation during peak hours and improve the integration of renewable energy resources.[27]

Also of relevance, California has adopted rules and regulations to help increase the technology adoption rate related to power generation and thereby minimize reliance on natural gas-fired peaker plants. For example, AB 2514[28], followed by the CPUC decision 13-10-040[29] and AB 2868[30], call for increased use of energy storage systems (e.g., batteries) for load-serving entities in the future. The referenced CPUC decision has established storage procurement targets for load-serving entities of 1,325 MW of energy storage by 2020, with a target for SCE to procure 580 MW of energy storage. SCE has already exceeded the interim target of procuring at least 90 MW of energy storage by 2014, with a total of approximately 307 MW procured.[31]

In addition to the regulatory precedent for energy storage, one 2016 study, titled "Reconstructing Renewable Energy: Making Wind and Solar Power Dispatchable, Reliable and Efficient,"[32] suggests that energy storage can be a more cost-effective technology than peaker plants. The study illustrates how peaker plants will continue to become less cost-effective as electricity storage technology continues to be used:

> "NGCT (natural-gas combustion turbine) peaker plants are expensive and costs will continue to rise—as wind and solar power interconnection grid capacity percentages increase—if the existing electric ESS (energy storage system) design approach and battery technology continue to be used.[33]"

Additionally, the study identifies that a new Al-ion electricity storage system can reduce costs significantly over its expected 30-year life: "The Al-ion ESS is calculated to cost only 25% of expensive NGCT peaker plants currently in use on the interconnection grid."[34] These findings are consistent with those cited in a recent article from The New York Times, which reported:

> "Although battery storage is still costly, its price can be comparable to that of the natural gas plants known as peakers, which can ramp up and down quickly to handle spikes in demand, utility executives say. … Given the cost of land and the air quality requirements that limit the number of hours plants can operate, Mr. Nichols of Southern California Edison said, building natural gas plants

[25] Bloomberg, "Batteries Gaining Favor Over Gas Peaker Plants in California" (December 21, 2015), available at https://www.bloomberg.com/news/articles/2015-12-22/batteries-gaining-favor-over-gas-peaker-plants-in-california. Accessed: February 17, 2017.

[26] Ibid.

[27] Business Insider, "Tesla's new Powerpack battery storage project in Southern California is the largest on Earth" (January 30, 2017), available at: http://www.businessinsider.com/tesla-powerpack-southern-california-edison-battery-storage-mira-loma-2017-1. Accessed: February 17, 2017. Los Angeles Times, "Tesla battery contract shows how SoCal Edison is ramping up electricity storage" (September 15, 2016), available at: http://www.latimes.com/business/la-fi-tesla-edison-20160915-snap-story.html. Accessed: February 17, 2017.

[28] AB 2514 (Skinner, 2010) is available at: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200920100AB2514. Accessed: February 17, 2017.

[29] CPUC, "Decision Adopting Energy Storage Procurement Framework and Design Program" (October 17, 2013), available at https://www.sce.com/wps/wcm/connect/435ea164-60d5-433f-90bc-b76119ede661/R1012007_StorageOIR_D1310040_AdoptingEnergyStorageProcurementFrameworkandDesignProgram.pdf?MOD=AJPERES. Accessed: February 17, 2017.

[30] AB 2868 (Gatto, 2016) is available at: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160AB2868. Accessed: February 17, 2017.

[31] SCE, "Report of Southern California Edison Company (U-338-E) Demonstrating Compliance with Energy Storage System Procurement Targets and Policies" (January 4, 2016), available at http://www3.sce.com/sscc/law/dis/dbattach5e.nsf/0/E253F5A4A339AF6D88257F300081DB6C/$FILE/R.15-03-011_Energy%20Storage-SCE%20Report%20Demonstrating%20Compliance%20With%20ES%20System.pdf. Accessed: February 17, 2017.

[32] Prentis, Eric L., "Reconstructing Renewable Energy: Making Wind and Solar Power Dispatchable, Reliable and Efficient" in the International Journal of Energy Economics and Policy (Vol. 6, Issue 1, 2016), available at https://www.econjournals.com/index.php/ijeep/article/viewFile/1771/1197. Accessed: February 17, 2017.

[33] Id. at p. 128.

[34] Id. at p. 132.

> can be expensive. Batteries are more flexible and do not require the same infrastructure, including water and fuel supply conduits, as conventional generators, avoiding the need for long environmental reviews and permitting processes. As a result, energy analysts say, battery installations are likely to become more common, whether to vary the number of power supply options to enhance reliability or as part of a move away from fossil fuels to meet climate and other environmental goals.[35]"

For these reasons, the comment's suggestion that peaker plant use will exceed those quantified by CalEEMod® is speculative and contrary to substantial other evidence. The Draft AEA used reasonable modeling inputs based on the acceptable available data to calculate GHG emissions from energy use.

Lastly, the composition of grid supplied energy does not directly relate to the project's attainment of CEC's ZNE standards, as suggested by the comment. As explained in Appendix C of Draft AEA Appendix 1, the determination of ZNE is not influenced by the project's Utility GHG Intensity Factor, but rather the Energy Design Rating (EDR) profile of the residential building and/or the Time Dependent Valuation (TDV) for a non-residential building.

In summary, the comment's claims is speculative that SCE will rely on peaker plants as the main technology in the future to balance the peak demand and, thus, generate higher GHG emissions than accounted for in the Draft AEA. Reliance on peaker plants is contrary to policies and statements made by, and actions taken by SCE, among other evidence. The comment has not provided any evidence to suggest that the calculation should account for the SCE power mix in any other way. Further, it would be speculative to adjust the Utility GHG Intensity Factor to address the hypothetical scenario discussed in the comment. The methods in the Draft AEA use the best available information and analytical approach, consistent with how both CalEEMod® and CAPCOA represent utility intensity factors.

Comment No. 09-14:

The revised analysis also incorrectly assumes that all renewable energy in SCE's service territory is zero-carbon-emitting energy. (App 1 at 6-7; Table 2-12 nn. 2, 3.) SCE's current generation portfolio includes biomass generation. The 2006 SCE PUP Report shows 25,750 MT CO_2 from "biogenic" generation.[7] Biomass generation is forecast to increase in the future; according to SCE's 2016 RPS Compliance Report, submitted to the Public Utilities Commission, SCE is currently a party to CPUC-approved contracts for biomass generation totaling 235,274,333 kWh in 2022 and 354,045,667 kWh in 2023.[8] Two recent pieces of legislation, SB 1122 and SB 859, will likely result in additional bioenergy procurement. (See Pub. Util. Code §§ 399.20(f)(2) [requiring procurement of 250MW of bioenergy from small- scale generating facilities], 399.20.3 [requiring procurement of 125MW of bioenergy generation using materials sourced from "high hazard" forest areas]. SCE will be required to procure over 110MW of bioenergy under SB 1122 and 44MW of bioenergy under SB 859.[9]

[7] *Southern California Edison, 2006 Annual Entity Emissions: Electric Power Generation/Electric Utility Sector (attached as Ex. D). This appears to be the most recent PUP Report readily available from online sources. It is not clear what version of the PUP Report was used in the revised analysis; SCE Power/Utility Protocol (PUP) Reports are not available at the website cited in Table 2-12, n. 1 (the internal website links are broken), and the analysis does not specify which year's PUP Report data were used in preparing the document*.

[8] *Southern California Edison, 2016 RPS Procurement Plan (Aug. 8, 2016), Public Appendix D, Joint IOU Cost Quantification at PDF page 200-205 (Table 4) (Aug. 8, 2016) (attached as Ex. E).*

[9] *Public Utilities Commission, Decision D.14-12-081 at 85 (Dec. 26, 2014) (attached as Ex. F); Public Utilities Commission Res. E-4805, Table 1 (Oct. 21, 2016) (attached as Ex. G).*

[35] The New York Times, "Tesla Gives the California Power Grid a Battery Boost" (January 30, 2017), available at https://www.nytimes.com/2017/01/30/business/energy-environment/battery-storage-tesla-california.html?_r=0. Accessed: February 17, 2017. The Mr. Nichols cited in the article is Ronald O. Nichols, president of SCE.

Biomass generation, although classified as "renewable" under California's Renewable Portfolio Standard, is not "zero carbon" generation. Combustion of wood for energy instantaneously releases virtually all of the carbon in the wood to the atmosphere as CO_2. Biomass and fossil CO_2 are indistinguishable in terms of their atmospheric forcing effects.[10] Burning wood for energy is typically less efficient, and thus far more carbon-intensive per unit of energy produced, than burning fossil fuels. Measured at the stack, biomass combustion produces significantly more CO_2 per megawatt-hour than fossil fuel combustion; a large biomass-fueled boiler may have an emissions rate far in excess of 3,000 lbs CO_2 per MWh—far higher than emissions rates from coal-fired and gas-fired power plants.[11] Smaller- scale facilities using gasification technology (such as the facilities likely to be constructed pursuant to SB 1122) are similarly carbon-intensive; the Cabin Creek bioenergy project approved by Placer County would have an emissions rate of more than 3,300 lbs CO_2/MWh.[12] By way of comparison, California's 2012 baseline emissions rate from the electric power sector was 954 lbs CO_2 per MWh.[13] Replacing California grid electricity with biomass electricity likely more than triples smokestack CO_2 emissions; by this measure, increasing biomass generation increases rather than decreases the carbon intensity of the grid.

[10] *U.S. EPA Science Advisory Board, Science Advisory Board Review of EPA's Accounting Framework for Biogenic* CO_2 *Emissions from Stationary Sources 7 (Sept. 28, 2012) (attached as Ex. H); see also Center for Biological Diversity, et al. v. EPA, 722 F.3d 401, 406 (D.C. Cir. 2013) ("In layman's terms, the atmosphere makes no distinction between carbon dioxide emitted by biogenic and fossil-fuel sources").*

[11] *Representative emissions calculations, based on Department of Energy, Energy Information Administration, International Energy Agency, and Oak Ridge National Laboratory data are attached as Exhibit I.*

[12] *Ascent Environmental, Cabin Creek Biomass Facility project Draft Environmental Impact Report, App. D (July 27, 2012) (describing 2 MW gasification plant with estimated combustion emissions of 26,526 tonnes* CO_2e*/yr and generating 17,520 MWh/yr of electricity, resulting in an emissions rate of 3,338 lbs* CO_2e*/MWh) (attached as Ex. J).*

[13] *See Energy and Environment Daily, Clean Power Plan Hub, at http://www.eenews.net/interactive/clean_power_plan/states/california (visited May 18, 2016).*

The revised analysis is thus incorrect in assuming that all renewable electricity in SCE's portfolio will have zero GHG emissions. Accordingly, emissions projections based on the carbon intensity of SCE grid electricity lack substantial evidentiary support.

Response No. 09-14:

The comment questions whether the Draft AEA's Utility GHG Intensity Factor accounts for potential changes in SCE's generation portfolio attributable to potential increases in biomass power generation. In response, the approach used to calculate the SCE-specific Utility GHG Intensity Factor appropriately and reasonably accounts for biomass power generation in a manner that is consistent with CEQA modeling platforms for GHG emissions analysis and the state's own views on biomass power generation relative to the RPS.

As described in **Response to Comment No. 09-13** above, the Utility GHG Intensity Factor was calculated in accordance with the accepted approach set forth in CalEEMod®, which is the model recommended by the SCAQMD for calculating GHG emissions under CEQA and is widely used by CEQA lead agencies, including Los Angeles County. The analysis was based on the best available, accepted methodology for analyzing GHG emissions.

The Power/Utility Reporting and Verification Protocols for SCE[36] indicate that, "CO_2 from biogenic and geothermal sources are *not* included in entity's total CO_2, nor used to calculate efficiency metrics." The methodology used by SCE to calculate its intensity factor is consistent with CARB's Protocol to be used by local government in assessing and reporting GHG emissions, which explains that biogenic CO_2 emissions from biomass combustion should not be considered direct source emissions because those emissions would

[36] California Registry. Climate Action Registry Reporting Online Tool (CARROT) – Public Reports for SCE. Available at: http://www.climateregistry.org/CarrotDocs/26/2007/SCEPUP07r3.xls. Accessed: February 17, 2017.

have been emitted to the atmosphere through the natural process of decay irrespective of the power generation activities:[37]

> "Biogenic CO_2 emissions from biomass combustion should be reported as an Information Item in your Standard Inventory Report.[38]"

This approach also is consistent with guidance from CAPCOA, which recognizes biomass as a carbon-neutral technology that qualifies as a renewable energy source.[39]

Thus, while the comment suggests there are CO_2 emissions per megawatt hour (MWh) from biomass combustion, these would have otherwise been emitted anyway and thus are not included, consistent with the direction of CARB and CAPCOA.

The State of California also has established how biomass power generation should be accounted for via the RPS.[40] Under this guidance, a facility producing electricity using biomass as a resource is eligible for RPS certification.[41] Table 1 in this guidance shows resources eligible for RPS certification, which includes biomass among other renewable energy resources such as solar, wind, geothermal and fuel cell.[42]

The comment states how much biomass power generation will make up SCE's future power generation mix. However, studies show that biomass is anticipated to be a small part of both the renewable and overall power contribution for California's investor-owned utilities. In 2015, biomass power generation contributed to only 1 percent of the total power delivered to SCE customers and only 2 percent of the renewable energy delivered to SCE customers.[43] Additionally, based on an E3 study, biomass will likely continue to be a small part (less than 5 percent) of California's investor-owned utilities annual renewable generation energy mix in 2030 under the 50 percent RPS, as calculated by the CPUC's RPS Calculator (version 6.2). [44]

In summary, the methodology used to calculate the Draft AEA's Utility GHG Intensity Factor is supported by substantial evidence and consistent with state guidelines and regulations. The Draft AEA's estimate of GHG emissions from energy use represents a reasonable and supportable calculation for purposes of CEQA.

Comment No. 09-15:

4. The Inventory Fails to Include Other Potential Sources of Emissions.

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[37] CEC, "Waste to Energy & Biomass in California" webpage, explaining that biomass power generation creates "electricity from waste matter that would have been released into the atmosphere, added to forest fires, and burdened our landfills." Available at: http://www.energy.ca.gov/biomass/. Accessed: February 17, 2017.

[38] "Local Government Operations Protocol – For the quantification and reporting of greenhouse gas emissions inventories" (Version 1.1; May 2010), developed and adopted by the California Air Resources Board, California Climate Action Registry, ICLEI – Local Governments for Sustainability and The Climate Registry, pp. 25, 129 to 130. Available at: https://www.arb.ca.gov/cc/protocols/localgov/pubs/lgo_protocol_v1_1_2010-05-03.pdf. Accessed: February 17, 2017.

[39] CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures" (August 2010), p. A-7. Available at: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf. Accessed: February 17, 2017.
See also U.S. EPA, "The Emissions & Generation Resource Integrated Database: Technical Support Document for eGRID with Year 2014 Data" (January 2017), p. 22 [using a methodology that assumes "the amount of carbon sequestered during biomass growth equals the amount released during combustion"]. Available at: https://www.epa.gov/sites/production/files/2017-01/documents/egrid_technicalsupportdocument_0.pdf. Accessed: February 17, 2017.

[40] CEC, "Commission Guidebook: Renewables Portfolio Standard Eligibility" (Ninth Edition; January 2017). Available at: http://docketpublic.energy.ca.gov/PublicDocuments/16-RPS-01/TN215573_20170125T160830_Renewables_Portfolio_Standard_Eligibility_Guidebook_Ninth_Editi.pdf. Accessed: February 17, 2017.

[41] Id. at p. 5.

[42] Id. at p. 4.

[43] Edison International, "2015 Corporate Responsibility Report" (November 2016), p. 27. Available at: http://www.edison.com/content/dam/eix/documents/aboutus/citizenship/2015-eix-corporate-responsibility-report.pdf. Accessed: February 17, 2017.

[44] Energy + Environmental Economics (E3), "Time Dependent Valuation of Energy for Developing Building Efficiency Standards" (February 2017), p. 30. Available at: http://docketpublic.energy.ca.gov/PublicDocuments/16-BSTD-06/TN216062_20170216T113300_2019_TDV_Methodology_Report_21517.pdf. Accessed: February 17, 2017.
See also CEC, "Waste to Energy & Biomass in California" webpage, reporting that in 2015, biomass power plants produced just 3.42 percent of the total electricity in California. Available at: http://www.energy.ca.gov/biomass/. Accessed: February 17, 2017.

The revised analysis does not explicitly factor in the likelihood of future increased heat days,[14] which will likely contribute to increased energy needs for cooling over time. These needs would be more intense in the hotter northern parts of L.A. County vs. infill in the coastal plain.

[14] *See, e.g., Cayan, Dan, Mary Tyree, David Pierce, Tapash Das (Scripps Institution of Oceanography), Climate Change and Sea Level Rise Scenarios for California Vulnerability and Adaptation Assessment, California Energy Commission publication no. CEC-500-2012-008 (2012), available at www.energy.ca.gov/2012publications/CEC-500-2012-008/CEC-500-2012-008.pdf (visited Feb. 12, 2017*).

Response No. 09-15:

The comment suggests that the Draft AEA should explicitly factor into its GHG emissions analysis the potential for an unstated increase in "heat days" to alter future energy demand needs. "Heat days" is not a defined scientific term for purposes of this analysis, and it is not clear what is intended by the comment. However, to facilitate a detailed response, this response assumes that the comment may be referring to the potential for anticipated increase in the number of heat waves in the future.

As mentioned in prior responses, the analysis was prepared using the model recommended by the SCAQMD for preparing CEQA documents and estimating GHG emissions (i.e., CalEEMod®). The model, which includes a number of conservative factors and has been carefully vetted by CAPCOA, has become the industry standard for analyzing GHG emissions under CEQA.

For purposes of the CEQA analysis, it is speculative to adjust the project's energy demand estimates based on those potential unknown future "heat days." Any future increase in the number of "heat days" may be counter-balanced with the reasonably foreseeable expectation that energy demand may decrease in the future, as compared to what would be forecasted using today's energy standards, due to technology improvements associated with the efficiency of cooling homes as CEC promulgates further iterations of California's Building Energy Efficiency Standards (Title 24, Part 6, of the California Code of Regulations). In this way, the Draft AEA analysis is conservative because it does not account for energy efficiency improvements in cooling technologies. As stated on page 2-35 of the Draft AEA, the analysis likely overestimates the project's incremental contribution of GHG emissions that influence global climate change because the analysis does not account for reasonably foreseeable regulatory programs, technology advancements and other strategies that will be needed to achieve California's 2030 and 2050 GHG reduction goals.

As discussed in **Response to Comment No. 09-20** below, the Draft AEA's GHG emissions analysis uses CEC-approved building energy models (such as CBECC and EnergyPro), which constitute the best available information and modeling tools for the calculation of the energy demand for buildings. This is discussed on page 2-18 of the Draft AEA, as well as at length in Section 2.3.2 and Appendix C of Draft AEA Appendix 1. Mitigation Measure 2-1 and Mitigation Measure 2-2 provide a mechanism for future updates by CEC to address changes in energy demand profiles that would be accounted for in the design of the project's buildings, as enforced at the time a building permit is issued. Specifically, the ZNE Confirmation Report would require an evaluation to document that the design meets the standards of ZNE. This evaluation would be based on the latest CEC-approved models in use at the time of building permit issuance to demonstrate that the buildings meet the ZNE requirement. CEC's model accounts for different climate zones, which reflects the comment about potential changes in the project area.

CEC's ZNE modeling software incorporates informational updates from CEC's Integrated Energy Policy Report (IEPR), which presents electricity demand forecasts for the upcoming ten years and contains discussion and modeling of the implications of climate change on energy demand.[45] The electricity demand scenarios vary based on levels of economic and demographic growth, electricity rate structures, and impacts of self-generation. The different demand forecasts show corresponding variability in total and peak electricity demand. For example, CEC's mid-range model estimate incorporates the potential incremental impacts of

[45] CEC, "2015 Integrated Energy Policy Report" (2016), pp. 137-138, 236-247. Available at: http://www.energy.ca.gov/2015_energypolicy/. Accessed: February 17, 2017.

climate change on electricity consumption based on temperature simulations. Statewide, the mid-case increase in total electricity consumption in 2026 due to increased heat days is 1,100 gigawatt hour (GWh); whereas the overall annual electricity consumption estimates range from 299,372 GWh to 326,491 GWh.

Comment No. 09-16:

Nor does the revised analysis explicitly account for the effect of traffic congestion on mobile source emissions. It is not clear whether or how emissions estimates in CALEEMOD account for site-specific congestion, particularly congestion related to vehicles on trips not associated with the development, but occurring on roads shared by traffic related to the development. With more vehicles on shared roads (most obviously including, but not limited to, SR 126 and I-5), there will be more congestion and internal combustion vehicles will be slowed down, producing more carbon and criteria pollutants.

Response No. 09-16:

As discussed in detail below, GHG emissions generated by project-related traffic are accounted for in the Draft AEA analysis. To the extent this comment is addressing traffic congestion in general or vehicle emissions other than GHGs, this comment is beyond the scope of the AEA. See **Topical Response 1: Scope of the Additional Environmental Analysis** for additional responsive information. While traffic, air quality, and criteria pollutant concerns were raised in the underlying proceedings, the traffic analysis was not found deficient by the courts.

The comment does not provide any evidence that traffic congestion would be different than what was analyzed in the Draft AEA (and the underlying proceedings). Indeed, as discussed below, with the implementation of Mitigation Measures 2-6, 2-7, and 2-8, the project would reduce congestion (and reduce project-related GHG emissions). As there are no project changes that would increase traffic impacts relative to what was previously analyzed and upheld, no additional analysis of traffic is needed.

Nonetheless, for informational purposes, the following information is provided in response to this comment.

As described in **Response to Comment No. 09-11** above, the project's GHG emissions were estimated using CalEEMod®, the industry standard modeling platform for CEQA analysis.

For purposes of the project's mobile source-related emissions estimates, CalEEMod® is informed by EPA's AP-42 emission factors and CARB's on-road and off-road equipment emission models, such as the EMFAC and the Emissions Inventory Program model (OFFROAD). Notably, the model is designed to estimate operational, on-road mobile vehicle traffic generated by a project's land uses. For purposes of the Draft AEA's GHG emissions analysis, traffic information for each project land use was provided by Stantec, a transportation engineering firm. (See Draft AEA, p. 2-18 and Draft AEA Appendix 1, Section 2.3.5, Mobile Sources.) CalEEMod® estimates the GHG emissions resulting from project-related vehicle miles travelled accrued by the proposed land uses. Using those inputs, CalEEMod® specifically accounts for the CO_2 emissions from running, start-up and idling vehicles.[46]

The comment has not provided any substantial evidence to suggest that congestion will be any worse than previously analyzed. Further, CAPCOA and other California air districts designed CalEEMod® as a reasonable and appropriate model for forecasting project-specific contributions to GHG emissions.

As additional background, Stantec evaluated the project's traffic volumes and the impact of those volumes on roadway capacity in the traffic study for the 2010 Final EIR. Based on Stantec's analysis and recommendations, the project would mitigate all of its traffic impacts to less than significant levels. No additional analysis of traffic is needed for purposes of the updated GHG analysis presented in the Draft AEA. Please also see **Topical Response 4: Traffic Impact Analysis**.

[46] "Appendix A: Calculation Details for CalEEMod," prepared for CAPCOA and prepared by ENVIRON International Corporation and California Air Districts (July 2013), pp. 23-24, available at http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2. Accessed: February 17, 2017.

Further, evidence supports that the revised GHG mitigation measures would reduce congestion. Mitigation Measure 2-7 would require that traffic signals be synchronized along identified segments of State Route 126, Chiquito Canyon Road, Long Canyon Road, Valencia Boulevard, Magic Mountain Parkway and Commerce Center Driveway prior to the issuance of traffic signal permits for the project. As explained on Draft AEA page 2-29:

> "The improved synchronization of the aforementioned intersections will improve vehicle efficiency, thus decreasing transportation-related emissions of GHG associated with project implementation. Emissions from inefficient travel (e.g., idling) shall be mitigated through signal synchronization and improved vehicle movement."

(See also Appendix I [Stantec Traffic Signal Synchronization Analysis] of Draft AEA Appendix 1.) Additionally, Mitigation Measure 2-6 calls for implementation of the Newhall Ranch Transportation Demand Management Plan (TDM Plan), which serves to reduce the VMT by project residents, employees and visitors by approximately 15 percent and therefore potentially reduces congestion (see updated Appendix E of Draft AEA Appendix 1 in Final AEA Appendices 7 and 8). Finally, Mitigation Measure 2-8 requires funding for the purchase, operation, and maintenance of an zero-emission school bus program, which is to be implemented pursuant to Mitigation Measure 2-6 and which would further reduce VMT.

Comment No. 09-17:

Moreover, it appears that the traffic analysis is out of date given apparent changes in trip generation and VMT estimates since certification of the prior EIR.

Response No. 09-17:

The comment suggests the traffic analysis is out of date but this is not correct. The issue of traffic and the traffic model were raised in comments on the 2010 Final EIR and not found to be deficient by the courts. Therefore, the traffic analysis from the 2010 Final EIR remains valid and does not require additional analysis or updating in the Final AEA. Further, as discussed below, the implementation of Mitigation Measures 2-6, 2-7 and 2-8 likely would serve to reduce project-related traffic, as compared to that presented in the 2010 Final EIR. As there are no project changes that would increase traffic impacts relative to what was previously analyzed and upheld, no additional analysis of traffic is needed. Please also see **Topical Response 4: Traffic Impact Analysis**.

Finally, please note that the Draft AEA's unmitigated GHG emissions estimate is based on the trip generation and trip length (trip generation and trip length provide the basis for VMT estimates) contained in the 2010 Final EIR. The emissions reduction benefits of the project's mitigation measures are then incorporated into the analysis.

Comment No. 09-18:

Finally, estimates of GHG emissions from construction seem to include only mobile source emissions, and do not seem to address embedded emissions from materials such as concrete and asphalt for roads. For local governments, these are some of the largest sources they have control over to meet future goals. Local private development projects should consider them as well.

Response No. 09-18:

The comment states that the Draft AEA's GHG emissions analysis should consider the "embedded emissions" associated with the production of construction-related materials, such as concrete and asphalt. The comment does not identify a specific critique of the modeling or provide evidence supporting different input assumptions. As previously discussed in earlier responses, the boundary of the project's GHG emissions profile is based on CalEEMod®, a modeling platform developed by California's air districts and is currently recommended by the SCAQMD and numerous lead agencies for quantifying the GHG emissions associated with development projects undergoing environmental review. The model appropriately accounts for GHG emissions during construction, which represent a reasonable estimate for purposes of CEQA.

CalEEMod® calculates the construction emissions associated with site preparation, demolition, grading, utility installation, building, architectural coating, paving, and on-road mobile equipment associated with workers, vendors, and hauling. These calculations represent substantial evidence supporting the project's estimated GHG emissions from construction. Lifecycle emissions are not included in CalEEMod® because it was determined by the model's developers (including SCAQMD and CAPCOA) that such emissions are speculative due to the lack of specific information that would be necessary to inform a reasoned estimation of such emissions. As stated by CAPCOA: "The full life-cycle of GHG emissions from construction activities is not accounted for in the modeling tools available, and the information needed to characterize GHG emissions from manufacture, transport, and end-of-life of construction materials would be speculative at the CEQA analysis level."[47] (See CEQA Guidelines Section 15145.)

Comment No. 09-19:

B. Proposed Greenhouse Gas Mitigation Measures Contain Unsupported and Potentially Overstated Emissions Estimates and Otherwise Fail to Satisfy CEQA's Requirements

1. Zero Net Energy (GCC-1 and GCC-2)

Achieving zero net energy (ZNE) from residential and commercial buildings is a laudable goal. However, mitigation measures GCC-1 and GCC-2—outlining a ZNE approach for this project—are vague, improperly defer mitigation, and otherwise fail to satisfy CEQA's requirements.

Both ZNE mitigation measures are impermissibly vague. Rather than commit to a particular efficient design, the applicant has to prepare a ZNE Confirmation Report. This report purportedly will demonstrate that development has been designed and will be constituted to achieve ZNE, as defined by the California Energy Commission (CEC) in its Integrated Energy Policy Report (IEPR), "or otherwise achieve an equivalent level of energy efficiency, renewable energy generation or greenhouse gas emission savings." (Draft AEA 2-25; App. 1 at 20 [emphasis added].) The revised analysis contains no data, performance standard, or other information necessary to guide a determination as to what methods might "otherwise" achieve an "equivalent" level of efficiency, generation, or greenhouse gas reduction. As a result, the feasibility, potential environmental impacts, enforceability, and effectiveness of this undefined "equivalent" approach are impossible to determine.

For similar reasons, GCC-1 and GCC-2 constitute improperly deferred mitigation. Deferred formulation of particular mitigation measures is permissible only where an agency affirmatively commits to mitigation that will meet a specified performance standard. (See CEQA Guidelines § 15126.4(a)(1)(B).) Here, the vagueness of the ZNE mitigation measures precludes any meaningful comment on or finding related to the ability of unspecified alternative approaches to achieve "equivalent" efficiency, generation, or emissions reductions. Moreover, the measures lack an adequate performance standard.

Response No. 09-19:

The comment claims that Mitigation Measures 2-1 and 2-2 are impermissibly vague and constitute deferred mitigation. This is not the case, as the mitigation measures include specific performance standards and do not defer the formulation of the project applicant's mitigation obligations.

Mitigation Measures 2-1 and 2-2 require the project applicant to design residential development, commercial development, private recreation centers, and public facilities within the project to achieve ZNE, as defined by CEC in the 2015 IEPR,[48] prior to the project applicant receiving a building permit for the associated buildings, as enforced by Los Angeles County. The ZNE standard establishes specific criteria that must be achieved to satisfy Mitigation Measures 2-1 and 2-2.

[47] CAPCOA, "CEQA and Climate Change: (2008), p.65. Available at: http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf. Accessed: February 17, 2017.

[48] The ZNE definition presented in the 2015 Integrated Energy Policy Report also is consistent with the ZNE definition set forth in CEC's and CPUC's New Residential Zero Net Energy Action Plan. See also CEC and CPUC, "New Residential Zero Net Energy Action Plan 2015-2020" (June 2015), p. 13. Available at: http://www.californiaznehomes.com/links-and-resources. Accessed: February 17, 2017.

For additional clarification, the relevant portions of Mitigation Measures 2-1 and 2-2 have been revised to include the specific standard for ZNE as identified by CEC and provide other clarifying revisions (see Final AEA Appendix 2 for the full revisions to Mitigation Measure 2-1 and comparable revisions to Mitigation Measure 2-2)[7]. Clarifying revisions to Mitigation Measure 2-1 are as follows (deletions are showing in ~~strikethrough~~ and additions are shown in underline):

Mitigation Measure 2-1: Residential Zero Net Energy

Prior to the issuance of residential building permit~~s~~ for the project or a portion of the project, the project applicant or its designee shall submit one or more ~~a~~ Zero Net Energy (ZNE) Confirmation Report~~s~~ (ZNE Report) prepared by a qualified building energy efficiency and design consultant to Los Angeles County for review and ~~approval~~ confirmation that the residential development covered by the ZNE Report achieves the ZNE standard specified in this mitigation measure. Specifically, ~~The~~ a ZNE Report shall demonstrate that the residential development within the RMDP/SCP project site subject to application of Title 24, Part 6, of the California Code of Regulations has been designed and shall be constructed to achieve ZNE, as defined by CEC in its 2015 Integrated Energy Policy Report, which requires the value of the net energy produced by project renewable energy resources to equal the value of the energy consumed annually by the project using CEC's Time Dependent Valuation metric ~~or otherwise achieve an equivalent level of energy efficiency, renewable energy generation or greenhouse gas emissions savings~~.

A ZNE Report ~~may, but is not required to~~ shall provide, at a minimum, the following information:

- Confirmation that the residential development shall comply with Title 24, Part 6 building standards that are operative at the time of building permit application.
- Identification of additional measures or building performance standards that shall be relied upon to achieve the ZNE standard (as defined above), assuming ZNE is not already achieved by meeting the operative Title 24, Part 6 building standards.

In demonstrating that the residential development achieves the ZNE standard, the ZNE Report may:

- Evaluate multiple buildings and/or land use types. For example, a ZNE Report may cover all of the residential and ~~commercial~~ non-residential buildings within a neighborhood/community, or a subset thereof, including an individual building.
- Rely upon aggregated or community-based strategies to support its determination that the subject buildings are designed to achieve ZNE. For example, shortfalls in renewable energy generation for one or more buildings may be offset with excess renewable generation from one or more other buildings ~~or off-site renewable energy generation~~. As such, a ~~A~~ ZNE Report could determine a building is designed to achieve ZNE based on aggregated or community-based strategies even if the building on its own may not be designed to achieve ZNE.
- Make reasonable assumptions about the estimated electricity and natural gas loads and energy efficiencies of the subject buildings.
- If interconnection of the project's renewable generation is not sufficient to allow compliance with the ZNE standard for the project, or a portion of the project, then Los Angeles County shall allow the project applicant or its designee to achieve an equivalent level of GHG emissions reductions to mitigate such shortfall by providing 5.1 MT CO_2e of GHG reductions for every megawatt-hour of renewable energy generation that would have been needed to achieve the ZNE standard for the project, or a portion of the project, as demonstrated in the ZNE Report.

The ZNE standard is not ambiguous or vague. As identified above, the ZNE standard is explicitly defined by CEC as requiring "the value of the net energy produced by project renewable energy resources to equal the value of the energy consumed annually by the project using CEC's Time Dependent Valuation metric." CEC has developed modeling tools that allow a qualified energy expert to determine if buildings are designed to

achieve the ZNE standard, demonstrating that this standard can be measured and enforced by Los Angeles County prior to the project applicant obtaining a building permit (see Appendix C to Draft AEA Appendix 1 for description of CEC's CBEEC software). The TDV metric measures the value of energy based on the time of use and other factors, such as cost, climate, geography, and fuel type, and is defined by CEC as follows:

> "The concept behind TDV is that energy efficiency measure savings should be valued differently depending on which hours of the year the savings occur, to better reflect the actual costs of energy to consumers, to the utility system, and to society. The TDV method encourages building designers to design buildings that perform better during periods of high energy cost.[49]"

The comment states that the mitigation measures do not adequately describe what constitutes "otherwise" achieve an "equivalent" level of efficiency, generation, or greenhouse gas reduction, which, the comment asserts, means "the feasibility, potential environmental impacts, enforceability, and effectiveness of this undefined 'equivalent' approach are impossible to determine." In response to comments, this language has been removed from the mitigation measures, as shown above. Moreover, the specific metric for calculating the equivalent level of GHG reductions to address a shortfall in ZNE compliance has been identified as 5.1 MT CO_2e of GHG reductions for every megawatt-hour of renewable energy generation that would have been needed to achieve the ZNE standard, as demonstrated in the ZNE Report (see Final AEA Appendix 9 for the derivation of this conversion metric). The equivalency metric is applied in the revised mitigation measures to account for a scenario where interconnection of the project's renewable energy generation is not sufficient to allow compliance with the ZNE standard for the project, or a portion of the project, to respond with an equivalent level of GHG reductions that would occur as if ZNE had been achieved. (See Final AEA Appendix 9.) In sum, Mitigation Measures 2-1 and 2-2, as revised, address the concerns raised by the comment by removing the text cited by the "equivalency" comment and defining the specific metric for mitigating a shortfall in compliance with the ZNE standard.

The comment indicates that Mitigation Measures 2-1 and 2-2 constitute deferred mitigation. This is not correct because the measures are fully defined in the Draft AEA and formulation of the measure is not deferred. Compliance with this measure is required to be demonstrated by the project at the time of issuance of the building permit and is integrated with the construction of the project.

The comment implies that a ZNE Report would not adequately result in compliance. The ZNE Report must be prepared by a qualified energy expert and demonstrate that the buildings covered by the building permit are designed to achieve the ZNE standard before building permit issuance, as enforced by Los Angeles County. In other words, the project applicant cannot pull a building permit before complying with Mitigation Measures 2-1 and 2-2. As shown above, the required contents of a ZNE Report have been further clarified so the report "shall include, at a minimum," the following information: confirmation that development shall achieve building code standards that are operative at the time of building permit application; and identification of additional measures that shall be relied upon to achieve the ZNE standard, assuming ZNE is not already achieved by meeting the operative building standards. In sum, the ZNE Report confirms compliance with the ZNE standard prior to the issuance of a building permit, as enforced by Los Angeles County.

The comment incorrectly states that the measures lack an adequate performance standard. However, as discussed above, the mitigation measures describe a clear ZNE performance standard that must be achieved prior to obtaining a building permit, as enforced by Los Angeles County. Mitigation Measures 2-1 and 2-2 have adequate specificity to achieve compliance with CEQA.

[49] See Energy + Environmental Economics, Time Dependent Valuation of Energy for Developing Building Efficiency Standards: 2013 Time Dependent Valuation (TDV) Data Sources and Inputs, February 2011, p. 3, available at: http://www.energy.ca.gov/title24/2013standards/prerulemaking/documents/general_cec_documents/Title24_2013_TDV_Methodology_Report_23Feb2011.pdf (accessed March 13, 2017).

Comment No. 09-20:

The measures rely on the definition of ZNE adopted in the IEPR. The IEPR, however, acknowledges substantial unresolved questions and significant uncertainites, [sic] particularly related to plug loads and natural gas usage, that prevent its ZNE definition from functioning as an adequate performance standard.[15]

[15] California Energy Commission, 2015 IEPR at 41-45 (June 2016) (attached as Ex. K).

Response No. 09-20:

The comment states that the ZNE definition in CEC's 2015 IEPR cannot function as an adequate performance standard because of "substantial unresolved questions and significant uncertainties," with a specific reference to "plug loads and natural gas usage." This is not correct. CEC establishes a clear definition that allows a qualified energy expert to determine if a building achieves the ZNE standard, as detailed in **Response to Comment No. 09-19**. CEC's definition is well-established, measurable and enforceable.

The comment is not correct that ZNE cannot be achieved merely because the state continues to develop ZNE policies. CEC's 2015 IEPR definition of ZNE was carefully vetted in an extensive, public, multi-stakeholder proceeding with the goal of advancing California's ambitious energy conservation policies.[50] California has set goals of reaching ZNE in 100 percent of new commercial construction by 2030, and 100 percent of new single and multi-family homes by 2020. (*California Energy Efficiency Strategic Plan: January 2011 Update* (January 2011) (EE Strategic Plan) at pp. 11, 29.) These targets represent a continuation of California's commitment to achieving deep reductions in California's energy demand and usage. (EE Strategic Plan at 1-2.) ZNE is a key tool to achieve California's energy efficiency goals, both for its environmental benefits and to manage energy demand. (EE Strategic Plan at 3-4.) The state also recognizes the importance of affordability, identifying long-term affordability as a fundamental goal of the ZNE Action Plan in light of the "serious, long-term issue" of the cost of housing in California. (ZNE Action Plan at 6; EE Strategic Plan at 16.)

According to the CPUC, California's ZNE goals are important for advancing the state's energy efficiency strategies even before ZNE standards become mandatory for new development:

"The 'Big / Bold' goal of achieving ZNE for 100 percent of new residential construction and the supporting interim goals are extremely aggressive. Accordingly, we characterize them in this first Plan as 'reach' and 'programmatic' goals. They are intended to capture the imagination and spark the enthusiasm of all who participate in transforming residential new construction to ultra-high levels of energy efficiency." (EE Strategic Plan at 14.) Likewise, one of the goals of the ZNE Action Plan is to "inspire voluntary actions to meet the state's goal [set forth in the EE Strategic Plan]."

(CPUC, New Residential Zero Net Energy Action Plan 2015-2020 (June 2015) (ZNE Action Plan) at p. 1.)

In sum, California agencies recognize the forward-looking nature of ZNE and encourage achievement of ZNE even before ZNE is mandatory under building code standards. Contrary to the comment's assertion, reliance on agency guidance should not be delayed until all possible areas of uncertainty have been resolved. In any instance, CEC's definition of ZNE provides an established and enforceable standard for achieving compliance with Mitigation Measures 2-1 and 2-2.

With respect to the issue of "plug-in loads and natural gas usage," the Draft AEA's analysis was based on CEC's approved energy modeling software, which accounts for variations in plug-in loads and natural gas usage. As stated on pages 3 and 4 of Appendix C to Draft AEA Appendix 1:

> "The most recent iteration of CBECC-res, version 2016.2.0 (857), allows users to begin balancing both regulated and unregulated loads against PV generation, in order to demonstrate that a

[50] See California Energy Commission, Docket Nos. 15-IEPR-01 – 15-IEPR-13, available at: http://www.energy.ca.gov/2015_energypolicy/ (accessed March 13, 2017).

> residential building has reached ZNE on a TDV-basis. CBECC software currently uses the Energy Design Rating (EDR) to represent annual TDV energy consumption for both regulated and unregulated building loads. Likewise, CBECC-res software now enables users to model PV generation, which is also output as an EDR value."

By sizing a PV system to generate greater annual EDR than the residential building consumes, the user can approximate a building that will meet CEC's ZNE definition. As shown in Figure 1, the EDR of the PV system slightly exceeds the EDR of the Proposed Design."

To account for varying energy demand estimates, CEC modeled multiple scenarios that address various energy demand estimates.[51] CEC uses the scenarios to develop the "mid-range" energy demand estimates that are incorporated into the TDV values used for building energy compliance calculations.

In sum, the building energy analysis presented in Appendix C of Draft AEA Appendix 1 accounts for the natural gas consumption and plug-in loads of the building prototypes when identifying a ZNE-compliant design pathway.

Comment No. O9-21:

The revised analysis also fails to address the potential environmental impacts associated with achieving ZNE. (See CEQA Guidelines § 15126.4(a)(1)(D). The mitigation measures do not specify what type of renewable energy generation might be considered or where it might be located (e.g., distributed solar on rooftops versus small-scale or large-scale concentrated solar or wind); indeed, the revised analysis indicates that renewable energy generation could occur offsite (App. 1 at 20), but provides no information concerning what type of site, or what type of generation, might be pursued. As a result, the document fails to provide even a general good-faith analysis of the potential environmental impacts of these mitigation measures.

Response No. O9-21:

The comment requests additional information about the potential environmental impacts with ZNE compliance. By design, Mitigation Measures 2-1 and 2-2 do not specify any particular building efficiency measures or programs that must be adopted to achieve ZNE because the type and cost of applicable technologies will change and improve over time, creating new compliance pathways for different buildings. The ZNE standard establishes a performance criterion that must be met in the building design and be implemented in the building construction. The Draft AEA describes the likely compliance pathways based on existing technologies, although it recognizes that these pathways may change over the decade-long development program as technologies advance.

The Residential and Commercial Building Analysis prepared by ConSol (September 2016), included as Appendix C to Draft AEA Appendix 1 (ConSol Report) to the Draft AEA, describes how compliance with the ZNE performance standard may be achieved. As reflected by the ConSol Report, even though the exact method of compliance will change over time as technologies advance, compliance will likely be achieved through a combination of energy efficient building designs and onsite renewable generation (e.g., solar photo-voltaic panels on rooftops or common areas, such as parking lots), along with other possible technologies, such as energy storage.

The comment cites to CEQA Guidelines Section 15126.4(a)(1)(D), which states: "If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed." The comment does not explain or provide a basis for what "potential environmental impacts" might result from the mitigation measures.

Here, it is expected that complying with Mitigation Measures 2-1 and 2-2 would not cause significant environmental effects because energy efficiency measures would be located within building structures and

[51] CEC, 2016, 2015 Integrated Energy Policy Report. Available at: http://www.energy.ca.gov/2015_energypolicy/. Accessed: February 2017.

renewable energy generation (e.g., solar panels) would be located on building roofs or in nearby developed areas, such as parking lots.

Although implementing Mitigation Measures 2-1 and 2-2 is not expected to cause a significant environmental impact, in response to comments and for informational purposes, Ramboll Environ completed a technical evaluation of the possible environmental effects of ZNE compliance based on currently available information, a copy of which is located in Final AEA Appendix 10. As demonstrated by this analysis, Ramboll Environ concludes that implementation of Mitigation Measures 2-1 and 2-2 would not result in any new significant impacts.

The comment raises questions about the potential for offsite renewable energy generation. The project applicant is not proposing any offsite solar or wind project in conjunction with the project. As indicated above and reflected in the ConSol Report, compliance with the ZNE standard can be achieved with energy efficiency designs and onsite renewable energy generation. However, in response to comments, for clarification purposes, Mitigation Measures 2-1 and 2-2 have been revised (as shown in **Response Comment No. 09-19**) to remove the reference to "off-site renewable energy generation." At this time CEC has not provided guidance that would allow off-site renewable energy generation to satisfy ZNE compliance.

Comment No. 09-22:

Furthermore, it is not clear that the ZNE evaluation accurately reflects greenhouse gas emissions associated with use of fossil fuel-fired electricity generation during times when renewable generation (onsite or elsewhere) is unavailable. As discussed above, natural gas- fired peaking generation facilities are increasingly being deployed to integrate variable renewables generation.[16] It is not clear whether the Energy Commission's ZNE definition accurately accounts for these emissions. For example, CEC's ZNE definition relies on Time Dependent Valuation of energy (TDV).[17] TDV is primarily a method of evaluating the cost-effectiveness of energy efficiency measures.[18] It is not clear, however, that TDV alone accurately reflects the amount of renewable energy generation or other energy savings necessary to fully offset emissions from grid electricity usage in the Newhall Ranch area. At least for the near future, grid electricity at times of rapidly increasing daily demand would foreseeably be provided by simple-cycle natural gas combustion turbines, and by other fossil sources when solar and wind energy is not available. The AEA does not provide information about the current or anticipated generation mix in the local area, and thus does not provide a basis for concluding that a ZNE Confirmation Report would result in zero fossil-fuel energy emissions as the AEA promises. (AEA at 2-26.)

[16] *See, e.g., U.S. Energy Information Administration, Half of power plant capacity additions in 2013 came from natural gas (April 8, 2014), at http://www.eia.gov/todayinenergy/detail.php?id=15751 (discussing natural gas capacity additions in California in order to balance intermittent renewable generation) (attached as Ex. L).*

[17] *2015 IEPR at 41*.

[18] *Energy and Environmental Economics, Time Dependent Valuation of Energy for Developing Building Efficiency Standards: 2013 Time Dependent Valuation (TDV) Data Sources and Inputs at 3 (February 2011) (attached as Ex. M).*

Response No. 09-22:

The comment questions whether the Draft AEA's ZNE evaluation accurately accounts for GHG emissions associated with fossil fuel-fired electricity generation. Please see **Response to Comment No. 09-13** above for relevant information regarding the anticipated usage of natural gas peaker plants and of the Utility GHG Intensity Factor used in the Draft AEA, which reflects the local power generation mix according to the best available information and analysis at this time. Although the comment suggests that natural gas peakers may increasingly be used to integrate renewables, it does not provide any evidence to support this claim. To the contrary, various technologies, such as demand response and energy storage, can be relied upon to integrate variable renewable resources, and evidence supports that such technology may be relied upon instead of additional peakers (see **Response to Comment No. 09-13**).

The overall net zero GHG commitment in the ZNE standard should not be conflated. CEC's ZNE standards are fuel neutral and do not require a builder to demonstrate that the building would result in zero fossil fuel-related GHG emissions from energy consumption; in other words, the standards do not mandate a particular type of fuel be used to generate grid-supplied energy. Rather, the ZNE standards require a building to produce renewable energy equal to the time-dependent value of the energy consumed on an annual basis. A ZNE-compliant building may still use electricity and natural gas at certain times of day that result in fossil fuel-related GHG emissions. CEC's goal, with respect to its ZNE standards, is to achieve zero net *energy*, not zero net *emissions*. Indeed, as illustrated in Draft AEA Table 2.3-5, Summary of Annual Greenhouse Gas Emissions at Full Buildout, the project's ZNE mitigation commitment does not eliminate all emissions associated with building energy consumption. (See also Draft AEA Appendix 1, Sections 4.2.1 and 4.2.2, for information regarding the integration of Appendix C's ZNE modeling analysis into the GHG emissions inventory estimates.) The project's overall net-zero GHG commitment, however, accounts for the fact that buildings would result in GHG emissions even if the building achieves the ZNE standard. As shown in Draft AEA Table 2.3-4, Summary of Greenhouse Gas Emissions Reductions Associated with Mitigation Measures at Full Buildout (2030), the project achieves net zero GHG emissions even though Mitigation Measures 2-1 and 2-2 do not eliminate all GHG emissions from the associated buildings.

In response to this comment, pages 2-25 and 2-26 of the Draft AEA have been clarified as follows (edits to the subject text are shown with deletions in ~~strikethrough~~ and additions in underline):

Page 2-25

"Through the incorporation of zero-energy technology into new residential development, as prescribed by a qualified energy efficiency and design consultant, fossil fuel-related sources of GHGs associated with energy use would be reduced ~~not occur from project-related activities~~."

Page 2-26

"Through incorporation of zero-energy technology into all non-residential development associated with the project, as prescribed by a qualified energy efficiency and design consultant, fossil fuel-related sources of GHGs associated with energy use would be reduced ~~not occur from project-related activities~~."

Comment No. 09-23:

One potential solution would be to invest in on-site energy storage to retain over- produced renewable generation from daytime hours for use in the evening and nighttime hours. Integrating on-site storage could also position the community as a forward-thinking project while simultaneously alleviating potential future issues in maintaining ZNE status. Energy storage applications should be considered as a component of a better-defined, more specific ZNE mitigation proposal that fully satisfies CEQA's requirements.

Response No. 09-23:

By design, Mitigation Measures 2-1 and 2-2 do not mandate the use of specific technologies to achieve ZNE. The specific ZNE performance standard (as discussed in **Response to Comment No. 09-19**) defines the goal that Mitigation Measures 2-1 and 2-2 will achieve, but the particular pathway for compliance has not – and need not – be set at this time because the type and cost of applicable technologies will change and improve over time, creating new compliance pathways for different buildings.

Energy storage or battery technologies may be appropriate for facilitating ZNE compliance. For example, batteries can help store excess power generated from a solar panel or a local wind turbine and allow a consumer to use it at times when the panel or turbine is not generating energy. Storage could allow for the residence or business to refrain from taking energy from the grid at peak times, when it is most likely that natural gas peaker plants are fired up in order to meet demand. Currently, there are potential limitations that could hinder the implementation of energy storage in certain circumstances, including (1) capacity

issues; (2) space requirements; (3) cost-effectiveness;[52] and (4) safety. However, as explained above, Mitigation Measures 2-1 and 2-2 are specifically designed to provide the flexibility to incorporate advancing technologies over time while defining the performance standard to be achieved.

Comment No. 09-24:

2. Electric Vehicle Subsidies, Charging Stations, and TDM Plan

Like ZNE for residential and commercial buildings, support for EV (EV) purchase and use is a laudable goal and an important step toward reducing mobile source emissions, provided that the carbon intensity of the electrical grid continues to decrease. The EV mitigation measures in the revised analysis (GCC-4, GCC-5, and GCC-12), however, are predicated on highly optimistic, unrealistic assumptions and may double-count some emissions reductions. Moreover, these measures potentially conflict with, and again may double-count, certain emissions reductions anticipated from transportation demand management (TDM) mitigation (GCC-6).

Response No. 09-24:

The comment, which serves as an introduction to others that follow, questions the accuracy of the GHG emission reduction calculations for Mitigation Measure 2-4, Mitigation Measure 2-5 and Mitigation Measure 2-12, all of which are designed to spur the use of zero emission vehicles both on and off the project site. Please refer to **Response to Comment Nos. 09-25** through **09-31** below for responsive information to the general themes articulated in this comment. Relevant information also is provided in **Topical Response 3: Zero Emission Vehicles at Newhall Ranch**.

The comment asserts the mitigation measures are based on "highly optimistic, unrealistic assumptions," but this is not the case. As detailed below, the analysis includes assumptions that are well-supported based on existing studies and analysis and are based on reasonable inputs and available information. In many cases, as noted below the analysis is conservative and does not rely on the most ambitious or aggressive possible assumption, contrary to the comments.

The Draft AEA contains a comprehensive evidentiary record regarding the GHG emission reduction calculations for the subject mitigation measures. Specific reference should be made to Sections 4.2.4, 4.2.5 and 4.2.12 in Draft AEA Appendix 1 (GHG Emissions Technical Report), as well as Appendix H (Forecasting Electric Vehicle Purchases in the Newhall Ranch Community) to Draft AEA Appendix 1. The Draft AEA's GHG emissions analysis carefully considered the emission reduction benefits of the mitigation measures, and accounted for the relationships between various measures designed to reduce mobile source emissions in order to avoid the double counting of GHG reductions.

Additionally, the analysis completed by Ramboll Environ in Draft AEA Appendix 1 was subject to independent review and evaluation by two other technical experts: Ascent Environmental, Inc. and the California Air Resources Board. As memorialized in a letter from CARB to CDFW, dated November 3, 2016 (a copy of which is included in Final AEA Appendix 1):

> "[C]ARB staff consulted with Department of Fish and Wildlife staff and technical experts at Ascent Environmental, the principal consultant assisting the Department. In doing so, [C]ARB staff reviewed the technical documentation provided for the evaluation of the project's total estimated GHG emissions and the reductions in emissions to be achieved through the mitigation measures. Based on staff's review, [C]ARB finds the documentation provides an adequate technical basis to determine

[52] One of the barriers to battery storage adoption is cost. (Trabish, H., What's the Value of Energy Storage? It's Complicated, Utility Dive (Oct. 20, 2015) http://www.utilitydive.com/news/whats-the-value-of-energy-storage-its-complicated/407498/; Malony, P., One Good Year Deserves Another: Energy Storage in 2016, Renewable Energy World (Jan. 27, 2016) http://www.renewableenergyworld.com/articles/2016/01/one-good-year-deserves-another-energy-storage-in-2016.html.) In addition, because most customer-sited storage is deployed to reduce demand charges, serve as backup, or maximize solar owners' use of self-generation, some use of batteries in residential settings may go "unused or underutilized for well over half of the system's lifetime." (Fitzgerald, G., Mandel, J., and Morris, J., The Economics of Battery Energy Storage, Rocky Mountain Institute, p. 7 (Oct. 2015) http://www.rmi.org/Content/Files/RMI-TheEconomicsOfBatteryEnergyStorage-FullReport-FINAL.pdf; Battery Storage for Renewables: Market Status and Technology Outlook, International Renewable Energy Agency (Jan. 2015), p. 6-7, http://www.irena.org/documentdownloads/publications/irena_battery_storage_report_2015.pdf.)

that the project would not result in any net additional GHG emissions after the mitigation measures are fully implemented."

CARB's finding that the project's GHG emission reduction calculations are documented by "an adequate technical basis" is part of the body of substantial evidence that supports the Draft AEA's GHG emissions analysis, particularly as CARB is the state agency designated with the responsibility for and expertise to implement statewide policy on global climate change and the reduction of GHG emissions.

Comment No. 09-25:

The revised analysis assumes 50% of residences in the project will purchase an EV by 2030. This is a highly aggressive assumption, not a conservative one; the document's "best estimate" assumptions are very close to the high-end (most aggressive adoption and tech development) assumptions discussed. (See App. 1, App. H, App. A [Purchasing Forecast Model Tables].) Market share for EVs by 2030, even under aggressive adoption assumptions, is usually projected to be far lower than 50 percent.[19] The projections in the revised analysis are thus extremely aggressive, rather than the type of conservative assumptions typically employed in environmental analysis.

[19] *ICF International, California Transportation Electrification Assessment, Phase 1: Final Report at 18-19 (September 2014) (estimating 6,950,000 battery and plug-in hybrid EVs, combined, in 2030 under "aggressive adoption" case) (attached as Ex. N). As of December 2015, there were already nearly 26,000,000 automobiles registered in California. California Department of Motor Vehicles, Statistics for Publication January – December 2015, at https://www.dmv.ca.gov/portal/dmv/forms/about/profile/official.pdf (attached as Ex. O).*

Response No. 09-25:

The comment states the GHG emission reduction calculations associated with Mitigation Measure 2-4 are "highly aggressive," and questions the calculation's projection that 50 percent of the project's residences will purchase a ZEV by 2030. However, as discussed below, the Draft AEA's emissions reduction calculations are based on the best available data, including recent studies and forecasts regarding EV[53] purchasing trends and relevant California law and policy.

The comment mischaracterizes the calculation parameters as "highly aggressive" solely based on a study prepared by ICF International which provided a range of forecasts including an "aggressive adoption" forecast (which is consistent with the forecast in the Draft AEA). More recent studies (described further below) forecast the penetration of EVs at much higher levels of EV sales than those reported in the cited ICF study. The more favorable trends of recent studies are attributable, at least in part, to the fact that the ICF study did not anticipate that there would be battery-charged EVs that would have a range of 200 miles on one charge that would also be priced comparably to internal combustion engine vehicles.

Notably, the results of the ICF study's "aggressive adoption" forecast are fairly close to the mid-range results of more recent forecasts. For example, the ICF study's "aggressive adoption" forecast anticipated that California's cumulative stock of EVs in 2020 will be 1.186 million. Based on actual EV sales data collected between 2012 and 2016 (257,902), and forecasted EV sales from a 2016 study prepared by Navigant Consultants (hereafter referred to as the 2016 Navigant study),[54] California's cumulative stock of EVs in 2020 will be 1.44 million. Using the same approach, the 2016 Navigant study identifies that California's cumulative stock of Plug-in Electric Vehicles (PEVs) in 2025 will be 4.9 million, while the 2014 ICF study's "aggressive adoption" forecasts 6.9 million PEVs by 2030. In essence, what was considered an "aggressive" assumption by ICF in its study is consistent with what is now considered a "mid-range" assumption by Navigant in mid- to late 2016.

[53] The term "Electric Vehicle" (EV) is used to represent Battery Electric (BEV) and Plug-in Hybrid Electric Vehicles (PHEV), as most studies look at both of these types of EVs. Some studies refer to Plug-in Electric Vehicles (PEV), which is another term for BEV.

[54] Shepard, Scott, and Lisa Jerram (Navigant Research), "Electric Vehicle Geographic Forecasts; Battery and Plug-In Hybrid Electric Vehicle Sales and Populations in North America" (2016), Executive Summary. Available at: https://www.navigantresearch.com/research/electric-vehicle-geographic-forecasts. Accessed: February 18, 2017.

Both Section 4.2.4 and Appendix H of Draft AEA Appendix 1 include extensive discussion and citation to numerous studies to substantiate the EV uptake projections used in the GHG emissions analysis. Other than citing the ICF study, the comment does not refute or provide evidence demonstrating that the cited studies are not reliable. In sum, the extensive discussion and citation to numerous studies represent the best available information.

It is important to note that the findings of both the ICF study and the 2016 Navigant study are consistent with the Appendix H forecast model inputs used in the Draft AEA *before* incorporation of the project's mitigation commitments. Specifically, in the project's unmitigated emissions estimate, 25 percent of all vehicles are expected to be EVs in 2030. Extrapolating from the 2016 Navigant study's results suggests that 27 percent of all vehicles will be PEVs by 2030. And, the ICF study's results (from the "aggressive adoption" forecast) also show that 25 percent of all vehicles are expected to be EVs in 2030.

After accounting for the percentage of EVs in the 2030 vehicle fleet prior to application of the project's mitigation commitments, the Appendix H forecast model (see Draft AEA Appendix 1) incorporates the project's mitigation commitments to identify project-specific adoption rates for EVs. The forecast model demonstrates (i) Mitigation Measure 2-4's EV purchase subsidies will be used and (ii) the likely EV adoption rate will exceed even the number of subsidies available. More specifically, the forecast model determines that the project's likely EV adoption rate, with implementation of the related mitigation commitments, is an average of 1.17 EVs per household (see Table 4 in Appendix H of Draft AEA Appendix 1).[55] Through technology diffusion in the community, the project's commitments will incentivize EV adoption as reflected in the forecast model.

Further, through the synergistic benefit of the project's suite of mitigation measures supporting EV use, EV purchase and usage will be a core component of the project. Specifically:

Mitigation Measure 2-4 requires the project applicant to equip each residence within the project with a minimum of one single-port EV charging station, and to establish and fund a dedicated account for the provision of subsidies for the purchase of ZEVs, as defined by CARB, in an amount that equals $1,000 per residence for 65 percent of each project village's total residences.

Mitigation Measure 2-5 obligates the project applicant to provide EV charging stations for 7.5 percent of the total number of required parking spaces for commercial (retail, light industrial, office, hotel and mixed-use) buildings within the project.

Mitigation Measure 2-12 requires the project applicant to install 20 off-site EV charging stations for parking spaces within Los Angeles County prior to the issuance of a building permit for the project, and then to install an additional EV charging station at off-site parking spaces for every 30 dwelling units and for every 7,000 square feet of commercial development within the project. When the project is fully built out, Mitigation Measure 2-12 will result in the installation of 2,036 off-site EV charging stations at parking spaces in Los Angeles County.

Mitigation Measure 2-6 mandates the implementation of the Newhall TDM Plan to reduce vehicle trips and encourage alternative modes of transportation.

Mitigation Measure 2-8 requires the project applicant to provide funding for an a zero-emission school bus program.

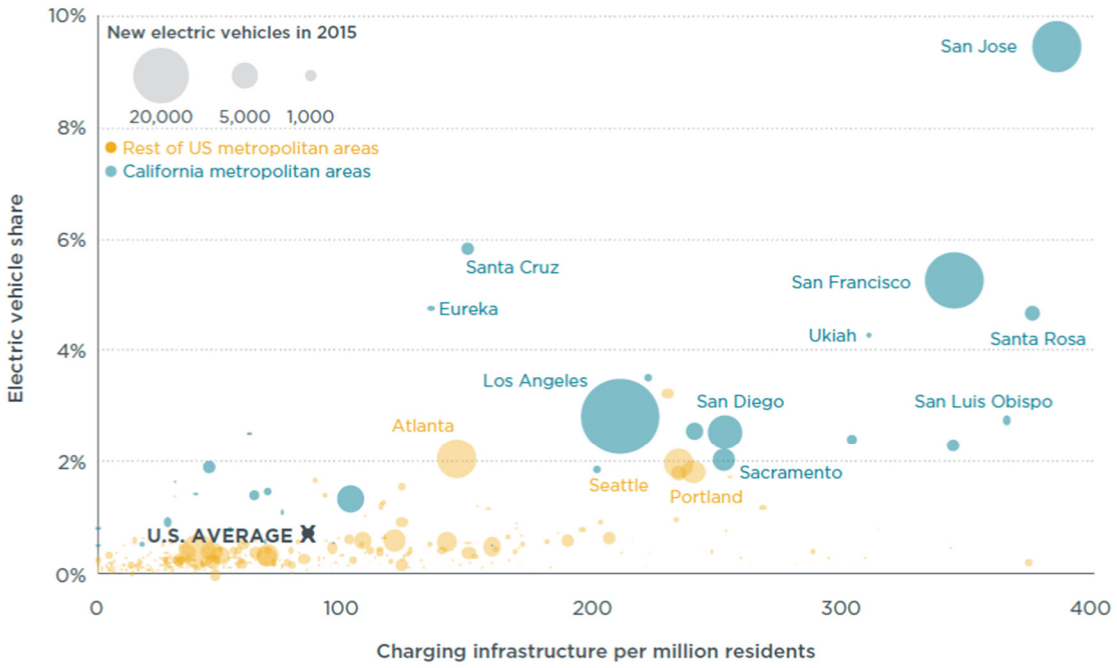
Mitigation Measure 2-9 requires the project applicant to provide funding for an zero-emission transit bus program.

[55] Appendix H also considered four alternative forecasts, which identified an average of 0.71 to 1.32 ZEVs per household (see Table 5 in Appendix H of AEA Appendix 1). However, the results reported above – an average of 1.17 ZEVs per household – was determined to be the best estimate, and the one more accurately informed by available data, published literature and other information sources.

These measures and the other GHG mitigation measures will establish Newhall Ranch as an innovative and forward-looking community, which supports the project's suite of mitigation measures designed to enhance EV use.

The project's suite of mitigation commitments is expected to make the project a "beachhead" community for EV ownership and increase the EV adoption rate. This concept of a "beachhead" community is articulated by the National Research Council, which describes a beachhead community as one where the "momentum has already been established; infrastructure is more readily available; and word-of-mouth between neighbors, friends, and co-workers can occur more readily."[56] In short, a "beachhead" community has a comprehensive foundation of EV-related technology that expedites the diffusion of the EV technology and further stimulates EV adoption.

The faster and slower rates of EV adoption for various cities in California, and the relationship between adoption and charging infrastructure was studied for the year 2015, and documented by the International Council for Clean Transportation.[57] Based on that research, there is clear evidence that beachhead communities can achieve EV adoption rates that are much greater than regional statewide estimates. The figure below illustrates the relationship between the EV share of all new cars purchased, and the concentration of charging stations per million in population. The general upward slope of the dots in the figure shows that charging infrastructure is positively correlated with purchase rates, and shows that urban areas can show much higher rates of EV purchase than the statewide level.



Source: Searle, Stephanie, N. Pavlenko, and N. Lutsey, 2016. "Leading Edge of Electric Vehicle Market Development in the United States: An Analysis of California Cities." International Council for Clean Transportation, White Paper, September. Available at: http://www.theicct.org/sites/default/files/publications/ICCT_EV_Calif_Cities_201609.pdf.

The project's ability to spur EV use is warranted given the depth of the overall framework for mitigating the project's GHG emissions: e.g., charging infrastructure for each home and throughout the community, EV purchase subsidies for residents, the ZNE design of the homes and other on-site buildings, and the Newhall

[56] See National Research Council, Board on Energy and Environmental Systems, Division on Engineering and Physical Sciences, and Transportation Research Board, "Overcoming Barriers to Deployment of Plug-in Electric Vehicles" (2015), pg. 42. Available at: https://www.nap.edu/download/21725#. Accessed: February 17, 2017.

[57] Searle, Stephanie, N. Pavlenko, and N. Lutsey, 2016. "Leading Edge of Electric Vehicle Market Development in the United States: An Analysis of California Cities." International Council for Clean Transportation, White Paper, September. Available at: http://www.theicct.org/sites/default/files/publications/ICCT_EV_Calif_Cities_201609.pdf. Accessed: February 17, 2017.

Ranch TDM Plan to stimulate multi-model transportation opportunities. These programs support and magnify the many existing programs and incentives to spur EV sales and use, including but not limited to the following:

Executive Order B-16-2012. Governor Brown's 2012 order called upon and ordered all state entities to "support and facilitate the rapid commercialization of zero-emission vehicles." The order established benchmarks for 2015, 2020, 2025 and 2050 that correspond to the deployment of ZEV-supporting infrastructure,[58] integration of infrastructure into the electricity grid, the displacement of petroleum fuels due to ZEV usage, fleet penetration numerics, and reductions in GHG emissions from the transportation sector (i.e., by 2050, an 80 percent reduction in GHG emissions from the transportation sector in comparison to 1990 levels). The order specifically directed CARB and other cooperating agencies to develop plans to place over 1.5 million ZEVs on California roads by 2025.[59]

In furtherance of this order, the Governor's Interagency Working Group on Zero-Emission Vehicles issued the 2016 ZEV Action Plan in October 2016, which outlines progress to date and identifies new actions that state agencies will take in continued pursuit of increasing ZEV fleet penetration. The Action Plan highlights the following priorities:

- Raise consumer awareness and education about ZEVs;
- Ensure ZEVs are accessible to a broad range of Californians;
- Make ZEV technologies commercially viable in targeted applications in the medium-duty, heavy-duty, and freight sectors; and
- Aid ZEV market growth beyond California.[60]

Advanced Clean Cars Program. Also in 2012, CARB adopted the ACC program, which combines the control of smog-causing pollutants and GHG emissions into a single coordinated set of requirements for vehicle model years 2015 through 2025. CARB's program requires that about 15 percent of new cars sold in California in 2025 be a plug-in hybrid, battery electric or fuel cell vehicle.

Senate Bill 350. In 2015, the Clean Energy and Pollution Reduction Act of 2015 (SB 350) was enacted into law. The act establishes a statewide policy for widespread electrification of the transportation sector, recognizing that widespread electrification is required for achievement of the state's 2030 and 2050 reduction targets. When enacting SB 350, the following legislative findings were codified in Public Utilities Code Section 740.12(a)(1)(A), (D), (H) and (I), respectively:

- Advanced clean vehicles and fuels are needed to reduce petroleum use, to meet air quality standards, to improve public health, and to achieve greenhouse gas emissions reduction goals.
- Reducing emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification.

[58] The National Renewable Energy Laboratory prepared the California Statewide Plug-In Electric Vehicle Infrastructure Assessment (May 2014) at the request of the California Energy Commission. In addition, the Luskin Center for Innovation at the UCLA Luskin School of Public Affairs prepared the Southern California Plug-In Electric Vehicle Readiness Plan (December 2012) at the request of the Southern California Association of Governments. Both reports acknowledge the importance of a comprehensive charging network to support the operation of ZEVs, and place particularly high import on in-home and workplace charging opportunities.

[59] In furtherance of Executive Order B-16-2012, Governor Brown convened his Interagency Working Group on Zero-Emission Vehicles. That Interagency Working Group has published two ZEV Action Plans (the first in 2013, and the second in 2016) that establish roadmaps for achievement of the goal to put 1.5 million ZEVs on California's roads by 2025.

[60] Office of Governor Edmund G. Brown Jr., 2016 ZEV Action Plan: A roadmap toward 1.5 million zero-emission vehicles on California roadways by 2025 (October 2016).

- Deploying EV charging infrastructure should facilitate increased sales of EVs by making charging easily accessible and should provide the opportunity to access electricity as a fuel that is cleaner and less costly than gasoline or other fossil fuels in public and private locations.

- According to the State Alternative Fuels Plan analysis by CEC and CARB, light-, medium-, and heavy-duty vehicle electrification results in approximately 70 percent fewer greenhouse gases emitted, over 85 percent fewer ozone-forming air pollutants emitted, and 100 percent fewer petroleum used. These reductions will become larger as renewable generation increases.

As such, Public Utilities Code Section 740.12(a)(2) declared "the policy of the state and the intent of the Legislature to encourage transportation electrification as a means to achieve ambient air quality standards and the state's climate goals."

Assembly Bill 1236. Also in 2015, AB 1236 was enacted into law. AB 1236 recognizes that the implementation of consistent statewide standards to achieve the timely and cost-effective installation of EV charging stations is a matter of statewide concern. Among other provisions, AB 1236 requires cities and counties to approve applications for the installation of EV charging stations, as defined, through the issuance of specified permits unless specified written findings are made. Additionally, AB 1236 required cities and counties with populations of 200,000 or more residents to adopt ordinances, by September 30, 2016, that create an expedited and streamlined permitting process for EV charging stations. In response to this mandate, the County of Los Angeles adopted Article 85 (Electric Vehicle Charging Stations) within Title 27 (Electrical Code) of the Los Angeles County Municipal Code.

2030 Target Scoping Plan Update. In January 2017, CARB released the draft of *The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target*.[61] As part of the draft 2017 Update, CARB identified the need to put 4.2 million ZEVs on California roads by 2030 as one of the "major elements" required to achieve the 2030 statewide emissions reduction target codified by Senate Bill 32 (Pavley, 2016).[62]

Other Supporting Programs and Policies. The penetration of ZEVs in California also is being spurred in multiple other ways, including, but not limited to, the following:

California is incentivizing the purchase of ZEVs through implementation of the CVRP, which is administered by a non-profit organization (The Center for Sustainable Energy) for CARB and currently subsidizes the purchase of passenger near-zero and zero emission vehicles, as well as through the provision of access to HOV lanes to ZEV drivers.

The Volkswagen settlement will result in $800 million in ZEV projects in California over the next ten years.[63]

CALGreen requires new residential and non-residential construction to be pre-wired to facilitate the future installation and use of EV chargers (see Section 4.106.4 and Section 5.106.5.3 of 2016 CALGreen Standards (California Code of Regulations, Title 24, Part 11) for the residential and non-residential pre-wiring requirements, respectively).

In January 2017, three of California's largest utilities submitted proposals to the California Public Utilities Commission to electrify the state's transportation sector through more than $1 billion in investments. For purposes of the project site in particular, SCE filed an application to expand electric transportation in its service area, which includes the project site. Some of SCE's proposals include monetary rewards to

[61] ARB, 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (January 20, 2017 Draft). Available at: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf. Accessed: February 17, 2017.

[62] ARB's Mobile Source Strategy (May 2016) also identified the deployment of 4.2 million ZEVs in 2030 as critical to the State's overarching visioning and planning efforts for the on-road vehicle fleet. Available at: https://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.pdf. Accessed: February 17, 2017.

[63] ARB, Volkswagen Settlement – California ZEV Investments webpage, available at: https://www.arb.ca.gov/msprog/vw_info/vsi/vw-zevinvest/vw-zevinvest.htm. Accessed: February 17, 2017.

rideshare drivers who use an EV, additional fast charge infrastructure at targeted locations within the region, and rates that are designed to incentivize EV adoption.[64] The proposals of Pacific Gas and Electric Company and San Diego Gas & Electric, which also are targeted to the electrification of the transportation sector, are summarized in **Topical Response 3: Zero Emission Vehicles at Newhall Ranch**.

In the recently adopted 2016 AQMP, SCAQMD identified multiple measures to help accelerate ZEV penetration for passenger and light-heavy and medium-heavy duty vehicles, including within public fleets.[65]

As part of the 2016 RTP/SCS, SCAG plans to create a regional charging network that will increase the number of PHEV miles driven on electric power, in addition to supporting the growth of the ZEV market generally.[66]

As part of a grant-funded pilot program, the County of Los Angeles will be installing about 80 EV charging stations at various County locations as an incentive and to support its employees with ZEVs.[67]
In summary, the state is pursuing a broad array of regulatory standards and incentive-based programs to facilitate the turnover of California's vehicle fleet. It is reasonable to expect the continued implementation of existing programs and the proliferation of new programs as CARB's strategies for attainment of the 2030 and 2050 statewide reduction targets come into focus.

Factors That Influence Vehicle Purchasing Decisions

As discussed in Appendix H of the Draft AEA, the decision to purchase an EV is based on many factors. The combined effect of the project's ZEV-related mitigation commitments (notably, Mitigation Measures 2-4, 2-5 and 2-12) positively influence the primary factors that affect purchasing behavior.

Cost: Mitigation Measure 2-4 provides a $1,000 purchase subsidy and pays for the in-home ZEV charging station to help make the cost of the ZEV more competitive relative to conventional ICEVs (Section 2.3 of Appendix H discusses the positive correlation between incentives and ZEV conversion that is documented in the published literature cited therein);

Charging Access: Mitigation Measure 2-4 provides in-home charging infrastructure, and Mitigation Measures 2-5 and 2-12 provide charging infrastructure in publicly-accessible, non-residential areas both on the project site and within the County of Los Angeles;

Driving Range: While driving range is primarily addressed through technology innovation by car manufacturers, implementation of Mitigation Measures M 2-5 and 2-12, in combination with current efforts of the state, regional agencies (such as SCAG and SCAQMD) and SCE to expand ZEV charging infrastructure also help address greater range flexibility;

Social Factors: Mitigation Measures 2-4, 2-5, and 2-12 create a large-scale presence for ZEVs, contributing to a community where owning a ZEV will be the "norm" rather than the exception. Indeed, the overall focus and branding of the project is intended to enhance the environmental consciousness of the community. Geographies that will have such early adoption of ZEVs may be described as "beachhead" communities.[68]

The project's extensive mitigation commitments and the continued engagement of state and local entities (e.g., the County of Los Angeles, SCAQMD and SCAG), as well as the continued technology advancements

[64] SCE, Application of Southern California Edison Company (U 338-E) for Approval of Its 2017 Transportation Electrification Proposals (January 20, 2017).
[65] SCAQMD, Draft Final 2016 Air Quality Management Plan (December 2016). Available at: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-draft-2016-aqmp. Accessed: February 17, 2017.
[66] SCAG, The 2016 – 2040 Regional Transportation Plan/Sustainable Communities Strategy (April 2016). Available at: http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx. Accessed: February 17, 2017.
[67] Rideshare L.A. County website, available at http://rideshare.lacounty.gov/county-employees/electric-vehicles-evs/. Accessed: February 17, 2017.
[68] National Research Council, Board on Energy and Environmental Systems, Division on Engineering and Physical Sciences, and Transportation Research Board, Overcoming Barriers to Deployment of Plug-in Electric Vehicles (2015), p. 42. Available at: https://www.nap.edu/download/21725#. Accessed: February 17, 2017.

being realized by auto manufacturers, all suggest that EV adoption rates will continue to rise. Thus, the Appendix H forecast evaluation is considered a reasonable representation for the EV adoption rate.

Please also see **Topical Response 3: Zero Emission Vehicles at Newhall Ranch** for additional responsive information.

Comment No. 09-26:

The emissions reductions claimed from EV adoption and use lack evidentiary support in other ways as well. After assuming that 50 percent of project households will purchase an EV by 2030, the revised analysis takes an unsupported and largely unexplained leap of logic in further assuming that 50 percent of miles driven related to project residential uses will be driven in EVs. (App. 1 at 35-36.) The revised analysis notes the high (85 percent) utilization rate of EVs by households with one EV and one conventional vehicle, and then goes on to claim that that "numerous other factors" are "anticipated" to result in an unspecified EV use rate "higher than that estimated here"; on this scant basis, the document then assumes 50 percent of miles driven from residential uses will be in EVs. The emissions reductions claimed for this mitigation measure are calculated solely on the basis of on the assumption that 50 percent of miles driven will be EV miles. (App. 1 at 35; Table 4-3.) Yet the document provides no actual evidence supporting this chain of assumptions; in particular, the document does not state what "higher than estimated" EV usage rate supports the assumption of 50 percent vehicle mile displacement that underlies the greenhouse gas emission reduction calculations.

Response No. 09-26:

The comment questions the evidentiary support for the Draft AEA's determination that 50 percent of home-based VMT will occur in ZEVs following implementation of the mitigation measure supporting ZEV use (Mitigation Measures 2-4, 2-5, and 2-12). The comment suggests that the VMT calculations are not well supported but this is not the case. Section 4.2.4 of Draft AEA Appendix 1 provides a detailed description of the GHG emissions reduction calculation, which is further illustrated in Table 4-3 of Draft AEA Appendix 1. The methodology is again summarized here in response to the comment. **Topical Response 3: Zero Emission Vehicles at Newhall Ranch** details key drivers for increasing ZEV use in California.

As explained below, the ZEV and VMT assumptions are supported by: (1) expansive investments in ZEV infrastructure throughout the project site, which serves to substantially reduce barriers to ZEV use, thereby increasing uptake; (2) forecast modeling that identifies a range of ZEV uptake rates, with the ultimate emissions reduction calculation based on a mid-range outcome; and (3) other policies and programs in California and Los Angeles County that are expected to spur substantial expansion of ZEV penetration and use. The combination of these factors will have a synergistic influence on the penetration and use of ZEVs at Newhall Ranch because, as the analysis shows, the number of individuals willing to buy and use ZEVs increases in relation to falling barriers to entry, such as decreasing costs and increased range flexibility.

See **Response to Comment No. 09-25**, which addresses similar comments as raised here and is incorporated by reference to this response. In particular, see **Response to Comment No. 09-25**'s description of the project's suite of mitigation measures designed to enhance EV sales and use, governmental and non-governmental programs and incentives expected to spur EV sales and use, and factors that influence the decision to purchase and use a ZEV.

As discussed in the Draft AEA, **Response to Comment No. 09-25,** and **Topical Response 3: Zero Emission Vehicles at Newhall Ranch**, the project's mitigation commitments are complemented by the state's ongoing efforts to facilitate ZEV adoption. More specifically, CARB and other cooperating agencies responsible for administering the state's GHG policies recognize that transforming the vehicle fleet is a critical step towards achieving and maintaining the state's GHG reduction targets, particularly the goal to reduce statewide GHG

emissions to 80 percent below the 1990 level by 2050.[69] Accordingly, the state of California has prepared and is implementing regulatory policies and programs to facilitate the penetration of ZEVs into the fleet of vehicles operated by California's drivers.

GHG Emissions Reduction Calculation

The comment requests information about the Draft AEA's calculation that 50 percent of the residential VMT will be ZEV-driven miles, rather than ICEV-driven miles. The Draft AEA's analysis is well supported by technical evidence in Ramboll Environ's Technical Report. As discussed in **Response to Comment No. 09-24**, the Draft AEA contains a comprehensive evidentiary record regarding the GHG emission reduction calculations for the subject mitigation measures. Specific reference should be made to Sections 4.2.4, 4.2.5 and 4.2.12 in Draft AEA Appendix 1 (GHG Emissions Technical Report), as well as Appendix H (Forecasting Electric Vehicle Purchases in the Newhall Ranch Community) to Draft AEA Appendix 1. The analysis completed by Ramboll Environ in Draft AEA Appendix 1 was subject to independent review and evaluation by Ascent Environmental, Inc., on behalf of CDFW, and CARB, as memorialized in a letter from CARB to CDFW, dated November 3, 2016 (a copy of which is included in Final AEA Appendix 1).

The comment does not provide any evidence that the Draft AEA analysis is incorrect and, except for general assertions, does not provide a basis to question the results related to these mitigation measures. However, to provide additional information, Ramboll Environ has prepared a supplemental technical memorandum with additional details about the Mitigation Measure 2-4 calculation and analysis, which is summarized next. (A copy of that supplemental memo is located in Final AEA Appendix 3.)

Table 1 illustrates a range of potential conversion percentages (i.e., the percentage of residential VMT that is converted to ZEV-driven miles from Ramboll Environ's Technical Report. In particular, the Technical Report, Appendix H (Forecasting Electric Vehicle Purchases In The Newhall Ranch Community) analyzes the estimated increase in ZEV vehicles that will result from the project's suite of GHG mitigation measures (see detailed discussion in **Response to Comment No. 09-25** above). As explained in Appendix H, research shows that a driver's decision to convert from an ICEV to a ZEV is influenced by a number of factors, including – but not limited to – cost of ownership and operation, battery ranges, and concerns about access to charging infrastructure, as well as environmental awareness and social perceptions. Appendix H describes how incentives, including financial purchase subsidies and charging infrastructure, are expected to accelerate the conversion to ZEVs in the vehicle fleet for the project.

Based on this analysis, the Appendix H forecast model demonstrates that residents of the project will take advantage of the vehicle purchase subsidies offered by Mitigation Measure 2-4, which substantiates that, at a minimum, at least 50 percent of the households (10,621 households) would own a ZEV. The Appendix H forecast model further demonstrates that up to 14,793 ZEVs may be purchased by project residents as a result of Mitigation Measure 2-4 and the project's other mitigation measures in conjunction with other incentives and programs. Thus, evidence supports that the project's suite of mitigation measures incentivizing ZEV use, as detailed in **Response to Comment No. 09-25**, would result in ZEVs being purchased beyond the level of financial incentives provided in Mitigation Measure 2-4. The basis for this additional ZEV penetration is the benefit to residents created by the overall project mitigation measures, including having an EV charging station in every home and thousands more EV charging stations throughout the community. As explained in **Response to Comment No. 09-25** and **Topical Response 3: Zero Emission Vehicles at Newhall Ranch**, availability of EV charging infrastructure is major factor influencing ZEV penetration.

In response to this comment, the calculations in **Table 1** demonstrate that the purchase of 12,500 ZEVs can achieve a 50 percent reduction in VMT, consistent with the Draft AEA analysis. The two scenarios presented in **Table 1** are based on the modeling forecasts in Appendix H. Scenario 1 shows that with 12,500 of the project's households having a ZEV, the VMT associated with these households is 233,956,540 miles per year, which equates to a total 50 percent conversion rate as presented in the Draft AEA. The comments

[69] On page 48 of CARB's First Update to the Climate Change Scoping Plan: Building on the Framework, CARB recognized that the light-duty vehicle fleet "will need to become largely electrified by 2050 in order to meet California's emission reduction goals." Available at: https://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf. Accessed: February 17, 2017.

about Mitigation Measure 2-4 suggest that the Draft AEA relied on overly aggressive assumptions, but **Table 1** shows the more aggressive assumption could result in a much higher VMT conversion than that assumed in the Draft AEA. As noted in Scenario 2, Appendix H forecasts a scenario where the total number of ZEVs purchased by project households is 14,793. If the Draft AEA had used this forecast, the resulting conversion rate would be 59.2 percent, which is higher than the Draft AEA's 50 percent conversion rate. In other words, the Draft AEA's 50 percent conversion rate is supported by the technical evidence and is conservative, compared to the forecast results in the Appendix H model.

Table 1 Calculating VMT Conversion to ZEV-Driven Miles

Variable	Potential ZEV Adoption Scenarios Evaluated in Ramboll Environ Technical Report (% of Households with EV due to MM)		Units
	Scenario 1	Scenario 2	
# of project households	21,242	21,242	homes
# of project households with ZEVs due to MM[1]	12,500	14,793	homes
Total residential VMT (after reduction from TDM Plan)	380,582,786	380,582,786	miles/year
% of households with ZEVs due to MM	58.8%	69.6%	
Residential VMT for project households with ZEVs	223,956,540	265,039,128	miles/year
% of VMT driven by ZEV per project household	85%	85%	
Residential ZEV VMT per project household (mi/home/yr)	190,363,059	225,283,259	miles/year
% of conversion of residential VMT to ZEV-driven	50.0%	59.2%	

Note 1: Of the 12,500 ZEVs anticipated under Scenario 1, 10,621 ZEVs are covered by the vehicle purchase subsidy, with an additional 1,879 purchased as a result of the "neighborhood effect" discussed in Appendix H of the Draft AEA Appendix 1.

Although Ramboll Environ's Technical Report and the Appendix H forecast model support the analysis presented in the Draft AEA, Mitigation Measure 2-4 conservatively will be revised to increase the number of available vehicle purchase subsidies from 50 percent to 65 percent to make the incentive program available to a greater number of village residences, as follows (deletions are shown in ~~strikethrough~~ and additions are shown in <u>underline</u>):

> "The dedicated account shall be incrementally funded, for each village-level project, in an amount that equals the provision of a $1,000 subsidy per residence – on a first-come, first-serve<u>d</u> basis – for <u>65</u> ~~50~~ percent of the village's total residences subject to application of Title 24, Part 6, of the California Code of Regulations."[70]

Note that this modification to Mitigation Measure 2-4 would provide an additional 3,186 ZEV purchase subsidies (for a total of 13,807 subsidies), even though not otherwise required for the project to achieve net zero GHG emissions. These additional subsidies are calculated to lead to 1,307 additional ZEVs beyond those required to reach a 50 percent VMT conversion as shown in **Table 1** (the difference in number of ZEVs is 13,807 – 12,500 = 1,307). This corresponds to a 10.5 percent buffer for the GHG reduction for Mitigation Measure 2-4 [1,307 ÷ 12,500 = 0.105 or 10.5 percent], which is equal to 5,641 MT CO_2e based on the calculated reduction for Mitigation Measure 2-4 (53,724 MT CO_2e x 10.5 percent = 5,641 MT CO_2e).

The comment also raises a question about the 85 percent utilization rate of EVs by households. This estimate is well supported by the Ramboll Environ Technical Report. As discussed in Section 4.2.4 of the Technical Report, the California Center for Sustainable Energy has found that households with ZEVs

[70] With this modification, the equivalency factor for Mitigation Measure 2-4 would decrease from 5.06 MT CO_2e reductions per year to 4.22 MT CO_2e reductions per year. Please see **Response to Comment No. 09-25** above for additional information regarding the application of the equivalency factor.

preferentially use the ZEV for work, shopping and personal errands for 89 percent, 95 percent, and 87 percent of the time, respectively.[71] This is consistent with survey data that showed that 90 percent of ZEV owners said that the ZEV "Completely" or "To a High Degree" replaced the ICEV, with 66 percent of the survey respondents living in multi-vehicle households.[72] This is also consistent with preliminary data from Ford, which also suggests that with time – six months – the frequency of ZEV use increases, and the ICEV use decreases.[73] As discussed in Section 4.2.4 of the Technical Report, ZEV technology is reasonably expected to continue to improve with time, which likely will serve to enhance further the preferential use of such vehicles. (See also Section 2.1.2 of Appendix H of Draft AEA Appendix 1.)

In addition, with the modification to Mitigation Measure 2-4 shown above, the Scenario A calculation presented in **Table 2** shows that the percent of residential VMT converted to ZEV increases to 55.3 percent, assuming the increased incentive in Mitigation Measure 2-4 is used (which is supported by the forecast results in Appendix H). If the percent of residential VMT converted to ZEV is held constant at 50 percent, as shown in Scenario B, the utilization of ZEVs decreases from 85 to 77 percent, which is well within the bounds of the studies cited above. In short, the analysis of Mitigation Measure 2-4, as modified above, is reasonable and supported by the evidence in the Ramboll Environ Technical Report.

Table 2 Calculation of VMT Conversion with the Increased ZEV Purchase Subsidies

Variable	Potential ZEV Adoption Scenarios (% of Households with EV due to MM)		Units
	Scenario A	Scenario B	
# of project households	21,242	21,242	homes
# of project households with ZEVs due to MM[1]	13,807	13,807	homes
Total residential VMT (after reduction from TDM Plan)	380,582,786	380,582,786	miles/year
% of households with ZEVs due to MM	65.0%	65.0%	
Residential VMT for project households with ZEVs	247,378,811	247,378,811	miles/year
% of VMT driven by ZEV per project household	85%	77%	
Residential ZEV VMT per project household (mi/home/yr)	210,271,989	190,481,684	miles/year
% of conversion of residential VMT to ZEV-driven	55.3%	50.1%	

Note 1: Based on increased commitment to provide ZEV purchase subsidies to 65% of the dwelling units. Additional ZEVs will likely be purchased even without the subsidy due to the "neighborhood effect," as discussed in Appendix H of the Draft AEA Appendix 1.

Comment No. 09-27:

Emissions reductions claimed from provision of non-residential charging stations also appear to be unsupported and overblown. The revised analysis asserts that 20 parking spaces with chargers will reduce emissions by almost 40,000 MT CO_2e/year. (Draft AEA at 2-32.) This claim assumes full occupancy of each space for ten hours per day, charging at a rate of 25 miles per hour, for total displacement of 250 miles per parking space per day. (App. 1 at 36- 37.) These assumptions are suspect at best. Charging and EV fuel economy assumptions once again are drawn from the highest end of the possible range. (App. 1 at 37.) Moreover, uninterrupted charging for 10 hours is not a realistic assumption in a commercial lot, where many vehicle users may stay for much shorter periods of time while shopping or running errands. The document

[71] California Center for Sustainable Energy, California Plug-in Electric Vehicle Owner Survey (2012), p. 4. Available at: https://energycenter.org/sites/default/files/docs/nav/policy/research-and-reports/California%20Plug-in%20Electric%20Vehicle%20Owner%20Survey%20Report-July%202012.pdf. Accessed: February 17, 2017.

[72] Haugneland, Petter and Hans Havard Kvisle, "Norwegian Electric Car User Experiences" (November 2013), paper presented at the World Electric Vehicle Symposium and Exhibition series (EVS27), Barcelona, Spain.

[73] Castrucci Alexandria, Mike, "Good Habits Pay Dividends for Electric Car Drivers" (October 7, 2013). Available at: http://www.mikecastruccialexandria.com/blog/electric-car-driving-habits/. Accessed: February 17, 2017.

provides no evidence that every charging station will be fully occupied for 10 hours per day under any realistic scenario.

Response No. 09-27:

The comment questions the accuracy of the GHG emission reduction calculations for Mitigation Measures 2-5 and 2-12, focusing on the calculations' daily usage input (i.e., 10 hours per day of charging activity). The comment's assertions are unsupported, and, as shown below, the calculations are based on substantial evidence in accordance with CEQA Guidelines Section 15064.4(a)(1).

The Draft AEA contains a comprehensive evidentiary record regarding the GHG emission reduction calculations for the subject mitigation measures. The GHG emission reduction calculations for Mitigation Measure 2-5 and Mitigation Measure 2-12 are discussed at length in Sections 4.2.5 and 4.2.12 of Draft AEA Appendix 1. As described further below, and based on the information presented in Draft AEA Appendix 1,[74] the GHG emission reduction calculations provide a reasonable representation of anticipated charger usage in 2030.

As discussed above, the Draft AEA's GHG emissions analysis carefully considered the emission reduction benefits of the mitigation measures, and accounted for the relationships between various measures designed to reduce mobile source emissions. Additionally, the analysis completed by Ramboll Environ in Draft AEA Appendix 1 was subject to independent review and evaluation by two other technical experts: Ascent Environmental, Inc. and CARB, as memorialized in a letter from CARB to CDFW, dated November 3, 2016 (a copy of which is included in Final AEA Appendix 1).

The comment does not provide any evidence that the Draft AEA analysis is incorrect and, except for general assertions, does not provide a basis to question the results related to the mitigation measures. However, to provide additional information, Ramboll Environ has prepared a supplemental technical memorandum with additional details about Mitigation Measure 2-5 calculation and analysis, which is summarized here. (A copy of that supplemental memorandum is located in Final AEA Appendix 4.)

First, the comment mistakenly indicates that 20 parking spaces will be equipped with charging equipment. Mitigation Measure 2-5 commits to providing 7.5 percent of the total, on-site parking spaces in commercial development areas with access to charging stations, for a total of up to 2,000 parking spaces. Additionally, Mitigation Measure 2-12 will provide up to an additional 2,036 off-site parking spaces with access to charging stations.

Second, the GHG emission reduction calculations do not assume that the charging occurs for 10 uninterrupted hours, as suggested by the comment. Instead, the calculations assume that each charger is used 10 of the 24 available hours per day.

Third, the daily usage inputs relied upon in the GHG emission reduction calculations are based on projections of likely charger usage in 2030 (i.e., the project's build-out date and the representative GHG emissions inventory year) in areas that are generally accessible to the public. Evidence shows that on-going research and development activities are focusing on means and methods to maximize charger usage and technology to enable the effective usage of charging locations. These technology developments include innovative ways to provide charging to multiple parking spaces without moving cars, applications to maximize charger usage, and applications to track charging status. For example, the Tesla app allows owners to remotely monitor their vehicle, alerting them when their charge is nearly complete and again once fully charged.[75] Other available mobile apps, such as PlugShare[76] and TurboDock[77], allow drivers to seek out locations of charging stations and better manage charging ability. In light of the technology development

[74] E.g., UCLA Luskin School of Public Affairs, Luskin Center for Innovation, and UCLA Anderson School of Management, "Financial Viability of Non-Residential Electric Vehicle Charging Stations" (August 2012), p. 16.
[75] Available at: https://www.tesla.com/support/supercharger-idle-fee. Accessed: February 2017.
[76] Available at: https://www.plugshare.com/. Accessed: February 2017.
[77] Available at: http://www.evsolutions.com/turbodock. Accessed: February 2017.

efforts, and the efforts of the state and others to further adoption of ZEVs (see **Topical Response 3: Zero Emission Vehicles at Newhall Ranch**), the calculations are based on optimized use of charging equipment in 2030. The comment has not cited any studies indicating that charger usage would be less at that time.

Fourth, the GHG emission reduction calculations for Mitigation Measure 2-5 and Mitigation Measure 2-12 are conservative and based on substantial evidence in the various technical reports, as summarized above. For example, the overall emissions reduction benefit of these mitigation measures is influenced by the fuel economy of the ZEV. The calculations currently assume that each ZEV has an energy consumption rate of 0.25 kWh/mile. However, by 2030, it is estimated that the energy consumption rate will be reduced further to 0.20 kWh/mile.[78] Thus, the energy consumption rate currently used in the calculations is conservative by a factor of 20 percent; therefore, the same chargers installed in accordance with Mitigation Measures 2-5 and 2-12 could potentially be used for under eight hours per 24-hour period and achieve the same GHG emission reductions that are currently included in the Draft AEA. **Table 3** below illustrates how the Draft AEA's analysis is conservative relative to the emissions reduction that could have been claimed accounting for this information. As shown in the table, the existing GHG emission reduction calculations result in 78,922 MT of CO_2e reductions; however, with incorporation of anticipated energy consumption rate improvements, 102,571 MT of CO_2e reductions would be realized. Therefore, the existing calculations rely on a conservative input that creates more than a 20 percent buffer ([102,571 – 78,922 = 23,649 MT of extra CO_2e reductions]; [23,649 ÷ 102,571 = 23 percent]).

Table 3 Comparison of Fuel Economies and Corresponding GHG Emission Reductions

Emissions Calculation Variable	Scenario		Units
	Published AEA Fuel Economy	2030 Potential Fuel Economy	
Estimating GHG Emissions Reduction from Replacement of Gasoline Vehicle with Electric Vehicle			
SCE Electricity Emission Factor	0.17		MT CO_2e/MWh
Fuel Economy of Electric Vehicle	0.25	0.20	kWh/mile
Gasoline/Diesel CO_2e Emission while Running	257		gms/mile
Annual VMT Reduction per Parking Space	91,250	114,063	miles/charging station/year
Number of On-Site Commercial Parking Spaces Provided Chargers	2,000		parking spaces
Annual VMT Reduction All Stations (Based on Charge)	182,500,000	228,125,000	miles/year
Estimated Benefit from Installing Electric Vehicle Charging Stations in Commercial Development Areas			
GHG Emissions of Gasoline/Diesel Vehicle	46,875	58,594	MT CO_2e/year
GHG Emissions of Electric Vehicle	7,766	7,766	MT CO_2e/year
GHG Reduction per Parking Space with Charging per Year	20	25	MT CO_2e/year
Number of Off-Site Parking Spaces Provided Chargers	2,036		parking spaces
GHG Emissions Reduction from On-Site Parking Spaces (MM 2-5)	39,109	50,828	MT CO_2e/year
GHG Emissions Reduction from Off-Site Parking Spaces (MM 2-12)	39,813	51,743	MT CO_2e/year

Notwithstanding the substantial evidence supporting a 10-hours-per-day use rate, the project applicant has voluntarily supplemented its commitments to reduce GHG emissions, the effectiveness and enforcement of which would be reinforced incorporating the supplemental commitment into the MMRP with the mitigation measures. As discussed in the prior responses and the Draft AEA, the continued deployment of charging infrastructure is a well-recognized and validated strategy to support conversion to EVs. Therefore, a new

[78] M.J. Bradley & Associates LLC. "Consumer Acceptance of Advanced Electric Vehicles" (2012). Available at: https://www.epa.gov/sites/production/files/2014-09/documents/balon.pdf. Accessed: February 2017.

Project Applicant-Proposed Supplemental Commitment will require the project to provide an additional 1,010 parking spaces with access to Level 2 EV charging equipment, as described below:

> ## Project Applicant-Proposed Supplemental Commitment
>
> In addition to the installation of EV charging stations required by Mitigation Measures 2-5 and 2-12, and although not required for the project to achieve net zero GHG emissions as described in **Topical Response 3: Zero Emission Vehicles at Newhall Ranch**, the project applicant or its designee shall provide Los Angeles County with proof of installation of EV charging stations prior to the issuance of residential and commercial building permits per the following ratios: one (1) parking space shall be served by an electric vehicle charging station for every 50 dwelling units, and one (1) parking space shall be served by an electric vehicle charging station for every 15,900 square feet of commercial development. ("Commercial development" includes retail, light industrial, office, hotel and mixed-use buildings.) EV charging stations capable of servicing 1,010 parking spaces would be required if the maximum allowable development facilitated by the RMDP/SCP project occurs; fewer EV charging stations would be required if maximum build-out under the RMDP/SCP project does not occur.
>
> The EV charging stations shall achieve a similar or better functionality as a Level 2 charging station and may service one or more parking spaces. In the event that the installed charging stations use functionality/technology other than Level 2 charging stations, the parameters of the mitigation obligation (i.e., number of parking spaces served by EV charging stations) shall reflect the comparative equivalency of Level 2 charging stations to the installed charging stations on the basis of average charge rate per hour. For purposes of this equivalency demonstration, Level 2 charging stations shall be assumed to provide charging capabilities of 25 range-miles per hour.
>
> The EV charging stations shall be located either on the project site or within the jurisdictional area of the Southern California Association of Governments. The EV charging stations shall be in areas that are generally accessible to the public, such as areas that include, but are not limited to, retail centers, employment centers and office complexes, recreational facilities, schools, and other categories of public facilities.

This additional commitment provides an 8 percent supplement relative to the overall mitigated project emissions (pre-application of Mitigation Measures 2-10 and 2-13) and a 25 percent supplement specific to the emission reductions from Mitigation Measure 2-5 and 2-12 (see **Table 4** below; 19,750 ÷ [39,109 + 39,813] = 25 percent). With this supplemental commitment, the corresponding GHG emissions reduction would allow for the utilization rate to be as low as 8 hours per 24-hour period without resulting in any net diminishment in the level of GHG emissions reduction, compared to the Draft AEA analysis.

Table 4 Estimation of GHG Emission Reductions from Supplemental GHG-Reducing Commitment

Estimating GHG Emissions Reduction from Replacement of Gasoline Vehicle with Electric Vehicle		
SCE Electricity Emission Factor	0.17	MT CO_2e/MWh
Fuel Economy of Electric Vehicle	0.25	kWh/mile
Gasoline/Diesel CO_2e Emission while Running	257	gms/mile
Annual VMT Reduction per Parking Space	91,250	miles/charging station/year
Number of Additional Parking Spaces Provided Chargers due to MM 2-14	1,010	parking spaces
Annual VMT Reduction from MM 2-14 Stations (Based on Charge)	92,162,500	miles/year

Table 4 Estimation of GHG Emission Reductions from Supplemental GHG-Reducing Commitment

Estimated Benefit from Installing Electric Vehicle Charging Stations in Commercial Development Areas		
GHG Emissions of Gasoline/Diesel Vehicle	23,672	MT CO_2e/year
GHG Emissions of Electric Vehicle	3,922	MT CO_2e/year
GHG Emissions Reduction	19,750	MT CO_2e/year
GHG Reduction per Parking Space with Charging per Year	20	MT CO_2e/year
Number of Parking Spaces Provided Chargers Due to MM 2-5 and MM 2-12	4,036	parking spaces
GHG Emissions Reduction (MM 2-5 and MM 2-12)	78,922	MT CO_2e/year
Increase in GHG Emissions Reduction from 1,010 Additional Parking Spaces from Project Applicant-Proposed Supplemental Commitment	19,750	MT CO_2e/year
	25%	percent increase

Comment No. 09-28:

Furthermore, it appears that the revised analysis may double-count claimed emissions reductions from residential and non-residential charging stations. In estimating mobile source emissions, the revised analysis incorporates tripend internalization percentages in order to eliminate double-counting of internal trips. (See App. 1 at 17-18, Tables 2-17c, 2-17d.) But the document's assessment of claimed emissions reductions does not seem to correct for double-counting of internal trips. Rather, the GHG technical report (App. 1 at 35, Table 4-3) simply assumes that 50 percent of all conventional vehicle residential miles will be displaced by EV miles, and calculates GHG reductions per displaced mile. At the same time, the report (App. 1 at 36-37, Table 4-4) also assumes that every mile of range charged at a non- residential charger similarly displaces a mile traveled in a conventional vehicle. Accordingly, even if claimed residential reductions use trip figures adjusted to eliminate double-counting for internal trips, claimed non-residential reductions are based solely on charged range. So, assuming residential EVs are parked at non-residential charging stations on internal trips, the non-residential charging station may not actually achieve any reductions (especially given that internal trips are likely to be short enough that range anxiety is not a concern, and a trip that would otherwise occur in a conventional vehicle is not actually displaced). Accordingly, the non-residential charging station reductions most likely reflect a significant degree of double- counting of reductions from internal trips. (See App. 1, Table 2-17c [residential internal trip production rates of 22-59%, and non-residential internal trip attraction rates of 25-49%].)

Response No. 09-28:

This comment suggests that the GHG emission reductions associated with implementation of Mitigation Measure 2-4 and Mitigation Measure 2-5 may be overstated. There is no "double-counting" in the calculations. The comment suggests that the GHG emission reductions for these two mitigation measures need to be subject to the tripend adjustment described in Section 2.3.5.3 of Draft AEA Appendix 1. However, the purpose of the Section 2.3.5.3 adjustment was to identify an accurate VMT estimate for the project (to avoid the traffic model overestimating the number of trips and tripends by not distinguishing trips that are internal to the project site).

> "In calculating total VMT, it is necessary in the case of a mixed-use development, such as this [p]roject, to make an adjustment in order to avoid the double-counting of vehicle trips related to internal capture. For example, in the case of roundtrip between an on-site residence and an on-site store, the traffic engineer produces trip generation estimates that include two tripends assigned to the residential portion of the [p]roject (to and from) and two tripends assigned to the commercial portion of the project (to and from). Thus, a total of four tripends were assigned for one roundtrip by the resident to the store, even though there would be a total of only two trips – the resident driving from his/her home to the store to shop and then returning home again."[79]

79 AEA Appendix 1, p. 17 (italics original).

Once the accurate VMT was identified in Section 2.3.5.3, the unmitigated GHG emissions were estimated per the methodology presented in Sections 2.3.5.4 through 2.3.5.6 of Draft AEA Appendix 1.

Therefore, the "double-counted" internal trips referred to in the comment were removed prior to running CalEEMod®, as shown in Tables 2-17a through 2-17g of Draft AEA Appendix 1. The trip rates and trip lengths that were used as inputs to CalEEMod® no longer included any internal trips ("double-counting"). And, the output VMT and GHG emissions from mobile sources shown in Table 2-18a of Draft AEA Appendix 1 did not include the double-counted internal trips which were eliminated from the VMT estimate. To be clear, the internal trip adjustment in Section 2.3.5.3 is relevant to the calculation of the project's unmitigated VMT; it has no direct relation to the subsequent calculation of the GHG emission reductions resulting from the mitigation measures.

Further, the GHG emission reductions identified in the Draft AEA were "estimated sequentially, in order to avoid double counting the emission reductions." (Draft AEA Appendix 1, p. 25.) More specifically, prior to calculating the Mitigation Measure 2-4 emission reductions, a 14.9 percent reduction to the project's unmitigated VMT was applied to reflect implementation of Mitigation Measure 2-6 and to avoid double-counting the benefits of the TDM Plan. As shown in Table 4-3 of Draft AEA Appendix 1, the unmitigated residential VMT is 447,218,315 miles per year; and, the post-TDM/post-Mitigation Measure 2-6 residential VMT is 380,582,786 miles per year. The GHG emission reductions assigned to Mitigation Measure 2-4 are based on the post-TDM/post-Mitigation Measure 2-6 residential VMT to prevent double-counting of reductions attributed to Mitigation Measure 2-4 and Mitigation Measure 2-6.

The comment also states that resident-owned ZEVs may charge vehicles in the on-site, non-residential areas, thereby creating an overlap in and potential double-counting of GHG emission reductions. However, the GHG emission reductions assigned to Mitigation Measure 2-4 and Mitigation Measure 2-5 are distinct in terms of the basis and substantiation for the reductions; as a result, there is no double-counting of GHG emission reductions. As described in Section 4.2.4 of Draft AEA Appendix 1 and Final AEA Appendix 3, the GHG emission reductions from Mitigation Measure 2-4 are attributable to the project's commitment to incentivize ZEV adoption through the installation of charging equipment in each dwelling unit and the provision of a $1,000 ZEV purchase subsidy to 65 percent of the residences. The GHG emission reductions for Mitigation Measure 2-4 are based on the VMT driven by the residents, and the corresponding calculation of how the additional resident-operated ZEVs will displace internal combustion engines. Additional information regarding this methodology is provided in **Response to Comment No. 09-26**.

Given the proximity of the charging stations located in on-site commercial development areas to the on-site residences, it is not expected that project residents will frequently use the charging stations located in on-site commercial development areas. Instead, consistent with the findings of published literature on the subject, it is expected that the residents will preferentially use their in-home charging equipment.[80,81,82] Further, with the continuing development of longer-range ZEVs, a project resident will increasingly have little reason to drive just a few miles within the community to plug into chargers outside his/her home. Even today's existing, economical ZEVs have enough range to make the round trip distance anticipated for internal trips within the project site (e.g., the Nissan LEAF[83]). Lastly, the common understanding of non-residential chargers is to provide charging for those who are traveling a greater distance and will need to charge their vehicle in order to complete their trip.[84] The wide variety of commercial uses (e.g., commercial/retail; office and business park; light industrial; and hotels) proposed for development on the project site is expected to attract a number of non-residents to the project site for various purposes (e.g.,

[80] As discussed and substantiated through citation to published literature on pages 30 and 31 of AEA Appendix 1: "An average vehicle spends 90 percent of its time at home and work, with over 70 to 80 percent of EV charging taking place at home, followed by workplace charging."

[81] NREL, "California Statewide Plug-In Electric Vehicle Infrastructure Assessment" (May 2014), prepared for CEC, e.g., pp. 4-5. Available at: http://www.nrel.gov/docs/fy15osti/60729.pdf. Accessed: February 17, 2017.

[82] INL, "Plugged In: How Americans Charge Their Electric Vehicles" (2016), e.g., p. 3. Available at: https://avt.inl.gov/sites/default/files/pdf/arra/SummaryReport.pdf. Accessed: February 17, 2017.

[83] Available at: https://www.nissanusa.com/electric-cars/leaf/. Accessed: February 17, 2017.

[84] UCLA Luskin School of Public Affairs and UCLA Anderson School of Management, "Financial Viability of Non-Residential Electric Vehicle Charging Stations" (August 2012), p. 5. Available at: http://luskin.ucla.edu/sites/default/files/Non-Residential%20Charging%20Stations.pdf. Accessed: February 17, 2017.

work; leisure and entertainment; recreation). The objective of Mitigation Measure 2-5 is to provide those individuals with access to charging equipment and incentivize their use of ZEVs when visiting the project site.

The comment expresses a concern that there may be insufficient commercial VMT attracted from off-site land uses to fully use the non-residential EV chargers located in the on-site, commercial development areas to the extent calculated in Mitigation Measure 2-5. However, based on the trip rate, internalization, and trip length information presented in Tables 2-17a through 2-17g of Draft AEA Appendix 1, there is more than enough external VMT to be served by the chargers without requiring any commercial charging equipment located in on-site, commercial development areas to be used by project residents. After removing 100 percent of the internal trips, commercial land uses attract approximately 372,103,500 miles per year of traffic. The EV chargers located in the on-site, commercial development areas are assumed to provide range for approximately 182,500,000 miles per year. This further corroborates the substantial evidence discussed above that there is no issue of double-counting with residents using commercial charging stations located in on-site, commercial development areas for internal trips.

Comment No. 09-29:

The revised analysis also fails to account for any difference between battery EVs and plug-in hybrid EVs (PHEVs), which have on-board internal combustion engines. There is no substantial evidence all miles traveled in PHEVs will be zero-emission miles. PHEVs will likely outnumber battery and fuel-cell EVs in the future; according to a 2014 California Energy Commission demand forecast, there will be roughly ten times as many PHEVs than battery EVs on the road in 2024.[20] It is not credible to assume that project residents will purchase only battery EVs, or that PHEVs used by project residents will never use the onboard internal combustion engine. Absent disclosure and analysis of anticipated miles traveled using PHEV internal combustion engines, the revised document's conclusions lack evidentiary support.

[20] *California Energy Commission, California Energy Demand 2014–2024 Final Forecast, Volume 1: Statewide Electricity Demand, End-User Natural Gas Demand, and Energy Efficiency at 43 (Table 11) (January 2014) (attached as Ex. P).*

Response No. 09-29:

The comment states that the Draft AEA's GHG emissions analysis fails to account for the different emissions profiles of BEVs and PHEVs, noting that the latter do not always produce zero emission miles.

However, for purposes of Mitigation Measure 2-4, the available purchase subsidy is for "zero emission vehicles," as that term is defined by CARB. (Draft AEA, p. 2-27.) CARB's adopted regulatory standards for ZEVs provide the following definitions for model years 2009 through 2017, and model year 2018 and later:

> "The Executive Officer shall certify new 2009 through 2017 model year passenger cars, light-duty trucks and medium-duty vehicles as ZEVs if the vehicles produce zero exhaust emissions of any criteria pollutant (or precursor pollutant) under any and all possible operational modes and conditions.[85]
>
> The Executive Officer shall certify new 2018 and subsequent model year passenger cars, light-duty trucks, and medium-duty vehicles as ZEVs, vehicles that produce zero exhaust emissions of any criteria pollutant (or precursor pollutant) or greenhouse gas, excluding emissions from air conditioning systems, under any possible operational modes or conditions.[86]"

Because Mitigation Measure 2-4's purchase subsidy is targeted to vehicles that produce zero-emission miles, the GHG emission reductions are based on an appropriate vehicle emissions profile.

85 Cal. Code Regs., tit. 13, Section1962.1(a).

86 Cal. Code Regs., tit. 13, Section1962.2(a).

As for Mitigation Measure 2-5 and Mitigation Measure 2-12, the GHG emission reductions are based on the electricity charge provided to an EV. The assumption is that the electricity will be used to produce an electrically-driven mile. For PHEVs, although some miles are driven by a mix of an electricity and internal combustion engine, PHEVs also have the ability to drive purely on the electric engine and the assumption is that the electricity is used in the most efficient way to result in an electrically-driven mile. The method of calculating the GHG reduction for Mitigation Measures 2-5 and 2-12 is not based on a specific assumption regarding what specific type of EV is being driven (i.e., a BEV vs. a PHEV). As shown in the Draft AEA Appendix 1 Table 4-4, the GHG emission reduction is based specifically on the amount of electrically-driven miles which can occur from a BEV or a PHEV. Thus, the comment that PHEVs have to be specifically identified in the analysis is incorrect because PHEV use would still result in electrically-driven miles in lieu of gas-driven miles. The Draft AEA analysis properly accounts for the electrical charge that results in electrically-driven miles.

The study cited in the comment, which reports on 2012 data, does not adequately disclose the trend in BEVs versus PHEVs. At that time, the comment correctly notes that PHEVs had outnumbered BEVs by more than 2 to 1. However, as illustrated in **Table 5** below, in 2013 and by the end of 2015, BEV sales exceeded sales of PHEVs. This trend is expected to continue for reasons discussed in **Topical Response 3: Zero Emission Vehicles at Newhall Ranch** that relate to CARB's comprehensive strategy to facilitate the penetration of zero-emissions technologies in the light-duty vehicle sector. For the reasons stated above, the Draft AEA analysis properly accounts for the difference between BEVs and PHEVs.

Table 5 Trends in Electric Drive Vehicle Sales (2012-2015)

California	Sales				
	2012	2013	2014	2015	2016
Hybrid (HEVs) - excluding Plug-ins	94,878	116,912	115,544	118,562	98,763
Plug-in Hybrid (PHEVs)	14,103	20,633	29,949	27,740	33,226
Electric / Battery (BEVs)	5,990	21,912	29,536	34,477	40,347
Total Electric Drive Vehicles (HEVs, PHEVs, EREVs, BEVs)	114,971	159,457	175,029	180,749	172,336

Sources: California New Car Dealers Association (CNCDA), "California Auto Outlook: New Light Vehicle Registrations Likely to Exceed 1.9 million units in 2015" (February 2015). Available at: http://www.cncda.org/CMS/Pubs/Cal_Covering_4Q_14.pdf. Accessed: February 17, 2017; CNCDA, "California Auto Outlook: California New Vehicle Registrations Expected to Remain Above 2 Million Units in 2016" (February 2016). Available at: http://www.cncda.org/CMS/Pubs/Cal%20Covering%204Q%2015.pdf. Accessed: February 17, 2017; CNCDA, "California Auto Outlook: Comprehensive information on the California vehicle market" Volume 13, Number 1 (February 2017). Available at: http://www.cncda.org/CMS/Pubs/CA%20Auto%20Outlook%204Q%202016.pdf. Accessed: February 17, 2017

Comment No. 09-30:

The EV purchase and charging station mitigation measures also appear to conflict with, or at least exist in considerable tension with, the neighborhood EV (NEV) component of the TDM plan. First, the different programs use dramatically different assumptions and methodologies. The revised analysis claims a 2.5 percent reduction in VMT from use of NEVs (App. 1, App. E at 11.) This claim is based on the assumption that a 25 percent subsidy ($3250, based on a $13,000 average purchase price) would lead 1 in 5 households to purchase a NEV. (App. 1, App. E at 11.) It is striking that the document assumes a much lower subsidy ($1,000, available to only half of project households) will result in a much higher rate of EV purchase, despite the fact that EVs are significantly more expensive than NEVs. Indeed, the revised analysis assumes that the lower EV subsidy will be 100 percent effective (i.e., that a subsidy offered to 50 percent of households will result in 50 percent of households purchasing an EV), while at the same time it assumes the higher relative NEV subsidy will be only 20 percent effective.[21]

[21] *Because every project residence will have a Level 2 charging station regardless of vehicle ownership (App. 1, App. H at 1), availability of charging logically would not factor into a household's decision to purchase an EV, a NEV, or both*.

Response No. 09-30:

The comment states that there is a tension or conflict between Mitigation Measures 2-4, 2-5, and 2-12 and the neighborhood electric vehicle (NEV) component of Mitigation Measure 2-6, highlighting the distinctions between the purchase subsidy value for ZEVs and NEVs and the corresponding uptake data points. However, the GHG emission reduction calculations for each of the cited mitigation measures are substantiated by record evidence cited in this response and reflect the unique priorities of state policy, which are being used to craft programs and regulations to preferentially secure the penetration of ZEVs in comparison to NEVs. It relatedly is important to understand that, as described by CAPCOA, NEVs are low-speed EVs, for purposes of the California Vehicle Code, and are used on low-speed roadways for short, neighborhood-oriented trips. ZEVs, on the other hand, function equivalently to a conventional ICEV, and are suited for all speeds of roadway travel.

The GHG emission reduction calculations for Mitigation Measure 2-4 are set forth in Section 4.2.4 of Draft AEA Appendix 1. Additional substantiation is provided in **Topical Response 3: Zero Emission Vehicles at Newhall Ranch**, and in **Response to Comment Nos. 09-24** through **09-29** above. As explained in the referenced documentation, the calculations rely on project-specific economic forecast modeling that reflects the project's mitigation commitments; statewide policy and programming to secure the penetration of zero-emissions technology in the vehicle fleet by 2030; and, published literature regarding ZEVs.

The VMT-reducing benefits of Mitigation Measure 2-6's NEV purchase subsidy and corresponding travel network are derived from a set of data inputs specific to NEVs and a methodology presented in Appendix E to Draft AEA Appendix 1 and Final AEA Appendice 7 and 8, which is based on guidance from CAPCOA for reducing VMT and GHG emissions. Final AEA Appendix 8 consist of a technical memorandum, prepared by Fehr & Peers (a transportation engineer with demonstrated expertise in the arena of VMT), which substantiates the VMT-reducing benefits of the Newhall Ranch TDM Plan, the implementation of which is required by Mitigation Measure 2-6. Because one aspect of the TDM Plan calls for the implementation of an NEV strategy, Fehr & Peers estimated the VMT-reducing benefits of the strategy with a method developed by CAPCOA[87] and a market penetration study for NEVs conducted in the County of Los Angeles. As explained in Final AEA Appendix 8, Fehr & Peers determined that one in five households would purchase an NEV if the TDM Plan's NEV strategy (i.e., offering a 25 percent purchase subsidy for an NEV in concert with access to the NEV travel network) were implemented. (Final AEA Appendix 8, pp. 11-13.)

The VMT reduction assigned to the TDM Plan's NEV strategy is on the lower end of the range of reductions identified by CAPCOA for purposes of Strategy SDT-3 (Implement a Neighborhood Electric Vehicle Network). More specifically, CAPCOA has identified a range of effectiveness for Strategy SDT-3, with a low end of a 0.5 percent reduction in total VMT to a high end of a 12.7 percent reduction in total VMT.[88] Based on Fehr & Peers' calculations in Final AEA Appendix 8, the TDM Plan's NEV strategy would result in a 1.2 percent reduction in total VMT.

The distinctions highlighted in the comment incorrectly characterize what are reasonable differences between the project's ZEV and NEV mitigation commitments. The TDM Plan's NEV strategy is designed to influence a small segment of transportation patterns at the project site-specific level through access to the NEV travel network. Thus, the anticipated interest in and appeal of Mitigation Measure 2-6's NEV subsidy to project residents is anticipated to be smaller than that generated by Mitigation Measure 2-4's ZEV subsidy and charging equipment, which will provide project residents with a means of transport that is *not* limited to the boundaries of the project site. As such, the fact that the NEV strategy provides a higher monetary subsidy value than that provided in Mitigation Measure 2-4 and still gets a lower participation rate is consistent with

[87] CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures" (2010). Available at: www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf. Accessed: February 17, 2017.
The methodologies presented in the cited CAPCOA publication are widely accepted and were developed in coordination with the SCAQMD and other regional air districts in the State of California. The comment offers no critique of CAPCOA's methodology, as applied to the TDM Plan's NEV strategy.

[88] Id. at pp. 194-197.

the program design and CAPCOA's guidance, when one considers how these two programs would fit into the methods of travel residents are likely to pursue.

In summary, the GHG emission reduction calculations for the ZEV and NEV strategies reasonably reflect the hierarchy of each strategy within the scheme of state policy and priorities, as well as the anticipated appeal of each strategy to project residents.

Comment No. 09-31:

The revised analysis claims 10,259 MT CO_2e/yr in reductions from the NEV program, based on the assumption that 20 percent of households will purchase a NEV. (App. 1, Table 4-5, n. 4.) This is in addition to all claimed reductions from standard EVs and charging stations, which are listed in App. 1, Tables 4-3 and 4-4. Non-residential charging stations will serve both EVs and NEVs (App. 1, App. H at Ex 4). However, as noted above, GHG reductions for non-residential charging stations are based on 10 hours of charging at rate of 25 miles driving range per hour, or a reduction of 250 miles of range per parking space per day. (App. 1, Table 4-4, n. 4.) NEVs may occupy charging station spaces, but they do not have 250-mile ranges. According to a U.S. Department of Energy report, "[w]hen the batteries are functioning properly, a fully functional [NEV] range is typically around 30 miles for each full charge in mild climates."[22] The same report states that "[o]nly 50-70% of the nominal vehicle range should be used" in order to avoid situations where the vehicle loses charge due to cold weather, worn batteries, or demanding conditions.[23] Accordingly, if a NEV is parked all day (or even for more than about an hour) at a non-residential charging station, that station likely will not achieve the reductions claimed.

[22] *Roberta Brayer et al., USDOE, Guidelines for the Establishment of a Model Neighborhood Electric Vehicle (NEV) Fleet, Report No. INL/EXT-06-11309 at 2 (June 2006), available at https://avt.inl.gov/pdf/nev/nev_deploy_guidelines_report.pdf (attached as Ex. Q); see also Nikki Gordon- Bloomfield, Neighborhood Electric Vehicles: A Marginal Option (May 15, 2013), at http://www.plugincars.com/neighborhood-electric-vehicle-margins-127231.html (typical NEV range is between 25 and 30 miles per charge) (attached as Ex. R).*

[23] *USDOE 2006 at 21.*

Ultimately, there is no indication that either incentive program (NEV or EV) considered the existence of the other. Again, the subsidy for NEVs is higher, both in absolute terms and relative to purchase price. The two types of vehicles have different ranges and costs and serve different needs,[24] but availability of a subsidy for both could affect residents' choice of mode. Moreover, there is no evidence NEV-related emissions reductions will persist for even the unsupported assumed 30-year life of the project; typical batteries in NEVs last only a few years and are very expensive to replace,[25] but the TDM plan does not mention battery life or subsidies for replacement. Residents might be reluctant to invest in a NEV, knowing that they would face expensive battery replacement in the near future. Ultimately, the revised analysis simply fails to evaluate how the EV and NEV incentive programs might interact with one another, and thus fails to substantiate its implicit conclusion that emissions reductions claimed from the two programs are completely additional to one another.

[24] *See CAPCOA, Quantifying Greenhouse Gas Mitigation Measures at 196 (2010) (citing SMAQMD guidance showing NEVs do not replace gas-fueled vehicles as primary vehicles).*

[25] *Gordon-Bloomfield 2013 at 2 ("Unlike full-sized, highway-capable EVs—which come with battery packs capable of lasting for hundreds of thousands of miles—the cheap lead-acid battery packs found in NEVs require replacing every few years at a cost of up to several thousand dollars."); see also USDOE 2006 at 16 (cost of typical 72V NEV battery pack ranges from $600-$1,000, and numerous factors affect battery life).*

Response No. 09-31:

The comment states that the project's ZEV and NEV commitments "threaten" double-counting of GHG emission reductions, because the NEVs may be recharged in the project's non-residential development areas. However, as discussed in Section 4.1.1 of Draft AEA Appendix 1, the GHG emission reductions

attributable to mitigation measures for mobile sources were sequenced in order to eliminate potential double counting. As explained in Section 4.1.1, the GHG emission reduction benefits of Mitigation Measure 2-6 (TDM Plan), including its NEV strategy, are subtracted from the project's unmitigated mobile source inventory before accounting for the benefit of Mitigation Measure 2-5. This approach is consistent with CAPCOA methodology on how to incorporate reductions from the NEV commitment.[89]

It is not expected that NEV owners would use the charging equipment installed pursuant to Mitigation Measure 2-5. The standard design package for NEVs typically relies on a 120V wall outlet for charging (not the Level 2 charging equipment that is utilized for ZEVs).[90] Given that technical constant and the geographic parameters of the project's NEV travel network, the more probable scenario is that resident-operated NEVs would be recharged at home.

While the comment opines that there is "no indication" that the ZEV and NEV incentive programs were developed in concert, the contrary is true. Based on review of published studies and guidance, it was determined that the project should commit to both programs to address the uncertainty of how project residents will prefer to travel. Indeed, the state – through implementation of its Clean Vehicle Rebate Project – is subsidizing the purchase of both ZEVs and NEVs; the project adheres to a similar multi-faceted framework. (See Draft AEA, p. 2-10.) However, the GHG emissions analysis does not assume that 100 percent of the residents will participate in both the NEV and ZEV incentive programs. Rather, an effort was made to reasonably estimate participation rates in each program.

Like the ZEV incentive program, the NEV incentive program would be implemented with a mechanism to allocate unused NEV incentive dollars (if any) elsewhere to achieve the estimated GHG emission reductions identified in the Draft AEA. As described in Final AEA Appendix 14 and the project's MMRP, the NEV strategy results in a reduction of 2.7 MT CO_2e per year per subsidy. In the event that the NEV subsidies are not fully used after occupancy of the final residential dwelling unit, the project applicant, which may include the Transportation Management Organization (TMO) or its equivalent entity, is required to coordinate with the Los Angeles County Planning Director and secure the Planning Director's approval of one or more strategies that secure an equal amount of GHG emission reductions. For purposes of calculating the reductions required to demonstrate equivalency, each un-used NEV purchase subsidy shall equal 2.7 MT CO_2e reductions per year for the project.

The comment also expresses some concern regarding the lifetime of and on-going maintenance costs associated with the NEVs. While it is speculative for the analysis to identify any precise maintenance practices that will be used by project residents, it is reasonable to expect that NEV owners would continue the use of their NEVs. Generally speaking, vehicle ownership is viewed as an investment that requires routine maintenance to keep vehicles in good repair and operating as designed, as well as to maximize their useful life. Furthermore, the project's NEV travel network would be maintained during occupancy of the project site, thereby retaining one of the critical facets to incentivizing NEV usage.

Comment No. 09-32:

3. "GHG Reduction Plan"

The AEA relies on greenhouse gas offsets for nearly half of the reductions necessary to mitigate the project's emissions.[26] The GHG Reduction Plan governing these offsets, however, fails to meet several CEQA requirements.

[89] CAPCOA, "Quantifying Greenhouse Gas Mitigation Measures" (2010), p. 63 ["…VMT reductions should be applied to a baseline VMT expected for the project … the VMT reductions must be adjusted to reflect any 'discounts' already applied."]. Available at: www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf. Accessed: February 17, 2017.

[90] Club Car, "Club Car Street-Legal Vehicles" ["…Plug into a common household electricity outlet overnight and you're ready for your next trip."]. Available at: http://www.clubcar.com/dam/cc-corp/documents/pdf/Literature/Personal/Other/Villager_LSV_Brochure_0711.pdf?downloads=&download=Download+Now. Accessed: February 17, 2017.

[26] *The GHG Reduction Plan incorrectly states that mitigation measures GCC-1 through GCC-12 "will mitigate the project's GHG emissions below the CEQA significance thresholds." (App 1, App F at 6.) The significance threshold used in the AEA is zero net emissions. (AEA at 2-20.) The AEA estimates that measures GCC-1 through GCC-12 will reduce emissions by 289,043 MT CO_2e/'yr. (AEA at 2-34.) This leaves 237,059 MT CO_2e/yr in additional emissions, which the AEA proposes will be offset through the GHG Reduction Plan. (AEA at 2-35.)*

Response No. 09-32:

The assertion that the GHG Reduction Plan fails to meet CEQA requirements is without basis. This response provides a broad overview of the mitigation measures and the performance standards underpinning the GHG Reduction Plan. All GHG reductions used for compliance with Mitigation Measures 2-10 and 2-13 are designed to be consistent with CEQA Guidelines Section 15126.4(c)(3) and (c)(4) (allowing GHG mitigation by "[o]ff-site measures, including offsets that are not otherwise required" and "[m]easures that sequester greenhouse gases"). The GHG Reduction Plan, through the implementation of Direct Reduction Activities and the purchase of Carbon Offsets, would meet the requirements of CEQA, as discussed in this Response and Responses to Comments Nos. 33 through 62.

See Final AEA Appendix 6 for the full, revised GHG Reduction Plan, formally referred to as Appendix F in Appendix 1 of the Draft AEA. All references to the GHG Reduction Plan in this and subsequent responses refer to the revised GHG Reduction Plan.

The GHG Reduction Plan defines certain terms that are relevant to this response:

"Approved Registry" means any of the following: (i) the Climate Action Reserve, the American Carbon Registry and the Verified Carbon Standard; (ii) any entity approved at any time by CARB to act as an "offset project registry" under the state's cap-and-trade program; and if no Approved Registry is in existence as identified by the preceding options (i) or (ii), then (iii) any other entity that issues Carbon Offsets satisfying the performance standards set forth in Section IX.B of the GHG Reduction Plan.

"Carbon Offset" means an instrument issued by an Approved Registry that satisfies the performance standards set forth in Section IX.B of the GHG Reduction Plan and shall represent the past reduction or sequestration of one metric ton of carbon dioxide equivalent achieved by a Direct Reduction Activity or any other GHG emission reduction project or activity that is not otherwise required (CEQA Guidelines Section 15126.4(c)).

"Direct Reduction Activity" means the direct undertaking or funding by the project applicant of activities that reduce or sequester GHG emissions at a location other than the site of the project.

"GHG Mitigation Credit" means an instrument issued by an Approved Registry that satisfies the performance standards set forth in Section IX.A of the GHG Reduction Plan and shall represent the estimated reduction or sequestration of one metric ton of carbon dioxide equivalent that will be achieved by a Direct Reduction Activity that is not otherwise required (CEQA Guidelines Section 15126.4(c)(3)).

The purpose of the GHG Reduction Plan is to establish an implementation framework and performance standards to achieve compliance with Mitigation Measure 2-10 (Construction and Vegetation Change Emissions) and Mitigation Measure 2-13 (Operational Emissions) as identified in the Draft AEA.

As required by Mitigation Measure 2-13, the project applicant will primarily achieve GHG reductions through the implementation or funding of Direct Reduction Activities or, if necessary, by purchasing Carbon Offsets. Section VI of the GHG Reduction Plan identifies the three compliance options permitted by Mitigation Measure 2-13 (GHG emissions associated with a 30-year project life). Former Compliance Option No. 2 has been eliminated, which removes the option for the applicant to provide a guarantee of compliance (see Final AEA Appendix 6 for the revised Mitigation Measure 2-13, with this option deleted).

Section VII of the GHG Reduction Plan identifies the two compliance options permitted by Mitigation Measure 2-10 (GHG emissions associated with project construction). Section VIII establishes the compliance

confirmation process by the Approved Registry, with the Approved Registry providing retirement documentation in a form that can be provided by the applicant to the County of Los Angeles to demonstrate compliance. The project applicant must also provide a written attestation from an Approved Registry to Los Angeles County where the attestation confirms that the retired GHG Mitigation Credits or Carbon Offsets satisfy the performance criteria established in Section IX of the GHG Reduction Plan. Mitigation Measures 2-10 and 2-13 are incorporated into the MMRP and enforced by Los Angeles County.

Mitigation Measures 2-10 and 2-13 expressly require the retirement of GHG Mitigation Credits and/or Carbon Offsets prior to issuance of a grading permit (for construction GHG emissions) or building permit (for 30-year project life GHG emissions), respectively. Retiring a GHG Mitigation Credit or Carbon Offset eliminates it from further use and avoids any double counting. A GHG Mitigation Credit or Carbon Offset cannot be retired until it is first issued by an Approved Registry in accordance with the Approved Registry's protocols for the activity in question, with the Approved Registry attestation noted above. Specifically, under Mitigation Measure 2-10, prior to obtaining a grading permit, the project applicant must satisfy its mitigation obligation for all construction-related GHG emissions associated with the grading permit – which includes all construction-related and vegetation change GHG emissions from the start of grading through vertical construction – before any grading begins. Similarly, under Mitigation Measure 2-13, the project applicant must satisfy its mitigation obligation associated with the building permit – which includes all GHG emissions for the 30-year project life for the portion of the project covered by the building permit – before building occupancy occurs. Thus, mitigation compliance is completed before the activity in question begins and is enforced by Los Angeles County.

As stated above, all GHG Mitigation Credits and Carbon Offsets must meet the performance standards in Section IX of the GHG Reduction Plan, as revised (Final AEA Appendix 6). Among other standards, this requires a Direct Reduction Activity to meet additionality requirements and to be fully implemented and confirmed by an accredited, independent third party in accordance with approved methodologies from an Approved Registry. See **Response to Comment No. O9-36** for additional discussion of the GHG Reduction Plan and performance standards. See **Response to Comment No. O9-60** for additional discussion regarding the Locational Performance Standards applicable to the GHG reductions.

Overview of Carbon Offsets

Carbon offsets (or "offsets") are instruments that can be bought, sold, and traded. Like a stock or equity that represents a unit of ownership in a company, a carbon offset represents a unit of GHG emissions reductions. Each offset is essentially a certification that a certain quantity of GHG emissions has been avoided, prevented, or sequestered.

Carbon Offsets Must Meet Certain Standards

An offset "project" may receive offsets for specific reductions in GHG emissions that occur as a result of a specific project activity. Examples of project activities that generate offsets include reforestation or the capture and destruction of methane emissions from livestock. Reforestation results in the sequestration of carbon in trees, for example, or a project developer at a dairy farm can capture and dispose of methane emissions from manure to avoid the release of methane to the atmosphere.

A project can only receive offset credits if the project developer demonstrates the environmental integrity of the project by meeting specific standards. Offset registries have developed a broad consensus around the standards that are necessary to ensure that offsets are environmentally sound, namely, that offsets be real, permanent, quantifiable, verifiable, enforceable, and additional, defined as follows:

"Real": offsets may only be issued for emissions reductions that are a result of complete emissions accounting.

"Permanent": projects must demonstrate that the emissions reductions that have occurred are permanent and will not be reversed. For example, in the context of forestry, offset project developers must demonstrate that the carbon sequestered in the trees of the forest will not be released to the atmosphere after the fact, i.e., that the trees will not be cut down.

"Quantifiable": projects must rigorously quantify the emissions reductions from a project, and may only receive credits in an amount corresponding to emissions that they have actually quantified. project developers must ensure the accuracy of their emissions accounting by adhering to standardized quantification methodologies called "protocols," which are discussed further below.

"Validated": to receive offset credits, emission reductions must be well documented and transparent enough to be capable of objective review by a neutral, third party verifier.

"Enforceable": in order to be eligible to generate offset credits from reputable programs, the implementation of the offset project must represent the legally binding commitment of the offset project developer. Once the developer undertakes the project, the developer is under a legal obligation to carry it out.

"Additional": the GHG emissions reductions generated by a project must be "additional," meaning that they are only eligible to generate offset credits if they would not have occurred without the offset project. project developers must ensure additionality by adhering to the applicable protocol, as discussed further below.

Different offset programs have adopted slightly different versions of these standards, but the differences are non-substantive.[91] Québec and Alberta also require carbon offsets to satisfy substantially similar criteria in their own climate change regulations, and Ontario has recently proposed using substantially similar criteria in its new cap-and-trade program for GHG emissions.[92] These environmental integrity criteria are broadly recognized as sufficient to ensure the environmental benefit of carbon offset projects.[93]

Climate "Registries" Use Standardized "Protocols" and a Rigorous Review Process to Approve Offset Credits

Offsets are issued by a climate registry that has undertaken the responsibility of certifying that the emissions reductions have occurred. Developers of offsets can demonstrate the environmental integrity of an offset project by complying with a climate registry's standards-based "protocol."[94] A "protocol" is a method of measuring emission reductions. A standards-based protocol accomplishes that fundamental goal by establishing the baseline scenario for a given activity and then providing the project developer a specific, defined methodology to quantify and verify emissions reductions that occur over and above that baseline scenario.

For example, a livestock project may not receive offset credits for the operation of a biogas system at a farm if the farm is otherwise obligated by law or other legally binding mandate to operate the biogas control system. If a farm or feedlot had to operate a biogas control system as a condition of a permit to operate issued by a local air district or other permitting authority, the farm could not receive any offset credits for the emissions captured by the system.

Carbon offset registries measure compliance with approved protocols using rigorous, standardized review processes. As a general rule, when approving a GHG reduction project, the climate registry would require that the offset project meet the following steps to receive offsets:

Listing or Registration: Apply to list or register the proposed GHG emission reduction project with the climate registry. The climate registry will review the application and accept it only if it complies with the applicable climate registry requirements.

[91] See generally American Carbon Registry, "The American Carbon Registry Standard" (January 2015); Climate Action Reserve, "Program Manual" (Sept. 1, 2015); VCS, "VCS Program Guide" (Oct. 19, 2016); see also Health & Safety Code Section 38562(d)(1)-(2).

[92] Québec Ministry of the Environment, "Regulation respecting a cap-and-trade system for greenhouse gas emission allowances" Title III, Chapter IV (February 1, 2017); Province of Ontario, "Compliance Offset Credits Regulatory Proposal" available at http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2016/012-9078.pdf; Province of Alberta, "Specified Gas Emitters Regulation," Alberta Regulation 139/2007 with amendments up to and including Alberta Regulation 199/2015.

[93] See, e.g., Citizens Climate Lobby v. California Air Resources Board, 184 Cal. Rptr. 3d 365 (Cal. App. 2015) ("Citizens Climate Lobby"); Three-Regions Offsets Working Group, "Ensuring Offset Quality: Design and Implementation Criteria for a High-Quality Offset Program" (May 2010) at 3-4.

[94] The Market Advisory Committee recommend that California use a "standards-based approach" to quantifying and issuing offset credits. Id. at 61.

Independent, Qualified Third-Party Confirmation of Reduction or Sequestration: Once a GHG emission reduction project has begun, the climate registry will require the offset project developer to retain an independent, qualified, third-party to verify the reduction or sequestration achieved by the project. Each climate registry has adopted stringent requirements applicable to the accreditation of third parties and only such third parties are qualified to verify and audit the activities under the applicable registry rules. This process typically takes place on an annual basis. Activities undertaken in a given 12-month period are typically verified during the following 6-12 months. Most climate registry rules and protocols require "boots on the ground" audits, although in certain instances desktop reviews may be sufficient.

Registry Approval and Issuance: The final step under most climate registry rules and protocols involve the issuance of the offsets. Registry rules and protocols require the project developer to apply for issuance and to provide the verification report prepared by the independent, qualified third-party. The registry will typically review a verification report and, to the extent that the registry finds that the report complies with the applicable registry requirements, the registry will issue the offsets to the account of the project developer.

Carbon Offset Retirement: Each registry has adopted rules and procedures governing the retirement or cancellation of offsets. Typically these rules or procedures involve the transfer of the offset serial numbers from a registry account and ensure that once a carbon credit has been retired, the retirement is permanent and the Carbon Offset cannot be further used in any manner.

These protocols and processes ensure that offsets issued by offset registries satisfy the environmental integrity criteria described above, as multiple jurisdictions implementing such programs have recognized. "[C]ARB recognizes the rigor of the voluntary accounting procedures CAR adopted to establish that GHG emissions are real, additional, and permanent."[95] The Provinces of Québec, Ontario, and Alberta use the same administrative structure for issuing offsets in their own GHG regulations.[96] CARB has officially recognized that Ontario "[has] adopted program requirements for greenhouse gas reductions, including, but not limited to, requirements for offsets, that are equivalent to or stricter than those required by [AB 32]."[97]

Carbon Offset Protocols Rely on Rigorous Accounting Principles

There is a broad consensus on the accounting principles necessary to ensure environmentally sound offsets. The standards include International Organization for Standardization (ISO) 14064 and 14065. The ISO is an independent, non-governmental international organization with a membership of 162 countries, including the United States. The ISO publishes standards for a wide variety of industrial activities, such as food safety management, medical device management, and anti-bribery management.[98] In short, the ISO is an independent, rigorous, neutral developer of standards, including greenhouse gas emission reduction accounting standards.

Carbon Offset Protocols Have Been Upheld By Courts

In *Citizens Climate Lobby*, the First Appellate District recognized the validity of carbon offsets:

> "[P]rotocols developed by the Climate Action Reserve (Reserve) employ a standards-based approach for ensuring additionality. The Reserve is a national nonprofit organization that (1) develops standards for evaluating, verifying and monitoring GHG emission inventories and reduction projects in North America; (2) issues offset credits for those projects; and (3) tracks offset credits over time "in a transparent, publicly-accessible system." A primary goal of the Reserve is to establish

[95] ARB, "Proposed Regulation to Implement the California Cap-and-Trade Program, Part I, Volume I: Initial Statement of Reasons" (October 28, 2010) at II-48.

[96] Québec Ministry of the Environment, "Regulation respecting a cap-and-trade system for greenhouse gas emission allowances" Title III, Chapter IV (February 1, 2017); Province of Ontario, "Compliance Offset Credits Regulatory Proposal" available at http://www.downloads.ene.gov.on.ca/envision/env_reg/er/documents/2016/012-9078.pdf; Province of Alberta, "Specified Gas Emitters Regulation," Alberta Regulation 139/2007 with amendments up to and including Alberta Regulation 199/2015.

[97] ARB, "Discussion of Findings Required by Government Code Section 12894" (January 2017) at 4, available at https://www.arb.ca.gov/cc/capandtrade/linkage/sb1018_findings_ontario.pdf. Governor Brown has made the same finding with respect to Québec's program. (Edmund G. Brown, Jr., "Letter to Mary Nichols re: Request for Findings under SB 1018" (April 8, 2013) at 1, available at https://www.gov.ca.gov/docs/Request_for_SB_1018_Findings.pdf.

[98] ISO, "Standards" available at a http://www.iso.org/iso/home/standards.htm.

> conservative GHG accounting which will ensure that GHG emission reductions are "real, permanent, additional, verifiable, and enforceable by contract." In formulating its standards-based protocols, the Reserve identifies types of emission reduction projects that are both subject to quantification and appropriate for assessment pursuant to performance-based additionality tests." (Citizens Climate Lobby v. California Air Resources Board, 2013 WL 861396 at *9 (2013) (aff'd 2015).)

In 2011, CARB formally adopted its own protocols, which it took almost verbatim from Climate Action Resource's protocols.[99] CARB's protocols were challenged by two environmental groups as violating AB 32 because they failed to accurately ensure additionality as required by the act, but the trial court sided with CARB, finding that CARB's protocols based on Climate Action Resource's protocols are a "workable method of ensuring additionality with respect to offset credits…." (*Citizens Climate Lobby* at p. 20.) CARB has since expanded to accept projects issued under American Carbon Registry and Verified Carbon Standard methodologies – each also recognized as an Approved Registry in the GHG Reduction Plan, in addition to Climate Action Resource.[100]

Carbon Offsets Have Been Used to Mitigate CEQA project Emissions

The appropriateness of using offsets as CEQA mitigation for GHG emissions is well established. In promulgating the CEQA Guidelines for GHG mitigation, the California Natural Resources Agency (CNRA) and the Governor's Office of Planning and Research (OPR) addressed the legitimacy of offsets as follows:[101]

The Initial Statement of Reasons…cites several sources discussing examples of offsets being used in a CEQA context. Further, the CARB Scoping Plan describes offsets as way to provide regulated entities a source of low-cost emission reductions, and … encourage the spread of clean, efficient technology within and outside California. The Natural Resources Agency finds that the offset concept is consistent with the existing CEQA Guidelines' definition of "mitigation," which includes rectifying the impact by repairing, rehabilitating, or restoring the impacted environment and compensating for the impact by replacing or providing substitute resources or environments.

Moreover, under AB 900, the Jobs and Economic Improvement through Environmental Leadership Act, certain CEQA streamlining benefits were provided to "environmental leadership" projects that met the conditions of the bill. One of the key conditions was that the project offset all of its emissions to be GHG neutral. (Pub. Resources Code, Section 21183(c).) The project applicant must submit to CARB documentation establishing that the project will not result in any net additional GHG emissions, and CARB then makes a determination on this issue for the Governor. To date, multiple projects have been designated as AB 900 leadership projects that have made a commitment to purchase GHG credits from the voluntary carbon marketplace to ensure carbon neutrality, including the Crossroads Hollywood project (a mixed-use, residential and commercial project), Qualcomm Stadium Reconstruction project, the Event Center and Mixed Use Development at Mission Bay Blocks, and 8150 Sunset Boulevard.[102]

All Carbon Offsets Used for Compliance with Mitigation Measures 2-10 and 2-13 Must Satisfy Specific Performance Criteria

The GHG Reduction Plan, Section IX, requires all Carbon Offsets used for compliance with Mitigation Measure 2-10 and 2-13 to meet specific performance standards. The performance standards ensure that all Carbon Offsets are based on protocols adopted by an Approved Registry and which meet the environmental standards described above.

Specifically, the GHG Reduction Plan requires that the Approved Registry shall account for and quantify emission reductions and sequestration achieved by Direct Reduction Activities in accordance with

[99] See, e.g., ARB, "Compliance Offset Protocol Livestock projects: Capturing and Destroying Methane from Manure Management Systems" (October 20, 2011).

[100] See, e.g., 17 Cal Code Regs. Section 95990(c)(5); GHG Reduction Plan at Final AEA Appendix 6.

[101] California Natural Resources Agency, Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 (December 2009).

[102] Information on current AB 900 leadership projects is found at: Available at: https://www.opr.ca.gov/s_californiajobs.php.

established accounting standards set forth in the ISO 14064 and the WRI/WBCSD Greenhouse Gas Protocol for Project Accounting, as amended from time to time.[103] Such standards, as established by the ISC and WRI/WBCSD, include:[104]

Transparency and Monitoring. Approved Registries and independent third parties shall use clear information sufficient for reviewers to assess credibility of GHG emission reductions.[105]

Relevance. Approved Registries and independent third parties shall use data, methods, criteria and assumptions that are appropriate for the applicable Direct Reduction Activity.

Completeness. Approved Registries and independent third parties shall consider all relevant information that may affect the accounting and quantification of GHG emission reductions.

Consistency. Approved Registries and independent third parties shall use data, methods, criteria and assumptions that are applied in the same manner across different Direct Reduction Activities to allow meaningful and valid comparisons across projects.

Accuracy. Approved Registries and independent third parties shall reduce uncertainty as much as practicable, erring on the side of conservativeness.

Conservativeness. Approved Registries and independent third parties shall use conservative assumptions, values and procedures to ensure that GHG reductions or sequestration are not over-estimated, especially when uncertainty is high.

The GHG Reduction Plan requires adherence to the procedural requirements and listing process described above.

All Carbon Offsets shall be real, additional, quantifiable, permanent, verifiable and enforceable. The GHG Reduction Plan requires the project applicant to submit an attestation from an Approved Registry that the Carbon Offsets meet the performance standards identified in the GHG Reduction Plan prior to retiring and relying upon any Carbon Offsets

GHG Mitigation Credits Satisfy the Requirements of CEQA

Compliance with Mitigation Measure 2-10 and Mitigation Measure 2-13 can also be achieved by generating and retiring GHG Mitigation Credits through the implementation of Direct Reduction Activities. GHG Mitigation Credits rely on similar procedural frameworks and performance standards as Carbon Offsets.

As described in Section VI of the GHG Reduction Plan, each GHG Mitigation Credit can be issued by the Approved Registry upon demonstration that the project applicant has undertaken or funded Direct Reduction Activities in accordance with the Approved Registry's rules for issuance of GHG Mitigation Credits and in accordance with the quantification methodology adopted for the applicable Direct Reduction Activity by the Approved Registry. Quantification methodologies for GHG Mitigation Credits will estimate the GHG emissions reductions that will result from the implementation of the associated Direct Reduction Activity. To confirm that GHG Mitigation Credits represent actual mitigation of GHG emissions, all GHG Mitigation Credits issued by any Approved Registry shall meet the performance standards identified in Section IX.A of the GHG Reduction Plan, as revised (Final AEA Appendix 6), summarized next.

Accounting, Quantification, and Reporting Performance Standards

[103] ISO, ISO 14064, Part 2: "Specification with guidance at the project level for quantification, monitoring, and reporting of greenhouse gas emission reductions or removal enhancements" (2005); WRI/WBCSD, "The GHG Protocol for project Accounting" (2005).

[104] See, e.g., WRI/WBCSD, "The GHG Protocol for project Accounting" (2005) at 43-44.

[105] Accreditation for independent third party reviewers will rely on existing recognized accreditation standards, as may be updated or revised from time-to-time: ISO 14065 and ISO 14064-3.

As described above, there are established standards for GHG emission reduction accounting. Any GHG Mitigation Credits issued to the project applicant shall be issued using methodologies and processes that are consistent with these standards.

Eligibility Performance Standards

To achieve environmental integrity, a Direct Reduction Activity resulting in GHG Mitigation Credits shall meet the following eligibility standards:

Additionality. Direct Reduction Activities are offsite measures implemented by the project applicant to mitigate GHG emissions and, in compliance with CEQA Guidelines Section 15126.4(c)(3), the Direct Reduction Activities shall not otherwise be required, as provided for in A and B below. For purposes of this GHG Reduction Plan, the Direct Reduction Activities shall meet the following two performance standards:[106]

A. **Legal Requirement Test** – The Direct Reduction Activity shall not be required for GHG reduction by applicable law (i.e., statute, ordinance or regulation) in effect at the time of the initiation of such Direct Reduction Activity; and

B. **Performance Test** – The Direct Reduction Activity shall reduce GHG emissions below the applicable common industry practice for GHG reductions as in effect at the time of the initiation of such Direct Reduction Activity. The performance test for a particular Direct Reduction Activity shall be set in a protocol by an Approved Registry through analysis of standard practices and technology deployment in the applicable industry sector.

No Double Counting. The Direct Reduction Activity shall not be concurrently listed, registered or earning credits under any other GHG reduction scheme.

Enforceable. The project applicant shall implement the Direct Reduction Activity and retire associated GHG Mitigation Credits before obtaining a grading permit or building permit from Los Angeles County in conformance with Mitigation Measure 2-10 and Mitigation Measure 2-13 and the Mitigation Monitoring and Reporting Program, as applicable, for an incremental level of development covered by the project.

Procedural Performance Standards. GHG Mitigation Credits would satisfy the Accounting, Quantification and Reporting Performance Standards and Eligibility Performance Standards set forth in 1 and 2, above, by requiring that any Approved Registry approving GHG Mitigation Credits shall implement credit processing standards substantially similar or equivalent to those set forth below:

Registration, Submittal and Listing. The project applicant shall be required to set up an account with the Approved Registry, list the proposed Direct Reduction Activity with the Approved Registry and provide a proposed quantification methodology to be used for quantification of emission reductions from the Direct Reduction Activity. During this step, the Approved Registry shall conduct a technical review of the proposed Direct Reduction Activity and quantification methodology to confirm that it satisfies the requirements of this GHG Reduction Plan.

Approved Registry Accepts Methodology for Quantifying GHG Emissions Reductions from Direct Reduction Activity. The project applicant's proposed quantification methodology shall contain a detailed quantification methodology for both baseline and Direct Reduction Activity emissions in order to calculate the estimated emission reductions associated with the Direct Reduction Activity. The quantification methodology shall describe how the proposed approach is suitably conservative to estimate emission reductions. As a result, the methodology shall be conservative in terms of estimating total GHG reductions achieved. The Approved Registry shall review the proposed quantification methodology and related documentation. If necessary, the Approved Registry shall engage appropriate third party experts to assist in reviewing the methodology. The

[106] This standard is functionally similar to the "additionality" test applied to Carbon Offsets; CEQA does not directly incorporate the AB 32 cap-and-trade requirements since CEQA otherwise provides standards for ensuring the environmental integrity of mitigation measures. See California Natural Resources Agency, Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 (December 2009) at 50.

Approved Registry will approve the methodology only after it has determined that the methodology is statistically and environmentally sound and in compliance with this GHG Reduction Plan.

Direct Reduction Activity Implementation. The project applicant shall implement the Direct Reduction Activity.

Independent, Qualified Third-Party Confirmation of Reduction or Sequestration. Once the Direct Reduction Activity has been implemented, the Approved Registry will require the project applicant to retain an independent, accredited,[107] third-party to confirm that the Direct Reduction Activity has been implemented and that the emission reductions have been quantified based on the approved methodology. The confirmation will take the form of a documentation review and a site visit assessment to confirm the implementation of the Direct Reduction Activity.

Issuance of GHG Mitigation Credits. The Approved Registry shall review the third-party evaluation and data on implementation of the Direct Reduction Activity. If such evaluation and data complies with and confirms that the Direct Reduction Activity complies with this GHG Reduction Plan and the approved methodology, the Approved Registry shall issue a specific quantity of GHG Mitigation Credits into the project applicant's account. Each GHG Mitigation Credit shall be given a unique serial or tracking number to prevent double-counting.

Retirement of GHG Mitigation Credits. Upon request by the project applicant, the Approved Registry shall retire a specific quantity of GHG Mitigation Credits from the account of the project applicant. The Approved Registry shall provide documentation of such retirement in a form that can be provided by the project applicant to Los Angeles County to demonstrate compliance with Mitigation Measure 2-10 and Mitigation Measure 2-13, including an attestation from the Approved Registry that the subject protocol used to implement the Direct Reduction Activity meets the performance standards identified in this Section IX. Once a GHG Mitigation Credit has been retired, the retirement is permanent and the GHG Mitigation Credit cannot be further used in any manner. Los Angeles County shall be authorized to confirm the retirement of GHG Mitigation Credits with the applicable Approved Registry.

In sum, the GHG Reduction Plan establishes a robust procedural framework and identifies specific performance standards and protocols to confirm that the GHG reductions relied upon for compliance with Mitigation Measures 2-10 and 2-13 would satisfy CEQA.

Comment No. 09-33:

a. The GHG Reduction Plan Fails to Ensure Additionality.

The revised analysis states that all emissions reductions embodied in offsets and "direct reduction" activities must be "real, additional, quantifiable, enforceable, validated, and permanent." (Draft AEA at 2-33.) Neither the AEA nor the GHG Reduction Plan, however, adequately defines these terms.

Response No. 09-33:

The definition of these terms is included in **Response to Comment No. 09-32**. Section IX of the GHG Reduction Plan requires that all Carbon Offsets be "real, additional, quantifiable, enforceable, validated, and permanent."

Comment No. 09-34:

California law establishes specific standards for greenhouse gas offset credits used in the AB 32 cap-and-trade system. Health and Safety Code section 38562(d) requires, in relevant part, that:

[107] Accreditation for independent third party reviewers will rely on existing recognized accreditation standards: ISO 14065 and ISO 14064-3.

> (1) The greenhouse gas emission reductions achieved are real, permanent, quantifiable, verifiable, and enforceable by the state board.
>
> (2) For regulations pursuant to Part 5 (commencing with Section 38570) [i.e., regulations implementing the market-based cap-and-trade system], the reduction is in addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission reduction that otherwise would occur.
>
> (3) If applicable, the greenhouse gas emission reduction occurs over the same time period and is equivalent in amount to any direct emission reduction required pursuant to this division.

In particular, the two-part definition of "additional" under subdivision (d)(2) requires not only that credited reductions are not otherwise legally required, but also that credited reductions would not otherwise occur in the absence of the offset project.

Response No. 09-34:

This introductory comment refers to regulatory standards for offset credits under the California Global Warming Solutions Act of 2006, California Health and Safety Code Section 38500 *et seq.* (AB 32) cap-and-trade system promulgated under the AB 32. The project is a mixed-used land use project that is not subject to the cap-and-trade system. (See **Response to Comment No. 09-36** for additional discussion of the performance standards applied to all GHG Mitigation Credits and purchased Carbon Offsets to achieve compliance with CEQA.)

Comment No. 09-35:

This definition of "additional" also applies in the CEQA context, as the regulatory history of the relevant CEQA Guidelines makes clear. The CEQA Guidelines specify that only GHG reductions that are "not otherwise required" may be used to offset project emissions. (CEQA Guidelines, § 15126.4, subd. (c)(3).) However, as the California Resources Agency's Final Statement of Reasons for adopting this Guideline explains, the "not otherwise required" language was intended to make clear that only "additional" emissions reductions—that is, reductions not otherwise required by law or likely to occur anyway—may be used to generate offsets for CEQA mitigation.[27] The Final Statement of Reasons explicitly interprets CEQA's mitigation requirements, including requirements governing use of offsets, as "consistent with the Legislature's directive in AB32 that reductions relied on as part of a market-based compliance mechanism must be 'in addition to any greenhouse gas emission reduction otherwise required by law or regulation, and any other greenhouse gas emission reduction that otherwise would occur.'"[28]

[27] *California Natural Resources Agency, Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 at 48, 87-90 (December 2009) (attached as Ex. S).*

[28] *Id. at 88-89 (quoting Health and Safety Code, § 38562(d)(2)).*

Response No. 09-35:

As an introduction to other comments, the comment makes certain statements about the definition of "additionality" as it applies to CEQA. See **Response to Comment No. 09-32** for a description of the relationship between the AB 32 requirements and CEQA as it relates to GHG mitigation. OPR squarely addressed this question when revising the CEQA Guidelines in response to the passage of SB 97. In that proceeding, public commenters asked OPR to incorporate the AB 32 cap-and-trade requirements for offsets directly into the CEQA Guidelines. OPR declined to follow this request because AB 32 is a different statutory scheme that is not applicable to many projects subject to CEQA. Further, CEQA has established standards for ensuring the adequacy of mitigation measures, including GHG reduction mitigation measures. Specifically, OPR concluded:

Several comments also suggested that mitigation for GHG emissions must be "real, permanent, quantifiable, verifiable, and enforceable." The Proposed Amendments do not include such standards, however, for several reasons. The proposed standard appears to have been derived from section 38562(d) of the Health and Safety Code, which prescribes requirements for regulations to be promulgated to implement AB 32. AB 32 is a separate statutory scheme, and, as noted above, there is no indication that the legislature intended to alter standards for mitigation under CEQA. Similarly, standards for mitigation under CEQA already exist and are set out in section 15126.4(a). Specifically, mitigation must be fully enforceable, which implies that the measure is also real and verifiable. Additionally, substantial evidence in the record must support an agency's conclusion that mitigation will be effective, and in the context of an EIR, courts will defer to an agency's determination of a measure's effectiveness. No existing law requires CEQA mitigation to be quantifiable. Rather, mitigation need only be "roughly proportional" to the impact being mitigated.

(CNRA Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97, December 2009 at 50; internal citations omitted.)

See **Response to Comment No. 09-36** for additional discussion of the performance standards applied to all GHG Mitigation Credits and purchased Carbon Offsets to achieve compliance with CEQA and for a discussion of the "additionality" requirement raised in this comment.

Comment No. 09-36:

The revised analysis contains no express commitment, and no substantial evidence, that all carbon offset projects contemplated in the GHG Reduction Plan—whether directly undertaken or purchased on the credit market—will satisfy this definition of additionality. For this reason alone—in addition to the other reasons described below—the GHG Reduction Plan is insufficient to support a finding that the project's emissions will be reduced to "net zero," and thus to a less-than-significant level.

Response No. 09-36:

This comment states that the GHG Reduction Plan does not satisfy additionality requirements but that is not correct. **Response to Comment No. 09-35** explains the relationship between AB 32 and CEQA as to carbon offsets. The GHG Reduction Plan references compliance with CEQA Guidelines Section 15126.4(c)(3). For clarification, the GHG Reduction Plan, as revised (see Final AEA Appendix 6), explicitly requires all GHG Mitigation Credits and Carbon Offsets to satisfy additionality requirements consistent with CEQA, as summarized next.

Direct Reduction Activities: A Direct Reduction Activity that results in GHG Mitigation Credits cannot be otherwise required, consistent with CEQA Guidelines Section 15126.4(c)(3). This standard is functionally similar to the "additionality" requirement for cap-and-trade compliant offsets under AB 32, but CEQA does not directly incorporate the AB 32 cap-and-trade requirements, as discussed above. The GHG Reduction Plan establishes the following performance standard to achieve compliance with CEQA Guidelines Section 15126.4(c)(3):

Additionality. Direct Reduction Activities are offsite measures implemented by the project applicant to mitigate GHG emissions and, in compliance with CEQA Guidelines Section 15126.4(c)(3), the Direct Reduction Activities shall not otherwise be required, as provided for in A and B below. For purposes of this GHG Reduction Plan, the Direct Reduction Activities shall meet the following two performance standards:[108]

[108] This standard is functionally similar to the "additionality" test applied to Carbon Offsets; CEQA does not directly incorporate the AB 32 cap-and-trade requirements since CEQA otherwise provides standards for ensuring the environmental integrity of mitigation measures. See California Natural Resources Agency, Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 (December 2009) at 50.

A. **Legal Requirement Test** – The Direct Reduction Activity shall not be required for GHG reduction by applicable law (i.e., statute, ordinance or regulation) in effect at the time of the initiation of such Direct Reduction Activity; and

B. **Performance Test** – The Direct Reduction Activity shall reduce GHG emissions below the applicable common industry practice for GHG reductions as in effect at the time of the initiation of such Direct Reduction Activity. The performance test for a particular Direct Reduction Activity shall be set in a protocol by an Approved Registry through analysis of standard practices and technology deployment in the applicable industry sector.

The applicant must submit an attestation from an Approved Registry to Los Angeles County that all Direct Reduction Activities will satisfy the performance standards in the GHG Reduction Plan – including the additionality standard discussed above. With the incorporation of the performance standards enumerated in Section IX of the GHG Reduction Plan, the GHG Reduction Plan's protocols and procedures would confirm the environmental integrity of all GHG Mitigation Credits and compliance with CEQA Guidelines Section 15126.4(c)(3).

Carbon Credits: Section IX of the GHG Reduction Plan requires all purchased Carbon Offsets to meet certain performance standards, including that all purchased Carbon Offsets be additional and be issued from an Approved Registry. The Approved Registry shall provide an attestation to Los Angeles County that the Carbon Offsets being relied upon by the applicant meet these standards. By relying on established protocols from Approved Registries, the GHG Reduction Plan would include confirmation of the additionality of any Carbon Offsets used for Mitigation Measures 2-10 and 2-13.

Comment No. 09-37:

b. The GHG Reduction Plan Constitutes Vague, Improperly Deferred, Inadequately Enforceable, and Impermissibly Delayed Mitigation.

A mitigation measure requiring the purchase of offset credits operates as a kind of mitigation fee. But CEQA allows for mitigation fees only where there is evidence of a functioning, enforceable, and effective implementation program. For example, courts have found mitigation fees inadequate where the amount to be paid for traffic mitigation was unspecified and not "part of a reasonable, enforceable program" (Anderson First Coalition v. City of Anderson (2005) 130 Cal.App.4th 1173, 1189); where a proposed urban decay mitigation fee contained no cost estimate and no description of how it would be implemented (California Clean Energy Committee v. City of Woodland (2014) 225 Cal.App.4th 173, 198 (Woodland)); and where there was no specific traffic mitigation plan in place that would be funded by mitigation fees. (Gray v. County of Madera (2008) 167 Cal.App.4th 1099, 1122 (Gray).)

Response No. 09-37:

This comment incorrectly assumes that purchasing Carbon Offsets is equivalent to a mitigation fee. Mitigation Measures 2-13 is not designed to function as a "mitigation fee." Rather, Mitigation Measure 2-13 requires the applicant to implement or fund Direct Reduction Activities to achieve the necessary GHG reductions or, if necessary, to purchase Carbon Offsets in accordance with the GHG Reduction Plan. Thus, the focus of the GHG Reduction Plan is achieving GHG reductions through Direct Reduction Activities.

The comment suggests that the GHG Reduction Plan may be deficient if there is not a fully established fee structure in place, but again, this is not correct. Mitigation Measures 2-10 and 2-13 establish specific compliance options that the project applicant must apply to demonstrate compliance. The burden is on the project applicant to demonstrate compliance or the project applicant cannot receive a grading or building permit, respectively, from Los Angeles County. Mitigation Measures 2-10 and 2-13 are designed to require compliance prior to the beginning of activities that would cause emissions (see **Response to Comment No. 09-32** for discussion about the mitigation timing). **Response to Comment No. 09-40** describes that there are ample available carbon offsets for purchase if necessary. As such, there is no risk that mitigation could be avoided as suggested by this comment.

Rather, the project applicant is responsible for funding and implementing the Direct Reduction Activities. All resulting GHG Mitigation Credits and Carbon Offsets must satisfy specific performance criteria established in Section IX of the GHG Reduction Plan.

Within this framework of Mitigation Measure 2-13, reliance on Carbon Offsets is not vague or improperly deferred. It is well established under CEQA that purchased offsets may be relied upon for GHG mitigation. CEQA Guidelines Section 15126.4(c)(3) allows for the use of offsets as CEQA mitigation and multiple AB 900 projects have relied upon carbon offsets to achieve net zero GHG emissions. See **Response to Comment No. 09-32** for additional information about the compliance options allowed by GHG Reduction Plan.

Comment No. 09-38:

The GHG Reduction Plan falls short of these standards in two major ways. First, the GHG Reduction Plan fails to specify the sources of "direct" reductions[29] and offset credits. Although the GHG Reduction Plan gives some examples of offset credit registries from which credits might be purchased, it does not provide evidence that these or other "comparable" registries are functioning and will continue to function in a manner that will result in actual, effective mitigation.

[29] *The "Direct Reduction" projects discussed in the GHG Reduction Plan appear to be nothing more than examples of carbon offset projects; it is not clear from the GHG Reduction Plan whether there is any substantive difference between undertaking "Direct Reduction Activities" and "Purchasing Carbon Offset Credits."*

Response No. 09-38:

This comment makes an introductory statement before other comments about the Direct Reduction Activities. Because this comment is similar to other subsequent comments, specific responses are cross-referenced here. See **Response to Comment No. 09-39** for a description of the Direct Reduction Activities being pursued by the applicant. See **Response to Comment No. 09-40** for a discussion of the ample availability of Carbon Offsets if the applicant needs to rely on such Carbon Offsets in accordance with the GHG Reduction Plan.

Comment No. 09-39:

The GHG Reduction Plan's references to unspecified "direct reduction" efforts are similarly vague; the plan offers no evidence regarding the availability of such projects, the parties who might carry them out, their effectiveness, their permanence, or the qualifications of those undertaking or monitoring the project. (Draft AEA App F at 1-2.) Examples provided of forest conservation projects, cookstove replacement projects, and dairy methane projects all fail to provide evidence that specific, functioning projects exist. Indeed, the GHG Reduction Plan seems to go to great lengths to avoid making any specific commitment to any particular project whatsoever. This approach may be intended to preserve the maximum degree of flexibility for the project's developer, but it falls short of the standards imposed by CEQA. (See, e.g., Gray, supra, 167 Cal.App.4th at p. 1122.)

Response No. 09-39:

The comment asserts that the GHG Reduction Plan is "vague" and falls short of CEQA standards, simply because the specific Direct Reduction Activities have not been identified. This is not the case.

By design, the GHG Reduction Plan does not require the applicant to identify specific Direct Reduction Activities to achieve compliance with Mitigation Measures 2-10 and 2-13. The project is a large, complex mixed-use development project that will be phased in over a number of years. Compliance obligations under Mitigation Measures 2-10 and 2-13 will be triggered at the grading permit and building permit stage, respectively, as development occurs over time. The exact timing of such development will depend on a number of factors, including market conditions. As a result, it is not possible to identify the specific Direct Reduction Activities that will be pursued prior o end of the CEQA review process. However, See **Response to Comment No. 09-32** for additional discussion about the GHG Reduction Plan.

The GHG Reduction Plan also establishes performance standards and a clear framework for the necessary GHG reductions to occur. Section IX of the revised GHG Reduction Plan requires all GHG Mitigation Credits and Carbon Offsets generated to satisfy specific performance criteria. With the incorporation of these performance standards, the GHG Reduction Plan would include confirmation of the environmental integrity of all GHG Mitigation Credits and/or Carbon Offsets generated by Direct Reduction Activities, including satisfying the requirements of CEQA Guidelines Section 15126.4(c)(3). All Direct Reduction Activities are subject to a comprehensive confirmation process through an Approved Registry.

For these reasons, it is not necessary to identify the specific Direct Reduction Activities that will be pursued during the CEQA review process. However, for informational purposes, please see Section IV of the GHG Reduction Plan, which summarizes the type of Direct Reduction Activities that the project applicant is considering.

Comment No. 09-40:

Second, the EIR fails to provide evidence that a sufficient quantity of GHG offset credits is available from existing, functioning programs to mitigate the project's emissions. A substantial number of offset credits will be required to mitigate the project's GHG emissions to "net zero." The AEA estimates that credits must be purchased in quantities sufficient to offset 237,059 MT CO_2e/yr, or 7,026,846 MT CO_2e total. (AEA 2-35.) California's 2030 and 2050 greenhouse gas reduction goals envision increasingly steep emissions reductions statewide. (See Health & Safety Code § 38566; see also Executive Orders B-30-15, S-3-05.) Demand for offsets and offset projects is likely to increase dramatically over the decades during which this project will be built and operating. Particularly in the context of foreseeable increasing demand, the sheer volume of uncovered emissions creates a serious doubt as to the availability of sufficient credits, and the lack of evidence that sufficient credits exist renders the mitigation measure invalid. (See Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 728.).

Response No. 09-40:

This comment indicates that there may not be an adequate supply of Carbon Offsets to purchase if needed for compliance with Mitigation Measures 2-10 and 2-13. This is not correct for several reasons.

First, Mitigation Measure 2-13 requires the applicant to mitigate GHG emissions by funding or implementing Direct Reduction Activities and, if necessary, purchasing Carbon Offsets in accordance with the GHG Reduction Plan. Thus, the applicant primarily will reduce GHG emissions by directly funding or implementing *new* Direct Reduction Activities, rather than drawing from an existing market for Carbon Offsets. With this focus on Direct Reduction Activities, the applicant will not be focusing on market-based offsets for compliance.

Second, even to the extent that the applicant will purchase Carbon Offsets in accordance with the GHG Reduction Plan, there are, and likely will be, an ample supply of Carbon Offsets from the Approved Registries. There are currently tens of millions of available offsets generated in the United States and tens of millions of available offsets generated internationally, that have been issued but have not yet been retired.[109] These emission reductions can be purchased on the market and are listed on the Climate Action Reserve, American Carbon Registry, and the Verified Carbon Standard – all of which are included as Approved Registries in the GHG Reduction Plan.[110] Information on these projects is publicly available on each registry's website. Even if demand for offsets increases as the comment suggests – which is by no means guaranteed – there are likely already enough offsets available to meet that demand, and even if

[109] Climate Action Reserve, "CRTs Issued," available at https://thereserve2.apx.com/myModule/rpt/myrpt.asp?r=112 (last visited March 2017); Climate Action Reserve, "Retired Offset Credits," available at https://thereserve2.apx.com/myModule/rpt/myrpt.asp?r=206 (last visited March 2017); American Carbon Registry, "Issued Credits," available at https://acr2.apx.com/myModule/rpt/myrpt.asp?r=112 (last visited March 2017); American Carbon Registry, "Retired Credits," available at https://acr2.apx.com/myModule/rpt/myrpt.asp?r=206 (last visited March 2017); Verified Carbon Standard, "project Database: VCS," available at http://www.vcsprojectdatabase.org/#/vcus (last visited March 2017).

[110] Ibid.

there is not, it is reasonable to assume that market forces will spur the development of additional offset projects.

Comment No. 09-41:

Moreover, the "Compliance Options" section of the GHG Reduction Plan is vague and contradictory as to how emissions are intended to be offset and when any emissions reductions are anticipated to occur. CEQA requires mitigation measures to be in place and effective before significant impacts occur, not after. (See POET, LLC v. State Air Resources Bd. (2013) 218 Cal.App.4th 681, 738 ["Once the project reaches the point where activity will have a significant adverse effect on the environment, the mitigation measures must be in place."].) Compliance Options in the GHG Reduction Plan fail to provide adequate assurance that emissions reductions embodied in offset credits actually will have occurred before project emissions occur.

Response No. 09-41:

In response to public comments, revisions have been made to the GHG Reduction Plan to clarify the Compliance Options identified in Mitigation Measures 2-10 and 2-13 to reduce GHG emissions. The GHG Reduction Plan is neither vague nor contradictory, and it adequately describes the Compliance Options and implementation requirements. Specifically, Section VI identifies the three Compliance Options permitted by Mitigation Measure 2-13. Section VII identifies the two Compliance Options permitted by Mitigation Measure 2-10. Section VIII establishes the compliance confirmation process by the Approved Registry, which concludes with the Approved Registry providing retirement documentation in a form that can be provided by the applicant to the County of Los Angeles to demonstrate compliance. Section IX requires all GHG Mitigation Credits and purchased Carbon Offsets to meet specific performance criteria.

The comment raises questions about the timing of the mitigation. Mitigation Measures 2-10 and 2-13 expressly require the retirement of GHG Mitigation Credits and/or Carbon Offsets prior *to* issuance of a grading permit or building permit, respectively. Retiring a GHG Mitigation Credit or Carbon Offset eliminates it from further use to avoid double counting. A GHG Mitigation Credit or Carbon Offset cannot be retired until it is first issued by an Approved Registry in accordance with the Approved Registry's protocols for the activity in question. Moreover, all GHG Mitigation Credits and Carbon Offsets must meet the performance standards in Section IX of the GHG Reduction Plan, as revised (see Final AEA Appendix 6), which, among other standards, requires a Direct Reduction Activity to be fully implemented and confirmed by an accredited, independent third party in accordance with approved methodologies from an Approved Registry. See **Response to Comment No. 09-36** for additional discussion of the GHG Reduction Plan and performance standards.

This framework requires that the applicant must fully comply with Mitigation Measures 2-10 and 2-13 before related activities commence. Specifically, under Mitigation Measure 2-10, prior to obtaining a grading permit, the applicant must satisfy its mitigation obligation for all construction-related GHG emissions associated with the grading permit – which includes all construction-related and vegetation change GHG emissions from the start of grading through vertical construction – before any grading begins. Similarly, under Mitigation Measure 2-13, the applicant must satisfy its mitigation obligation associated with the building permit – which includes all GHG emissions for the 30-year project life for the portion of the project covered by the building permit – before building occupancy occurs.

The structure of Mitigation Measures 2-10 and 2-13, along with the GHG Reduction Plan, is consistent with the case cited by this comment, *POET, LLC v. State Air Resources Bd.* (2013) 218 Cal.App.4th 681, 738. *POET, LLC* involved a challenge to CARB's adoption of the low carbon fuel standard (LCFS). In that case, the plaintiff argued that CARB had impermissibly deferred the analysis and formulation of mitigation measures for potential increases in nitrous oxide emissions from the increased use of biodiesel that was expected to result from the LCFS. The appellate court agreed, holding that CARB had improperly deferred formulation of mitigation measures. The court stated:

> First, the deferral of the formulation of mitigation measures requires the agency to commit itself to *specific performance criteria* for evaluating the efficacy of the measures implemented.

> Second, the 'activity' constituting the CEQA project may not be undertaken without mitigation measures in place 'to minimize any significant adverse effect on the environment of the activity.' In other words, the deferral relates only to the *formulation* of mitigation measures, not the mitigation itself. Once the project reaches the point where activity will have a significant adverse effect on the environment, the mitigation measures must be in place.

(*Id.* at 738.) Here, there is no deferral of the formulation of mitigation measures in question because Mitigation Measures 2-10 and 2-13 are fully defined and included in the Draft AEA. As described in **Response to Comment No. 09-39**, the mitigation measures are not vague. Second, the GHG Reduction Plan establishes specific performance criteria that apply to any GHG Mitigation Credit and Carbon Offset. Third, Mitigation Measures 2-10 and 2-13 will be in place upon approval of the project and will require compliance prior to the issuance of a grading permit or building permit, respectively, meaning the compliance must be achieved before the activity in question commences.

Specifically, mitigation for construction-related GHG emissions (which covers all construction and vegetation change GHG emissions from the start of grading through vertical construction) is completed at the grading permit stage (i.e., before any grading begins), and mitigation for operational GHG emissions (which covers all operational GHG emissions for the 30-year project life for the portion of the project covered by the Building Permit), is completed at the building permit stage (i.e., before construction of the development area and well in advance of occupancy).

Lastly, in response to public comment, Compliance Option No. 2 has been eliminated, which removes the options for the applicant to provide a guarantee of compliance.

Comment No. 09-42:

For example, Compliance Option No. 1 seems to envision funding of unspecified "Direct Reduction Activities" and retention of a third-party evaluator to estimate emissions reductions that the activities "will achieve in the future" based on unspecified "protocols and methodologies" adopted by unspecified "registries and governmental agencies." (App. 1, App. F at 7-8.) Contrary to the plan's assertions, this does not ensure that "estimated GHG emissions reductions will occur before a comparable amount of estimated project GHG emissions are emitted." (Id. at 8.) Funding a forest management project, for example, does not result in an immediate and predictable quantity of "future" emissions reduction or sequestration. Rather, offset credits are generated annually based on a comparison between the forest project baseline and actual conditions; if the project is not performing as planned, no credits are generated.[30] Funding a cookstove distribution project similarly does not ensure future reductions; mere distribution of cookstoves (ibid.) does not ensure their use. Compliance Option No. 2 similarly states that the project applicant may simply "guarantee" that it will retire offsets "within 10 years" of a building permit application. (Ibid.) Under this option, therefore, impacts could occur unlawfully for 10 years before reductions are implemented.

[30] *See, e.g., California Air Resources Board, Compliance Offset Protocol: U.S. Forest projects at 34-35 (Oct. 20, 2011).*

Response No. 09-42:

The comment raises several concerns related to Compliance Option No. 2. This compliance option has been eliminated from the GHG Reduction Plan and Mitigation Measure 2-13 (see Final AEA Appendix 6). Thus, the applicant cannot comply by relying upon a guarantee to retire credits, which addresses the concern raised by the comment.

The comment raises questions about the verification of the Direct Reduction Activities. Section IX of the GHG Reduction Plan requires all Direct Reduction Activities to satisfy specific performance standards. Relevant to this comment, all GHG Mitigation Credits must be based on approved methodologies from an Approved Registry, and the applicant must retain an independent, accredited, third-party to confirm that the Direct Reduction Activity has been implemented. Accreditation for independent third party reviewers will rely on existing recognized accreditation standards, ISO 14065 and ISO 14064-3. In addition, the GHG reductions associated with a Direct Reduction Activity must be conservatively estimated, as established by a

quantification methodology approved by an Approved Registry. All Carbon Offsets must also comply with performance standards identified in Section IX of GHG Reduction Plan.

The comment raises questions about the timing of the mitigation. As discussed in **Response to Comment No. 09-41**, all Compliance Options require that an adequate amount of GHG Mitigation Credits and/or purchased Carbon Offsets shall be retired prior to issuance of the associated grading permit or building permit, respectively. In other words, mitigation for construction-related GHG emissions (which covers all construction and vegetation change GHG emissions from the start of grading through vertical construction) is completed at the grading permit stage (i.e., before any grading begins), and mitigation for operational GHG emissions (which covers all operational GHG emissions for the 30-year project life for the portion of the project covered by the Building Permit), is completed at the building permit stage (i.e., before occupancy).

The comment raises questions about GHG reductions from a forest management project or a cook stove project. Under Compliance Option No. 1, any GHG Mitigation Credits generated from a forest management project would have to be based on a protocol from an Approved Registry and confirmed by a certified third-party. The applicant would be required to provide a written attestation from the Approved Registry that such GHG Mitigation Credits satisfy all the performance standards identified in Section IX(A) of the GHG Reduction Plan. GHG Mitigation Credits are quantified using the Approved Registry methodology. Section IX(A) of the GHG Reduction Plan requires the applicant's proposed quantification to contain a detailed methodology for both baseline and Direct Reduction Activity emissions in order to calculate the estimated emission reductions associated with the Direct Reduction Activity. The methodology must explain how the proposed quantification is suitably conservative to estimate emission reductions. As a result, the methodology will be conservative in terms of estimating total GHG reductions achieved. The Approved Registry will review the proposed methodology and related documentation. If necessary, the Approved Registry will engage appropriate third party experts to assist in reviewing the methodology. The Approved Registry will approve the methodology only after it has determined that the methodology is statistically and environmentally sound. An example of how such a program would work is provided in Section IX of the GHG Reduction Plan, as revised (see Final AEA Appendix 6).

Comment No. 09-43:

Compliance Options No. 3 and 4 appear to require the retirement of offsets generated by Direct Reduction Activities or purchased on the open market before building permits are obtained. These options thus could avoid the timing problem identified in POET, LLC; however, both options are exceedingly vague. Moreover, it is not clear how the "Compliance Options" listed on pages 8 to 9 of the GHG Reduction Plan relate to the separately numbered "Compliance Options" listed on pages 10 to 11 of the GHG Reduction Plan. The latter "Compliance Options" cross-reference "Compliance Conditions" No. 1 and No. 2, but there do not seem to be any "Compliance Conditions" clearly identified as such in the document. Terminology used throughout the document is inconsistent, cross-references are incorrect or confusing, and the plan in general is insufficient to provide an adequate commitment to mitigation.

Response No. 09-43:

The comment raises a question about the terminology in the GHG Reduction Plan. The GHG Reduction Plan has been revised to make all references to the Compliance Options consistent.

The comment correctly recognizes that Compliance Options No. 3 and 4 require compliance with Mitigation Measure 2-13 before building permits are obtained. This same requirement applies to Compliance Option No. 1. Compliance Option No. 2 has been eliminated, which removes the option to provide a guarantee of compliance.

As discussed in **Responses to Comment Nos. 09-41** and **09-42**, all Compliance Options require that an adequate amount of GHG Mitigation Credits and/or Carbon Offsets must be retired prior to issuance of the associated grading permit or building permit, respectively. This mandates that measures for the related construction or operational GHG emissions are completed prior to commencement of such activities. In other words, mitigation for construction-related GHG emissions (which covers all construction and vegetation

change GHG emissions from the start of grading through vertical construction) would be completed at the grading permit stage (i.e., before any grading begins), and mitigation for operational GHG emissions (which covers all operational GHG emissions for the 30-year project life for the portion of the project covered by the Building Permit), would be completed at the building permit stage (i.e., before occupancy). See **Response to Comment No. 09-32** for additional discussion of the GHG Reduction Plan and its compliance with CEQA.

Comment No. 09-44:

In sum, the GHG Reduction Plan—which is responsible for mitigating nearly half the project's emissions—is vague, contradictory, and inadequate to satisfy CEQA's mitigation requirements.

Response No. 09-44:

This comment, which concludes similar earlier comments, makes the unsupported assertion that the GHG Reduction Plan does not satisfy CEQA. This is not the case. The GHG Reduction Plan is designed to require that GHG reductions associated with Direct Reduction Activities or the purchase of Carbon Offsets satisfy the requirements of CEQA. The GHG Reduction Plan is neither vague nor results in improper deferral, as discussed in **Response to Comment No. 09-39**. Please see **Response to Comment No. 09-32** for additional discussion of the GHG Reduction Plan and its compliance with CEQA.

Comment No. 09-45:

c. The GHG Reduction Plan Contains Incorrect and Potentially Misleading Assertions Concerning "CARB-Approved" Registries, Offsets and Protocols

The GHG Reduction Plan relies very heavily on the credibility of, and procedures employed by, carbon offset project registries. Notably, however, the text of the GHG Reduction Plan itself contains no standards by which the quality of offset project or credits can be measured, and no specific commitments that can be readily enforced. Instead, the plan simply lists "example" offset credit registries, without any specific discussion of the protocols or standards governing issuance of credits by these registries. The plan also allows offset purchases from "comparable" registries, without articulating any standards by which different registries may be compared. These aspects of the GHG Reduction Plan further exacerbate the vagueness and unenforceability of the overall mitigation measure, as discussed above.

Response No. 09-45:

The comment raises concerns about the reference to other "comparable" registries. In response to this comment, the GHG Reduction Plan has been clarified (see Final AEA Appendix 6) to define Approved Registries as described in **Response to Comment No. 09-32**.

This clarification addresses the comment by deleting the reference to other "comparable" registries. The definition explicitly defines the three Approved Registries, which are approved by CARB today as an "offset project registry" under the state's Cap-and-Trade Program, and identifies a pathway for other registries to become Approved Registries. The definition incorporates an alternative pathway in "iii" for identifying an Approved Registry in the unlikely event that no Approved Registries are available under the first two pathways. It is necessary to include the alternative third pathway because the project buildout is not until 2030, and the GHG Reduction Plan needs to account for the very unlikely scenario that the three existing Approved Registries or the cap-and-trade program could cease to exist.

The comment raises a question about enforcement. Mitigation Measures 2-10 and 2-13 will be enforced by the County of Los Angeles in accordance with the Mitigation Monitoring and Reporting Program. Moreover, Mitigation Measures 2-10 and 2-13 mandate compliance at the grading permit stage for construction impacts and the building permit stage for operational impacts, meaning compliance must be completed before the activities are commenced.

Comment No. 09-46:

The plan's assertion that certain registries are "CARB-approved" to handle offsets generated under AB 32 cap-and-trade compliance protocols is at least somewhat misleading. Offset project standards—including additionality, verification, enforceability, and permanence—are established by offset project protocols, not necessarily by the identity of the registry that handles offset project transactions. AB 32 cap-and-trade compliance protocols, and the emissions reductions generated under those protocols, must meet specific statutory requirements. (Health & Safety Code § 38562(d).) Emissions reductions must be enforceable by the state, and CARB retains ultimate authority to approve, reject, or invalidate credits, as well as authority to demand replacement by the credit holder if credits are reversed or found to be invalid. (Health & Safety Code § 38562(d)(1); 17 Cal. Code Regs. § 95985.) So far, only six protocols have been certified for compliance.[31] The "example registries" listed in the GHG Reduction Plan may handle transactions in these credits; at the same time, however, these registries may also sell credits under a number of other protocols that have not been "CARB-certified" as meeting the requirements of AB 32. CARB's decision to allow these registries to list, trade, and track certain compliance-grade offset credits does not mean that all credits handled by these registries are compliance-grade.

[31] *https://www.arb.ca.gov/cc/capandtrade/offsets/offsets.htm (visited February 9, 2017).*

Response No. 09-46:

The comment states that a reference in the GHG Reduction Plan to "CARB-approved" registries is misleading, implying that CARB approval is irrelevant to evaluating the project applicant's mitigation commitment. The commenter is mistaken. CARB approval process of offset project registries is a rigorous due diligence process established by regulation. (17 Cal. Code Regs. Section 95986.) Offset registries must satisfy strict requirements related to conflicts of interest, technical tracking and monitoring capabilities, professional liability insurance, and technical experience and expertise. (*Ibid*.) CARB has reviewed each of the Approved Registries listed in the GHG Reduction Plan and determined that they satisfy these requirements.

Moreover, a review of the GHG Reduction Plan shows that the term "CARB-approved" is only used when describing the Climate Action Reserve, American Carbon Registry and Verified Carbon Standard as being approved by the California Air Resources Board as being official offset project registries under the California's Cap-and-Trade Program. This is a factually correct statement. The GHG Reduction Plan does not imply that all offset credits handled by those registries are compliant with the Cap-and-Trade Program. The project is not subject to the Cap-and-Trade Program and Mitigation Measures 2-10 and 2-13 do not require Carbon Offsets to be drawn from the same pool as Cap-and-Trade Program offsets. See **Response to Comment No. 09-35** for a description of the relationship between the AB 32 requirements and CEQA as it relates to GHG mitigation. Therefore, it is not necessary for the GHG reductions to be "compliance-grade" as to the Cap-and-Trade Program, which does not directly apply. Nevertheless, Section IX of the GHG Reduction Plan, as revised (see Final AEA Appendix 6), imposes performance standards on all Carbon Offsets used for purposes of the GHG Reduction Plan to achieve compliance with CEQA.

Comment No. 09-47:

The GHG Reduction Plan contains no commitment to rely solely on CARB-certified offset protocols, and to the extent it suggests otherwise by referring to "CARB-certified" registries, it is misleading. As a result, the GHG Reduction Plan does not commit to using only offset credits that satisfy the requirements of state law.

Response No. 09-47:

This comment suggests that the GHG Reduction Plan is misleading "to the extent it suggests otherwise by referring to 'CARB-certified' registries." This comment is not correct because the GHG Reduction Plan does not expressly or impliedly commit to relying upon Cap-and-Trade Program offsets. The project is not subject to the Cap-and-Trade Program, and Mitigation Measures 2-10 and 2-13 do not require Carbon Offsets to be drawn from the same pool as the cap-and-trade program. See **Response to Comment No. 09-32** for a

description of the relationship between the AB 32 requirements and CEQA as it relates to GHG mitigation. This same comment is addressed by **Response to Comment No. 09-46**.

The comment also states that "the GHG Reduction Plan does not commit to using only offset credits that satisfy the requirements of state law." This comment is not entirely clear. If the comment implies that the project is strictly governed by the Cap-and-Trade Program, that is incorrect because the project is not subject to the Cap-and-Trade Program.

If the comment implies that the project applicant should be relying on CARB-certified carbon offsets, the commenter is mistaken. CARB-approved offsets do not represent higher quality emission reductions than other offsets. CARB prioritizes adoption of carbon offset protocols based on several criteria that are unrelated to integrity of GHG emissions, including (1) geographic location of projects; (2) total supply of projects; (3) cost-effectiveness; and (4) availability of non-GHG co-benefits. (CARB, "California Air Resources Board's Process for the Review and Approval of Compliance Offset Protocols in Support of the Cap-and-Trade Regulation" [May 2013] at 2).

If the comment implies that relying upon offsets distinct from the Cap-and-Trade Program would be in violation of state law, that comment is also incorrect. The Health and Safety Code sections cited by **Response to Comment No. 09-35** specifically relate to AB 32 and the Cap-and-Trade Program. The Health and Safety Code does not invalidate, expressly or impliedly, other carbon offsets that do not fall within the rubric of the Cap-and-Trade Program.

CEQA is the applicable state law for considering the appropriateness of Carbon Offsets for complying with Mitigation Measure 2-10 and 2-13. Indeed, it is well-established that carbon offsets can be used for CEQA mitigation. CEQA Guidelines Section 15126.4(c)(3) allows lead agencies to mitigate GHG emissions through "Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions." As discussed in **Response to Comment No. 09-35**, OPR squarely addressed the relationship between AB 32 and CEQA when revising the CEQA Guidelines in response to SB 97. Commenters asked OPR to incorporate the AB 32 cap-and-trade requirements for offsets into the CEQA Guidelines. OPR declined to follow this request because AB 32 is a different statutory scheme that is not directly applicable to many projects subject to CEQA. Further, CEQA has established standards for ensuring the adequacy of mitigation measures, including GHG reduction mitigation measures, as discussed in **Response to Comment No. 09-35**.

CEQA precedent shows that carbon offsets have been relied upon by CEQA projects to achieve net zero GHG emissions, with review from CARB. Under AB 900, the Jobs and Economic Improvement Through Environmental Leadership Act, certain CEQA streamlining benefits were provided to "environmental leadership" projects that met the conditions of the bill. One of the key conditions was that the project offset all of its GHG emissions to be GHG neutral.[111] Under the AB 900 program the project applicant is required to submit to CARB documentation establishing that the project will not result in any net additional GHG emissions, and CARB then makes a determination on this issue for the Governor. To date, five projects have been designated as AB 900 leadership projects that have made a commitment to purchase GHG credits from the voluntary carbon marketplace to achieve carbon neutrality, including the Crossroads Hollywood project (a mixed-use commercial/residential project), Qualcomm Stadium Reconstruction project, the Event Center and Mixed Use Development at Mission Bay Blocks, and 8150 Sunset Boulevard.[112]

In addition to the foregoing, requiring all CEQA carbon offsets to be Cap-and-Trade Program offsets could disrupt the different regulatory programs. For example, the demand for Cap-and-Trade Program offsets could increase substantially if CEQA projects were required to purchase such offsets, which could increase costs and uncertainties for sources regulated under the Cap-and-Trade Program.

111 Pub. Resources Code, Section 21183(c).
112 Information on current AB 900 leadership projects can be found at: Available at: https://www.opr.ca.gov/s_californiajobs.php.

Comment No. 09-48:

d. Claimed Reductions from Potential "Direct Reduction Activities" Are Unsupported.

The GHG Reduction Plan discusses several examples of potential "Direct Reduction" activities, without committing to any particular type of project or protocol. In addition to suffering from the vagueness and unenforceability problems identified above, this portion of the GHG Reduction Plan fails to demonstrate that any particular "Direct Reduction" project will generate CEQA-compliant mitigation.

Response No. 09-48:

This comment suggests that the GHG Reduction Plan is vague and unenforceable because it does not commit to specific Direct Reduction Activities. By design, the GHG Reduction Plan does not require the applicant to identify specific Direct Reduction Activities that will be relied upon for compliance with Mitigation Measures 2-10 and 2-13. The project is a large, complex mixed-use development project that will be phased in over a number of years. Compliance obligations under Mitigation Measures 2-10 and 2-13 will be triggered at the grading permit and building permit stage, respectively, as development occurs over time. The exact timing of such development will depend on a number of factors, including market conditions. As a result, it is not possible to identify the specific Direct Reduction Activities that will be pursued prior to end of the CEQA review process. This same comment was addressed in **Response to Comment No. 09-39**.

The comment indicates that the GHG Reduction Plan fails to demonstrate that any Direct Reduction Activity will generate CEQA-compliant mitigation, but this is not correct. Section IX(A) and IX(B) of the revised GHG Reduction Plan requires all GHG Mitigation Credits or Carbon Offsets generated by Direct Reduction Activities to satisfy specific performance standards. As part of the Direct Reduction Activity Program, the applicant must submit an attestation from an Approved Registry that all GHG Mitigation Credits or Carbon Offsets will satisfy the performance standards in Section IX(A) or IX(B) of the GHG Reduction Plan. As detailed in **Response to Comment No. 09-32**, the GHG Reduction Plan requires that the Direct Reduction Activities satisfy CEQA.

Comment No. 09-49:

First, the document contains contradictory assertions concerning the extent to which the project will rely on Clean Development Mechanism (CDM) offset projects. On one hand, the GHG Reduction Plan states that it "will only utilize CDM to the extent that cook stove projects … are used as Direct Reduction Activities." (App. 1, App. F at 3.) Yet CDM forest project protocols also are mentioned in the context of potential forest management "Direct Reduction Activities." (App. 1, App. F at 4 & n.4.) The VCS carbon registry also uses CDM methodologies for some project types.

Response No. 09-49:

The comment raises potential concerns with offsets generated from Clean Development Mechanism (CDM) methodologies. In response to public comment, the GHG Reduction Plan is being revised to eliminate the CDM as an Approved Registry (see Final AEA Appendix 6). Verified Carbon Standard (VCS) is still defined as an Approved Registry and offset protocols approved by VCS can be relied upon in accordance with the GHG Reduction Plan, but the GHG Reduction Plan is also being modified to clarify that Carbon Offsets may not be issued using CDM methodologies, even if they are issued by the VCS or another Approved Registry. Moreover, all Carbon Offsets used for compliance with Mitigation Measure 2-10 or 2-13 must meet the performance standards identified in Section IX(B) of the GHG Reduction Plan, as revised (see Final AEA Appendix 6), which reinforces the environmental integrity of the Carbon Offsets and achieves compliance with CEQA.

Comment No. 09-50:

Problems with additionality, enforceability, monitoring, and adverse effects of CDM projects are well-known and have been well- documented. In particular, a large portion, and possibly the large majority of CDM projects, do not represent real additional emissions reductions.[32] This is in part because the CDM attempts

to filter out non-additional projects on a project-by-project basis, a task that is very challenging.[33] Developers of CDM projects are required to demonstrate that their proposed offset projects are additional (i.e., that the projects would not have gone forward without the added incentive from the offset program). Most do so with a financial assessment showing that the project is not cost effective on its own. Because of the many assumptions that go into project financial assessments, project developers have been able to strategically choose financial assessment assumptions to make cost effective projects appear not cost effective.[34] For these reasons, CDM projects—and projects handled by registries using CDM methodologies—cannot be assumed to represent additional reductions or otherwise satisfy CEQA's requirements.

[32] *See, e.g., Gang He & Richard Morse, Addressing carbon Offsetter's Paradox: Lessons from Chinese wind CDM, 63 Energy Policy 1051 (2013) (attached as Ex. T); Barbara Haya and Payal Parekh, Hydropower in the CDM: Examining Additionality and Criteria for Sustainability, U.C. Berkeley Energy and Resources Group Working Paper ERG-11-001 (Nov. 2011) (attached as Ex. U); Barbara Haya, Measuring Emissions Against an Alternative Future: Fundamental Flaws in the Structure of the Kyoto Protocol's Clean Development Mechanism, U.C. Berkeley Energy and Resources Group Working Paper ERG09-001 (Dec. 2009) (attached as Ex. V); Michael Wara, Measuring the Clean Development Mechanism's Performance and Potential, 55 UCLA L. Rev. 1759 (2008) (attached as Ex. W); U.S. Gov't Accountability Office, Lessons Learned from the European Union's Emissions Trading Scheme and the Kyoto Protocol's Clean Development Mechanism, GAO-09-151(Nov. 2008) (attached as Ex. X).*

[33] *U.S. Gov't Accountability Office, Climate Change Issues: Options for Addressing Challenges to Carbon Offset Quality, GAO-11-345 (Feb. 2011) (attached as Ex. Y).*

[34] *Barbara Haya, Carbon Offsetting: An Efficient Way to Reduce Emissions or to Avoid Reducing Emissions? An Investigation and Analysis of Offsetting Design and Practice in India and China, Ph.D. Dissertation (Fall 2010) (attached as Ex. Z).*

Response No. 09-50:

As discussed in **Response to Comment No. 09-49**, in response to public comment, the GHG Reduction Plan is being revised to eliminate the Clean Development Mechanism (CDM) as an Approved Registry (see Final AEA Appendix 6).

Comment No. 09-51:

Even CARB-certified compliance protocols, like the US Forest project Protocol, may not result in reliable mitigation. One recent study concluded that California's compliance protocol for improved forest management projects is unlikely to change land management decisions already in forest landowners' interests, and thus is likely creating non-additional offset credits.[35] Another recent global analysis pointed to fundamental physical limits on the ability of land-based carbon stocks, including forests, to absorb necessary quantities of fossil carbon emissions.[36] Among other conclusions, the study noted that fossil CO_2 emissions should be presumed to persist in the atmosphere for 10,000 years, not 100 years—meaning that terrestrial carbon storage projects must demonstrate permanence not just on century timescales, but on multi-millennial timescales.[37] California's US Forest project Protocol, like many other offset protocols, requires carbon reductions to be monitored for only 100 years.[38] Fossil CO_2 emissions from the project, as a practical matter, are "irreversible."[39] Even if offset credits are assumed to be rigorously additional—a conclusion the GHG Reduction Plan fails to support—they are not permanent on timescales necessary to mitigate the physical impact on climate change.

[35] *See Erin Clover Kelly and Marissa Bongiovanni Schmitz, Forest offsets and the California compliance market: Bringing an abstract ecosystem good to market, 75 Geoforum 99, 106 (2016) (attached as Ex. AA).*

[36] *Brendan Mackey et al., Untangling the confusion around land carbon science and climate change mitigation policy, 3 Nature Climate Change 552 (2013), doi:10.1038/NCLIMATE1804 (attached as Ex. BB).*

[37] *Id. at 556.*

[38] *California Air Resources Board, Compliance Offset Protocol: U.S. Forest projects at 15 (Oct. 2011) (attached as Ex. CC).*

[39] *Mackey 2013, at 553.*

Response No. 09-51:

The comment raises questions about "CARB-certified compliance protocols, like the US Forest project Protocol." The applicant is not proposing to rely on this protocol. Therefore, the comment is not directly applicable. Nonetheless, for informational purposes, the following discusses support for this type of protocol.

The comment states that CARB forestry projects may result in non-additional offsets, but California courts have concluded the opposite. This exact issue was litigated in *Citizens Climate Lobby v. California Air Resources Board*, 2013 WL 861396 (Cal. Super. 2013), and affirmed on appeal. Additionality is the requirement that all GHG reductions must be additional and "refers to reductions which would only occur due to the financial incentive provided by offset credits." Citizens Climate Lobby v. California Air Resources Board, 2013 WL 861396, 1 (Cal. Super. 2013). CARB, in their approval of the U.S. Forest project Protocol, used a standards-based approach to determine additionality. (*Id.* at 2.) The trial court found that the use of a standards-based approach, as in the U.S. Forest project Protocol, was consistent with the Global Warming Solutions Act of 2006. (*Id.* at 15 [citing that the use of the standard was backed by credible science and authorized by the state legislature].) Furthermore, the court upheld the U.S. Forest project Protocol's standard of additionality, in particular. (*Id.* at 20 [finding that CARB "adequately considered all relevant factors and has demonstrated a rational connection between these factors, the policy implemented, and the purpose of the enabling statutes"].) The California Court of Appeals affirmed the lower court's decision on appeal holding that "the administrative record demonstrate[d] that the Board [CARB] engaged in an extensive regulatory process in order to establish a working definition of additionality that (1) furthers the purpose of the 2006 Act and (2) can be implemented through the use of offset protocols incorporated into the Cap-and-Trade program. That process included soliciting input from the public, pertinent industries, and relevant experts." Our *Children's Earth Foundation v. California Air Resources Board*, 234 Cal. App. 4th 870, 892 (2015).

As to the potential benefit of forest offset protocols, the loss of or mismanagement of forests can lead to releases of carbon emissions in the atmosphere that would otherwise have been sequestered in long-term carbon stores like trees, soils, and understory plants. In total, "[f]orests account for almost half of the global terrestrial carbon pool."[113] Loss of forests contribute as much as 30 percent of GHG emissions per year, exceeding the amount emitted from the transportation sector.[114] According to the UN Food and Agriculture Organization's 2009 report, the earth lost about 3 percent of forest area from 1990 to 2005, about 32 million acres per year.[115] A 2011 study by the European Forest Institute, citing extensive research on the amount of carbon stored in forest ecosystems, concluded that "[t]he impacts of forest management on atmosphere and climate are…a key issue of the sustainability of the forestry wood chain."[116] In 2014, the United States Department of Agriculture (USDA) stated that unless significant measures were taken, U.S. forests could become a net source of GHG emissions in the near future.[117] The report adds that this fate could be avoided if there was a significant effort to (1) decrease deforestation; and (2) manage carbon stocks in existing forests.[118]

[113] Esteve Corbera, Manuel Estrada, and Katrina Brown, Reducing greenhouse gas emissions from deforestation and forest degradation in developing countries: revisiting assumptions, 100 Climactic Change 355, 358 (June 2010).

[114] Toni Johnson, Deforestation and Greenhouse Gas Emissions, Council on Foreign Relations (Dec. 21, 2009), available at http://www.cfr.org/forests-and-land-management/deforestation-greenhouse-gas-emissions/p14919.

[115] Ibid.

[116] Denis Loustau, et al., The impacts of forest management on the carbon cycle, European Forest Institute 132 (2011), available at http://www.efi.int/files/attachments/publications/eforwood/efi_tr_57.pdf.

[117] U.S. Department of Agriculture, Forest Conservation and Management in the Anthropocene: Adaptation of Science, Policy, and Practices 477 (July 2014), available at https://www.fs.fed.us/rm/pubs/rmrs_p071.pdf [hereinafter USDA Forest Conservation]

[118] Ibid.

Forestry offset projects accomplish both of the objectives identified by the USDA by promoting carbon sequestration in trees. Indeed, a tree itself is made of about 50 percent carbon and proper management or conservation has "the net effect [of] tremendous carbon storage."[119]

The GHG Reduction Plan has identified forest conservation projects as a possible Direct Reduction Activity. A forest conservation project, like any Direct Reduction Activity, must meet the performance standards identified in Section IX of the GHG Reduction Plan. In order to receive grading or building permits for the project, the GHG Reduction Plan requires the applicant to submit an attestation from an Approved Registry that all GHG Mitigation Credits or Carbon Offsets from Direct Reduction Activities will satisfy the performance standards in Section IX(A) or IX(B) of the GHG Reduction Plan. With the incorporation of these performance standards, the Direct Reduction Activities would satisfy the requirements of CEQA.

Comment No. 09-52:

The GHG Reduction Plan does not even commit to use CARB- certified compliance protocols for forest projects, and even CARB-certified projects do not fully offset project emissions to the degree necessary to provide evidentiary support for the "net zero" claims in the revised analysis.

Response No. 09-52:

The comment raises similar issues about CARB-certified compliance protocols for forest protocols. The applicant is not proposing to rely on this protocol. Therefore, the comment is not directly applicable. See **Response to Comment No. 09-51** for a response to a similar comment that raises these issues.

The comment also suggests that the GHG Reduction Plan would not ensure such a forest project would satisfy CEQA, but forest projects are well established as a permissible CEQA mitigation strategy for GHG emissions. CEQA regulations specifically point to "[m]easures that sequester greenhouse gases" as an acceptable means of mitigation. (CEQA Guidelines, tit. 14 Section 15126.4(c)(4). In its Final Statement of Reasons (2009), the CNRA notes that "the most readily available, and accountable, way to sequester GHGs is forest management." (CNRA, Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97 48 (2009) [hereinafter FSOR], http://resources.ca.gov/ceqa/docs/Final _Statement_of_Reasons.pdf.) Additionally, "California forests have a 'unique capacity to remove [carbon dioxide, a GHG,] from the air and store it long-term as carbon,'" and as such forest-related sequestration projects are a "key part of [C]ARB's Scoping Plan and reduction effort." FSOR 48 (citing CARB Scoping Plan, Appendix C, at p. C-165; pp. 64-65).

The GHG Reduction Plan has identified forest projects as a possible Direct Reduction Activity. No specific forestry programs have been selected. A forest project, like any Direct Reduction Activity, must meet the performance standards identified in Section IX of the GHG Reduction Plan. In order to receive grading or building permits for the project, the GHG Reduction Plan requires the applicant to submit an attestation from an Approved Registry that all GHG Mitigation Credits or Carbon Offsets from Direct Reduction Activities satisfy the performance standards in Section IX(A) or IX(B) of the GHG Reduction Plan. These standards include requirements to account for and quantify emission reductions and sequestration achieved by Direct Reduction Activities in accordance with established standards of GHG emissions reduction accounting, including those set forth in ISO 14064 and the World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas Protocol for project Accounting. In addition, the requirements must meet certain eligibility standards, including additionality, third-party confirmation and enforcement requirements. With the incorporation of these performance standards, the Direct Reduction Activities would satisfy the requirements of CEQA.

Comment No. 09-53:

Cookstove projects suffer from similar deficiencies related to the additionality, verifiability, and permanence of claimed greenhouse gas reductions. For example, the CDM cookstove project methodology calculates

[119] Johnson, (citing Gert Jan Nabuurs and Omar Masera, Report on Forestry, IPCC (2007), available at https://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-chapter9.pdf).

emissions reductions primarily based on the distribution of cookstoves and manufacturers' estimates as to the lifespan of cookstoves.[40] Distribution of cookstoves alone, however, does not necessarily translate into their use. Another recent study found that the health co-benefits of cookstoves—also stressed in the GHG Reduction Plan—may not be as extensive as expected.[41] Again, the GHG Reduction Plan's discussion of cookstove projects does not represent a commitment to meaningful, enforceable, specific mitigation, and there is no evidentiary support for a finding that these projects will fully offset project emissions.

[40] *See Clean Development Mechanism, AMS II.G; Small-scale methodology: Energy efficiency measures in thermal applications of non-renewable biomass at 7-8 (v. 8.0) (attached as Ex. DD).*

[41] *Kevin Mortimer, et al., A cleaner burning biomass-fuelled cookstove intervention to prevent pneumonia in children under 5 years old in rural Malawi (the Cooking and Pneumonia Study): a cluster randomised controlled trial, 389 The Lancet 167 (2017),doi:10.1016/S0140-6736(16)32507-7 (attached as Ex. EE).*

Response No. 09-53:

The comment raises concerns about using cook stove projects to achieve GHG reductions and use of the CDM methodologies. As discussed in **Response to Comment No. 09-49**, CDM has been removed as an Approved Registry from the GHG Reduction Plan and CDM methodologies cannot be relied upon to achieve GHG Mitigation Credits or Carbon Offsets.

As noted in the comment, the GHG Reduction Plan has identified cook stove projects as a possible Direct Reduction Activity. A pilot program for the cook stove program is underway in Zambia and the same rigorous standards of the GHG Reduction Plan would be required for a cook stove project, as is required for all Direct Reduction Activities. GHG Mitigation Credits or Carbon Offsets from a cook stove project, like any Direct Reduction Activity, must meet the performance standards identified in Section IX of the GHG Reduction Plan. In order to receive grading or building permits for the project, the GHG Reduction Plan requires the applicant to submit an attestation from an Approved Registry that all GHG Mitigation Credits or Carbon Offsets from Direct Reduction Activities satisfy the performance standards in Section IX(A) or IX(B) of the GHG Reduction Plan. These standards include requirements to account for and quantify emission reductions and sequestration achieved by Direct Reduction Activities in accordance with established standards of GHG emissions reduction accounting, including those set forth in ISO 14064 and the WRI/WBCSD Greenhouse Gas Protocol for project Accounting. In addition, the requirements must meet certain eligibility standards, including additionality, third-party confirmation and enforcement requirements. With the incorporation of these performance standards, the Direct Reduction Activities would satisfy the requirements of CEQA.

For example, the project applicant has initiated funding a pilot program in Zambia for the installation of clean cook stoves. The project applicant has retained an independent, qualified third-party to audit or "confirm" implementation of the Direct Reduction Activity on the ground and estimate the reduction of CO_2 emissions that will result from such stoves. This estimate will rely upon a quantification methodology adopted by an Approved Registry taking into account the expected life of cook stoves in the field and other factors. The independent, qualified third-party will then provide a technical report containing the results to the Approved Registry for its review and approval.

The subject pilot program provides for the construction of 5,000 clean cook stoves in Zambia. The quantification methodology approved by the Approved Registry will estimate the time period that each stove will remain operational in the field and the annual quantity of GHG emission reductions that will result from the installation of the stove, based on evidence from similarly situated past projects and other factors. An independent third party will confirm the installation of the stoves in villages in Africa. Upon receipt of the technical report from the third party auditor, the Approved Registry will review the documentation and determine its compliance with the approved quantification methodology. If confirmed by the Approved Registry, the Approved Registry will confirm the issuance of the GHG Mitigation Credit.

The comment also raises a question about the co-benefits of cook stove projects. The purpose of the GHG Reduction Plan is to achieve GHG reductions to allow compliance with Mitigation Measures 2-10 and 2-13.

There is no obligation to demonstrate co-benefits of the cook stoves for purposes of satisfying CEQA. Nevertheless, for informational purposes, the following describes information about known co-benefits of other cook stove programs. The World Health Organization has estimated "[a]round 3 billion people still cook and heat their homes using solid fuels (i.e. wood, crop wastes, charcoal, coal, and dung) in open fires and leaky stoves. Most are poor, and live in low- and middle-income countries."[120] The World Health Organization estimates, "4.3 million people a year die prematurely from illness attributable to the household air pollution caused by the inefficient use of solid fuels (2012 data) for cooking."[121] Recent studies have indicated that "the large reductions in exposure" to harmful toxins from replacing traditional cookstoves with clean cookstoves "are likely to achieve significant health benefits."[122]

Comment No. 09-54:

Finally, dairy digester projects may have some capacity to reduce methane emissions. The GHG Reduction Plan, however, does not require these projects to meet the standards set by CARB for compliance with the state's cap-and-trade program. (App. 1, App. F at 6.) These projects also potentially suffer from the types of additionality and permanence concerns discussed above in the context of forest projects. Merely mentioning dairy digester projects as an example of "Direct Reduction" activities, to be carried out in conjunction with an unspecified project developer according to unspecified protocols, does not satisfy CEQA's mitigation requirements.

Response No. 09-54:

Similar to the **Response to Comment No. 09-53**, which addresses cookstoves, the GHG Reduction Plan has identified dairy digester projects as a possible Direct Reduction Activity. No specific dairy program has been selected. A dairy digester project, like any Direct Reduction Activity, must meet the performance standards identified in Section IX of the GHG Reduction Plan. In order to receive grading or building permits for the project, the GHG Reduction Plan requires the applicant to submit an attestation from an Approved Registry that all GHG Mitigation Credits or Carbon Offsets from Direct Reduction Activities satisfy the performance standards in Section IX(A) or IX(B) of the GHG Reduction Plan. These standards include requirements to account for and quantify emission reductions and sequestration achieved by Direct Reduction Activities in accordance with established standards of GHG emissions reduction accounting, including those set forth in ISO 14064 and the WRI/WBCSD Greenhouse Gas Protocol for project Accounting. In addition, the requirements must meet certain eligibility standards, including additionality, third-party confirmation and enforcement requirements. With the incorporation of these performance standards, the Direct Reduction Activities would satisfy the requirements of CEQA.

CEQA does not require mitigation measures for GHG emissions to be part of the state's Cap-and-Trade program, as discussed in **Response to Comment No. 09-32**. See **Response to Comment No. 09-47** for additional discussion. In short, OPR determined it is not necessary or appropriate to incorporate AB 32 requirements for offsets into the CEQA Guidelines. In this case, it is not necessary to require offsets to part of the state's Cap-and-Trade program because the GHG Reduction Plan includes performance standards and procedural requirements to reinforce the environmental integrity and achieve compliance with CEQA for all

120 Household Air Pollution and Health, http://www.who.int/mediacentre/factsheets/fs292/en/ (last updated Feb. 2016; see also GHG Reduction Plan at Final AEA Appendix 6. The World Health Organization indicates that these traditional practices produce elevated levels of pollutants that result in particularly high levels of exposure for women and young children.

121 Ibid.; see also GHG Reduction Plan at Final AEA Appendix 6. Such illnesses include pneumonia, stroke, ischaemic heart disease, chronic obstructive pulmonary disease, and lung cancer.

122 Susan C. Anenberg et al., Cleaner Cooking Solutions to Achieve Health, Climate, and Economic Cobenefits, Environmental Science & Technology (Apr. 3, 2013), http://pubs.acs.org/doi/pdf/10.1021/es304942e (citing studies including Stephen S. Lim et al., A Comparative Risk Assessment of Burden of Disease and Injury Attributable to 67 Risk Factors and Risk Factor Clusters in 21 Regions, 1990-2010: A Systematic Analysis for the Global Burden of Disease Study 2010, Lancet (Dec. 15, 2012) (finding "alternative cooking and heating fuels would have benefits for people who currently use solid fuels as well as those who do not, but live in the same community"); Robert J. Laumbauch et al., Respiratory Health Effects of Air Pollution: Update on Biomass Smoke and Traffic Pollution, Journal of Allergy & Clinical Immunology (Jan. 2012) (noting that improved "stoves had been shown in previous studies to reduce indoor air pollution levels by 70%" and "that an improved cooking stove halved average exposure to carbon monoxide"). In another recent study by the University of Chicago which was conducted from June 2013 to October 2013, researchers "evaluated 324 pregnant women in Nigeria, monitor[ing] the impact of transitioning from traditional…cookstoves to [clean cook] stoves on biomarkers of systemic inflammation (indicators of cardiovascular disease) in women from their first to third trimesters of pregnancy." Global Alliance for Clean Cookstoves, New Study Finds Clean Cookstoves May Improve Women's Heart Health (Nov. 21, 2016), http://cleancookstoves.org/about/news/11-21-2016-new-study-finds-clean-cookstoves-may-improve-women-s-heart-health.html.

GHG Mitigation Credits and Carbon Offsets achieved under the GHG Reduction Plan. Moreover, the GHG Reduction Plan is focused on generating GHG reductions from Direct Reduction Activities instead of purchasing offsets. Substantial evidence supports that GHG reductions pursued under the GHG Reduction Plan would satisfy CEQA.

Comment No. 09-55:

e. The Additional Analysis and GHG Reduction Plan Fail to Commit to Monitoring and Complete Mitigation

Each mitigation measure in the revised analysis claims a specific quantity of GHG reductions. The GHG Mitigation Plan is no different. The result is that nothing in the revised analysis commits to monitoring how well each proposed mitigation measure performs in practice, and nothing in the revised analysis commits to mitigating any shortfall.[42]

[42] *As discussed above, assumptions regarding the effectiveness of EV subsidies, charging stations, and EV fuel economy are extremely aggressive rather than conservative. It is entirely foreseeable that these measures will fall short of the reductions claimed. Yet nothing in the revised analysis in general, or the GHG Reduction Plan in particular, commits to monitoring or correcting any shortfall.*

Response No. 09-55:

The GHG mitigation measures will be incorporated into a Mitigation Monitoring and Reporting Program as required by CEQA. The County of Los Angeles will enforce the implementation of all mitigation measures in accordance with the MMRP. The GHG Reduction Plan will be enforced by the County as required by Mitigation Measure 2-13.

The GHG Reduction Plan requires the following protocols, so that all Direct Investments Activities would be implemented as proposed.

To confirm that GHG Mitigation Credits satisfy the Accounting, Quantification and Reporting Performance Standards and Eligibility Performance Standards set forth in the GHG Reduction Plan, the Approved Registry approving GHG Mitigation Credits is required to implement GHG credit processing standards substantially similar or equivalent to those set forth below:

The project applicant is required to set up an account with the Approved Registry, list the proposed Direct Reduction Activity with the Approved Registry and provide a proposed quantification methodology to be used for quantification of emission reductions from the Direct Reduction Activity. During this step, the Approved Registry shall conduct a technical review of the proposed Direct Reduction Activity and quantification methodology to confirm that it satisfies the requirements of this GHG Reduction Plan.

The project applicant's proposed quantification methodology shall contain a detailed quantification methodology for both baseline and Direct Reduction Activity emissions in order to calculate the estimated emission reductions associated with the Direct Reduction Activity. The quantification methodology shall describe how the proposed approach is suitably conservative to estimate emission reductions. The Approved Registry is required to review the proposed quantification methodology and related documentation and determine its correctness. If necessary, the Approved Registry can engage appropriate third party experts to assist in reviewing the methodology. The Approved Registry can only approve the methodology after it has determined that the methodology is statistically and environmentally sound and in compliance with this GHG Reduction Plan.

Once the Direct Reduction Activity has been implemented, the Approved Registry will require the project applicant to retain an independent, accredited, third-party to confirm that the Direct Reduction Activity has been implemented and that the emission reductions have been quantified based on the approved methodology. The confirmation will take the form of a documentation review and a site visit assessment to confirm the implementation of the Direct Reduction Activity.

The Approved Registry then is required to review the third-party evaluation and data on implementation of the Direct Reduction Activity. If such evaluation and data complies with and confirms that the Direct Reduction Activity complies with this GHG Reduction Plan and the approved methodology, then the Approved Registry can issue a specific quantity of GHG Mitigation Credits into the project applicant's account. Each GHG Mitigation Credit shall be given a unique serial or tracking number to confirm there is no duplication or double-counting.

Upon request by the project applicant, the Approved Registry shall retire a specific quantity of GHG Mitigation Credits from the account of the project applicant. The Approved Registry shall provide documentation of such retirement in a form that can be provided by the project applicant to Los Angeles County to demonstrate compliance with Mitigation Measure 2-10 and Mitigation Measure 2-13, including an attestation from the Approved Registry that the subject protocol used to implement the Direct Reduction Activity meets the performance standards identified in this Section IX. Once a GHG Mitigation Credit has been retired, the retirement is permanent and the GHG Mitigation Credit cannot be further used in any manner. Los Angeles County shall be authorized to confirm the retirement of GHG Mitigation Credits with the applicable Approved Registry.

Contrary to the unsupported assertion that there may be a mitigation "shortfall," the GHG Reduction Plan requires the approval of the methodology for estimating the GHG emissions reduction from a Direct Reduction Activity and then requires confirmation of implementation of the actual Direct Reduction Activity.

Moreover, as noted in the Draft AEA, the analysis of the overall GHG emissions is conservative and likely overestimates the actual GHG emissions that will result from the project because project emissions are expected to be significantly reduced over time as California imposes additional regulatory requirements to reduce GHG emissions to meet the 2030 GHG reduction target of SB 32 and the 2050 target from Executive Order S-3-05. See **Topical Response 2: The 30-Year Project Life and Corresponding Duration of Mitigation Measure 2-13's GHG Emissions Mitigation Period** for more discussion on the conservative nature of the analysis. Based on the steep cuts needed by 2030 and 2050, the Draft AEA concludes the "estimate of offsets is conservative in that it likely overstates the amount of GHG emissions that would need to be offset because additional regulatory programs and technology will likely be developed in the future under new state mandates, which will reduce the actual GHG emissions associated with the project at buildout." (Draft AEA at p. 2-35.)

For these reasons, substantial evidence supports the conclusion that the project will result in no net increase in GHG emissions. The projected GHG emissions from the project have been evaluated by CARB, as have the mitigation measures. Based on its review of the detailed technical analysis prepared by Ramboll Environ,[123] CARB has concluded that the "project will not result in any net additional GHG emissions after all the mitigation measures have been fully implemented."[124]

The enforcement of Mitigation Measures 2-1 through 2-13 by Los Angeles County through the implementation of a Mitigation Monitoring and Reporting Program will require enforcement of the measures.

Comment No. 09-56:

CEQA requires that the Department adopt a mitigation monitoring and reporting plan to ensure compliance with and enforceability of mitigation measures during project implementation. (See Pub. Res. Code § 21081.6(a), (b).) In the context of the significance threshold used in the revised analysis, any mitigation program must enforceably ensure that all project emissions are actually reduced to zero. As drafted, the mitigation measures in the revised analysis fall short of a commitment to this outcome.

[123] See Ramboll Environ, Greenhouse Gas Emissions Technical Report for the Resource Management Development Plan & Spineflower Conservation Plan, AEA Appendix 1, at 1 ("[T]he Mitigated project will emit zero (0) MT CO_2e per year (as shown in Table ES-2). There will not be a net increase in GHG emissions as compared to the existing GHG emission levels.").

[124] See CARB letter to CDFW, Nov. 3, 2016, AEA Appendix 1.

Response No. 09-56:

The GHG mitigation measures will be incorporated into a Mitigation Monitoring and Reporting Program as required by CEQA. The County of Los Angeles will enforce the implementation of all mitigation measures in accordance with the MMRP. See **Response to Comment No. 09-55** for a general discussion of a lead agency's power to enforce implementation of mitigation measures under CEQA.

Moreover, as noted in the Draft AEA, the analysis of the overall GHG emissions is conservative and likely overestimates the actual GHG emissions that will result from the project because project emissions are expected to be significantly reduced over time as California imposes additional regulatory requirements to reduce GHG emissions to meet the 2030 GHG reduction target of SB 32 and the 2050 target from Executive Order S-3-05. See **Topical Response 2: The 30-Year Project Life and Corresponding Duration of Mitigation Measure 2-13's GHG Emissions Mitigation Period** for more discussion on the conservative nature of the analysis. Based on the steep cuts needed by 2030 and 2050, the Draft AEA concludes the "estimate of offsets is conservative in that it likely overstates the amount of GHG emissions that would need to be offset because additional regulatory programs and technology will likely be developed in the future under new state mandates, which will reduce the actual GHG emissions associated with the project at buildout." (Draft AEA at p. 2-35.)

For these reasons, substantial evidence supports the conclusion that the project will result in no net increase in GHG emissions. The projected GHG emissions from the project have been evaluated by CARB, as have the mitigation measures. Based on its review of the detailed technical analysis prepared by Ramboll Environ,[125] CARB has concluded that the "project will not result in any net additional GHG emissions after all the mitigation measures have been fully implemented."[126]

The enforcement of Mitigation Measures 2-1 through 2-13 by Los Angeles County through the implementation of a Mitigation Monitoring and Reporting Program will require enforcement of the measures.

The comment does not provide any basis for questioning the results of the Draft AEA. In fact, substantial evidence supports a conclusion of the project having no net increase in GHG emission.

Comment No. 09-57:

In particular, rather than committing to provide offsets for any emissions remaining after implementation of on-site reduction measures, the GHG Reduction Plan simply proposes a fixed, numerical commitment to a certain quantity of offsets over a 30-year period. (App 1, App F at 7.) As a result, the GHG Reduction Plan does not make any commitment to sufficient mitigation should any of the measures proposed in GCC-1 through GCC-12 fail to result in anticipated emissions reductions.

Response No. 09-57:

There is no evidence to support the assertion that there may be a mitigation "shortfall." First, the technical documentation regarding the projected GHG emissions and the documentation prepared by Ramboll Environ and others supporting the proposed mitigation measures has been extensively reviewed by Ascent Environmental and CARB. As noted by CARB, the "project will not result in any net additional GHG emissions after all the mitigation measures have been fully implemented."[127]

In addition, as detailed in the Draft AEA, the GHG analysis is conservative and likely overestimates the actual GHG emissions that will result from the project because project emissions are expected to be significantly reduced over time as California imposes additional regulatory requirements to reduce GHG emissions to meet the 2030 GHG reduction target of SB 32 and the 2050 target from Executive Order S-3-05. See **Topical Response 2: The 30-Year Project Life and Corresponding Duration of Mitigation Measure 2-13's GHG**

[125] See Ramboll Environ, Greenhouse Gas Emissions Technical Report for the Resource Management Development Plan & Spineflower Conservation Plan, AEA Appendix 1, at 1 ("[T]he Mitigated project will emit zero (0) MT CO_2e per year (as shown in Table ES-2). There will not be a net increase in GHG emissions as compared to the existing GHG emission levels.").

[126] See CARB letter to CDFW, Nov. 3, 2016, AEA Appendix 1.

[127] Id.

Emissions Mitigation Period for more discussion on the conservative nature of the analysis. Based on the steep cuts needed by 2030 and 2050, the Draft AEA concludes the "estimate of offsets is conservative in that it likely overstates the amount of GHG emissions that would need to be offset because additional regulatory programs and technology will likely be developed in the future under new state mandates, which will reduce the actual GHG emissions associated with the project at buildout." (Draft AEA at p. 2-35.)

Comment No. 09-58:

Nor does the GHG Reduction Plan commit to mitigation of emissions that may continue beyond the improperly assumed 30-year life of the project. For all of these reasons, the GHG Reduction Plan falls short of CEQA's requirements that mitigation measures must reduce or avoid impacts to the extent feasible and that measures must be fully enforceable. (See Pub. Res. Code §§ 21002, 21002.1(b), 21081(a); CEQA Guidelines §Section 15126.4(a)(1), (2), 15091(a)(1), 15092(b).).

Response No. 09-58:

The comment raises questions about the 30-year project life, suggesting that the Draft AEA improperly did not require mitigation beyond 30 years. This comment is not correct because the Draft AEA properly accounts for the project's GHG emissions and mitigation measures as required by CEQA. **Topical Response 2: The 30-Year Project Life and Corresponding Duration of Mitigation Measure 2-13's GHG Emissions Mitigation Period** provides a detailed response to this comment.

Comment No. 09-59:

f. The GHG Reduction Plan's Focus on Offsets Improperly Precludes Consideration of Other Feasible Alternatives/Mitigation Measures

Given the deep uncertainties surrounding the effectiveness and adequacy of offset credits identified above, mitigation for project emissions should seek to minimize reliance on offset projects by maximizing feasible on-site reductions.

Response No. 09-59:

The proposed mitigation measures include mitigation measures to reduce on-site GHG reductions. Mitigation Measures 2-1 through 2-9 provide a series of measures designed to mitigate on-site GHG emissions. These measures include Zero Net Energy for residential, commercial and other facilities, EV subsidies, EV chargers in every home and throughout the community, a zero-emission school bus program, and a zero-emission transit bus program.

Further, as described in **Response to Comment No. 09-32**, offsets are a proven method of reducing emissions under CEQA and are an essential tool for implementing GHG reduction policies by multiple jurisdictions, including California. See **Response to Comment No. 09-32** for a description of the GHG Reduction Plan and compliance with CEQA.

The CEQA Guidelines allow the use of "[o]ff-site measures, including offsets that are not otherwise required, to mitigate a project's emissions." (CEQA Guidelines Section 15126.4(c)(3).)

Even though CEQA does not require the project to prioritize on-site measures over off-site offset projects, the Draft AEA incorporates the preferred geographic hierarchy recommended by SCAQMD, as indicated on page 2-25 of the Draft AEA. Indeed, the majority of GHG reductions and the substantial majority of investment associated with such reductions will occur within the County of Los Angeles and State of California. (GHG Reduction Plan, as revised in Final AEA Appendix 6.)

Comment No. 09-60:

The 2030 Target Scoping Plan specifically endorses an approach that maximizes on-site reductions and local co-benefits, while relying on offsets only to the extent that complete mitigation using on-site reductions is infeasible:

To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features and direct investments in GHG reductions in the vicinity of the project, to help provide potential air quality and economic co-benefits locally. For example, direct investment in a local building retrofit program can pay for cool roofs, solar panels, solar water heaters, smart meters, energy efficient lighting, energy efficient appliances, energy efficient windows, insulation, and water conservation measures for homes within the geographic area of the project. This type of local program generates real demand side benefits and local jobs, while creating the market signals for energy efficiency materials and goods— some of which can be and are currently produced in California. Other examples of local direct investments include financing installation of regional EV (EV) charging stations, paying for electrification of public school buses, and investing in local urban forests. It is critical that any such investments in actions to reduce GHG emissions are real and quantifiable. Where further project design or regional investments are infeasible or not proven to be effective, it may be appropriate and feasible to mitigate project emissions through purchasing and retiring carbon credits issued by a recognized and reputable accredited carbon registry. Appendix B includes other examples of on-site project design features, mitigation measures, and direct regional investments that may be feasible to minimize GHG emissions from land use development projects.[43]

[43] *California Air Resources Board, The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target at 137 (Jan. 2017) ("Proposed 2030 Target Scoping Plan") (attached as Ex. FF).*

Response No. 09-60:

While the comment does not specifically raise an environmental issue regarding the Draft AEA, it is noted that the project's suite of mitigation measures to reduce GHG emissions has been designed in accordance with CEQA Guidelines Section 15126.4(c) and is otherwise consistent with relevant guidance from CARB and SCAQMD.

CEQA Guidelines Section 15126.4(c), which addresses the mitigation of GHG emissions, does not specify a hierarchy of feasible mitigation options. Consistent with long-standing principles, "CEQA leaves the determination of the precise method of mitigation to the discretion of lead agencies."[128] Section 15126.4(c) presents a non-exclusive menu of potentially feasible mitigation concepts for consideration by lead agencies; and, that menu recognizes both on-site and off-site GHG emissions reduction strategies as potentially feasible mitigation concepts. Section 15126.4(c)(3) allows the use of "[o]ff-site measures, including offsets that are not otherwise required, to mitigate a project's emissions."

CARB's January 20, 2017 draft of *The 2017 Climate Change Scoping Plan Update* recognizes this project as one of "[s]everal recent examples of sustainable land use development projects in California [that] have demonstrated that it is feasible to design projects that achieve zero net additional GHG emissions."[129] The Scoping Plan Update specifically recognized "the Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan" for its "commitment to achieve net-zero GHG emissions for a very large-scale residential and commercial specific planned development in Santa Clarita Valley."[130]

[128] CNRA, Final Statement of Reasons for Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB 97 (December 2009), at p. 50; see also p. 87. Available at *http://resources.ca.gov/ceqa/docs/Final_Statement_of_Reasons.pdf*. Accessed: February 17, 2017.

[129] ARB, 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (January 20, 2017 Draft), at p. 135. Available at: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf. Accessed: February 17, 2017.

[130] Ibid.

The AEA incorporates the preferred geographic hierarchy recommended by SCAQMD, as indicated on page 2-25 of the Draft AEA. The majority of GHG reductions and the substantial majority of investment associated with such reductions would occur within the County of Los Angeles and State of California. (GHG Reduction Plan, as revised in Final AEA Appendix 6.) Specifically, as required by Section X of the GHG Reduction Plan, the project applicant must implement the GHG Reduction Plan so that, in the aggregate and taking into account all on-site and off-site GHG reductions achieved by Mitigation Measures 2-1 through 2-13, along with the Supplemental GHG-Reducing Commitment for additional EV charging stations identified in the Final AEA, the RMDP/SCP project shall meet, at full buildout, the following Locational Performance Standards: no less than 68 percent of the GHG reductions will be achieved within California; no less than 80 percent of the GHG reductions will be achieved within the United States; and no more than 20 percent of the GHG reductions will be achieved outside of the United States. The Locational Performance Standards apply at the RMPD/SCP project level, not to an individual village-level project.

Comment No. 09-61:

The revised analysis here, however, is predicated on the assumption that the basic project design will not change from that studied in the prior EIRs.[44] There is no evidence in the revised analysis that the on-site emissions reductions identified represent the maximum feasible degree of greenhouse gas mitigation. Nor does the revised analysis provide any information as to whether other alternatives are feasible. Just by way of example, there is no evidence that it would be infeasible to generate and store more renewable energy onsite than the project's structures will use—in other words, to go beyond "zero net energy"—in order to avoid such heavy reliance on uncertain and inadequate offset projects.

[44] *As discussed elsewhere in this letter, the Department's decision to conduct an extremely narrow environmental review following the Supreme Court's decision on the prior EIR unlawfully constrained its disclosure and analysis of impacts, development of mitigation measures, and analysis of alternatives. The project applicant may have an interest in not changing anything significant about the basic project design, but the Department, as an agency of the State of California, has an independent responsibility under CEQA to ensure that all feasible mitigation measures and alternatives are considered. The revised analysis is far too limited in scope to satisfy the Department's obligations here.*

Response No. 09-61:

This comment questions whether the project design will change and whether on-site emission reductions incorporated into the project's design achieve the maximum feasible degree of GHG emissions mitigation. There is no evidence that the basic project design will change. In addition, CEQA does not require that mitigation measures avoid or lessen environmental impacts of a project to the "maximum" extent possible. Rather, adoption of feasible mitigation measures is required and once an effect has been mitigated to a less than significant level, the operative CEQA mandate has been achieved. Here, as noted by the lead agency, the project applicant has proposed as mitigation the commitment for the project to achieve zero net GHG emissions (i.e., no net increase above existing conditions) through a combination of feasible and reliable emission reduction actions on-site and within Los Angeles County, direct measures to reduce GHG emissions off-site, and, if necessary, the procurement of compensatory GHG offsets. Further, the lead agency found that "[a]doption and implementation of Mitigation Measures 2-1 through 2-13 would…lead[] to no net contributions of GHG emissions from the project, or zero net emissions. Because the project would result in no net increase of GHG emissions after implementation of mitigation measures, there would be no contribution of GHG emissions to cumulative GHG emissions influencing global climate change." (Draft AEA, p. 1-18.)[131]

The CEQA Guidelines allow the use of "[o]ff-site measures, including offsets that are not otherwise required, to mitigate a project's emissions." (CEQA Guidelines Section 15126.4(c)(3).) The Draft AEA incorporates the preferred geographic hierarchy recommended by SCAQMD, as indicated on page 2-25 of the Draft AEA. The majority of GHG reductions and the substantial majority of investment associated with such reductions

[131] See also CARB letter to CDFW, Nov. 3, 2016, AEA Appendix 1 ("CARB finds the documentation provides an adequate technical basis to determine that the project would not result in any net additional GHG emissions after the mitigation measures are fully implemented.").

would occur within the County of Los Angeles and State of California. (GHG Reduction Plan, as revised in Final AEA Appendix 6.)

The project has not changed from what was analyzed in the 2010 Final EIR. Alternatives were not the subject of the decision by the California Supreme Court or the Court of Appeal on remand and are not part of the revised analysis as required by the courts. Therefore, this comment is beyond the scope of review for the AEA (see **Topical Response 1: Scope of the Additional Environmental Analysis**). As provided by CEQA, alternatives are analyzed in order to find project revisions or mitigation measures to lessen environmental impacts. As noted by the lead agency and by CARB, the project will not result in any net GHG emissions after implementation of mitigation measures. The lead agency has determined "[b]ecause the project would result in no net increase of GHG emissions after implementation of mitigation measures, there would be no contribution of GHG emissions to cumulative GHG emissions influencing climate change." (Draft AEA, at p. 1-18.) Given that the project has not changed, alternatives were not the subject of the Supreme Court and Court of Appeals decisions and actions, and there is no significant CEQA impact, there is no basis for a new alternatives analysis.

Comment No. 09-62:

Finally, the heavy reliance on offsets in the revised analysis threatens to undermine the Legislature's purpose in adopting SB 375. SB 375 sought to align transportation and land use planning on a regional basis in order to meet greenhouse gas reduction targets. The reductions to be achieved under SB 375, moreover, were intended to be additional to reductions achieved under other state climate programs. (See Bay Area Citizens v. Association of Bay Area Governments (2016) 248 Cal. App. 4th 966.) Heavy reliance on offsets may facilitate development of projects that do not align with SB 375's goals. Notably, the revised analysis here contains no discussion of the project's consistency with SB 375.

Response No. 09-62:

This comment is noted regarding the commenter's view regarding the Legislature's purpose in adopting SB 375. This information will be provided to the decisionmakers.

The comment also suggests that the project's GHG Reduction Plan may preclude the project from aligning with the goals of SB 375. However, this is not the case.

Please see **Response to Comment Nos. 09-66** and **09-67** below for detailed response to comments regarding the project's consistency with SB 375 and the implementing Sustainable Communities Strategy. As explained in those responses, the project is consistent with SB 375 and the Southern California Association of Governments' 2012-2035 RTP/SCS and 2016-2040 RTP/SCS.

Comment No. 09-63:

g. The Revised Analysis Fails to Address Potential Impacts of Mitigation Measures, Including the GHG Reduction Plan

The revised analysis fails to disclose or address any potentially significant impacts of the GHG Reduction Plan. As discussed above, CEQA requires at least some discussion of the impacts caused by mitigation measures. (CEQA Guidelines § 15126.4(a)(1)(D).) Despite the GHG Reduction Plan's vagueness and lack of specific mitigation commitments, it is at least reasonably foreseeable that many of the "Direct Reduction" activities—including forest management projects and dairy digesters—could cause environmental impacts, some of them potentially significant. This omission violates CEQA.

Response No. 09-63:

This comment claims that the Draft AEA fails to analyze potentially significant impacts of the GHG Reduction Plan outlined in Mitigation Measure 2-13. The comment specifically references forest management projects and dairy digesters.

As an initial matter, analysis of any potential environmental impacts of forest management projects and dairy digesters is too speculative for inclusion in the Draft AEA. The project applicant has not proposed a specific dairy digester or forest management activity as part of the project. Where a lead agency "finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact." (CEQA Guidelines Section 15145) Here, the GHG Reduction Plan lists forest conservation projects in California and the United States and dairy project methane capture projects as among the "potential" Direct Reduction Activities that the applicant has identified "on a preliminary basis" for potential inclusion in the GHG Reduction Plan. (See revised GHG Reduction Plan in Final AEA Appendix 6.) The Plan cautions that the list of potential activities is "illustrative only." (*Ibid.*) No particular forest conservation project or dairy methane capture project has been identified for implementation. Even if any such projects were implemented, the size, location and design are unknown at this time. Therefore, any potential impacts from such projects are too speculative for inclusion in the Draft AEA.

However, for informational purposes, an analysis of forest conservation projects and dairy methane capture projects has been performed based on currently available information (see Final AEA Appendices 11 and 12). To the extent that such forest conservation projects are located outside of California, they are exempt from CEQA. (Pub Res. Code Section 21080(b)(14).) As detailed in Final AEA Appendices 11 and 12, any such project, if implemented, would not be expected to cause one or more significant environmental effects.

Comment No. 09-64:

4. Offsets for Construction and Vegetation Change Emissions

The revised analysis claims that construction and vegetation change emissions will be mitigated using substantially the same methods outlined in the GHG Reduction Plan: "Direct Reduction" activities and purchase of offset credits. As a result, this mitigation measure suffers from the same deficiencies—including vagueness, lack of a performance standard, inadequate demonstration of additionality, and inadequate assurance functioning, valid mitigation programs exist—discussed above in the context of the GHG Reduction Plan.

Response No. 09-64:

This comment claims that Mitigation Measure 2-10, which requires Los Angeles County to confirm, prior to the issuance of grading permits, that construction and vegetation change-related GHG emissions for the project will be mitigated in accordance with the GHG Reduction Plan, is vague, lacks a performance standard, inadequately demonstrates additionality, and inadequately assures that functioning, valid mitigation programs exist. This comment repeats criticisms levied in prior comments. As explained in **Responses to Comment Nos. 09-32** through **09-54**, none of these criticisms are accurate. The compliance obligations under the GHG Reduction Plan are not vague, have robust performance standards, and contain an additionality requirement. In addition, as explained above, functioning and valid mitigation programs do exist for the purchase of Offset Credits, if such purchases are necessary for compliance. See **Responses to Comment Nos. 09-55** and **09-63**, which address a similar issue as raised by this comment.

Comment No. 09-65:

Mitigation for construction and vegetation change emissions also appears to be unlawfully delayed. According to the revised analysis, "[t]he year of full buildout (2030), the project applicant shall engage in a one-time purchase of carbon offsets that can demonstrate GHG reductions shall continue over the life of the project on a yearly basis." (AEA at 1-15, 2- 30.) Construction and vegetation change emissions, however, will occur starting in 2020, when construction begins. The revised analysis requires Los Angeles County to "confirm" that the project proponent "shall fully mitigate" these emissions prior to issuing grading permits, but it appears that the actual purchase of offsets or funding of direct reductions may not happen until 2030; moreover, as discussed above, mere funding of an offset project does not guarantee that annual reductions actually will occur and credits will be generated. Again, CEQA requires mitigation to be in place before significant impacts occur; while formulation of mitigation measures may be deferred under certain circumstances (not met here), mitigation itself may not be. (See POET, LLC v. State Air Resources Bd. (2013)

218 Cal.App.4th 681, 738.) Moreover, as discussed above, mitigation of emissions for "the life of the project" (i.e., 30 years)" (AEA at 2-30) is inadequate because there is no substantial evidence that all of the project's emissions will cease after 30 years.

Response No. 09-65:

The sentence referred to by the comment has been deleted. Compliance with Mitigation Measure 2-10 would not occur in 2030 but, rather, prior to the project applicant receiving a grading permit. Specifically, Mitigation Measure 2-10 requires the project applicant to fully mitigate construction-related emissions required by Mitigation Measure 2-10 prior *to* obtaining a grading permit, as enforced by Los Angeles County. Thus, compliance with Mitigation Measure 2-10 must be completed before the construction and vegetation change activities are commenced.

Comment No. 09-66:

C. The Revised Analysis Fails to Demonstrate Consistency with California's Long-Term, Science-Based Greenhouse Gas Reduction Goals

The revised analysis incorrectly claims that because the project is anticipated to cause "no net increase" in greenhouse gas emissions, it "would not conflict with any plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs." (AEA at 2-36.) As discussed above, there is inadequate evidence to support a finding that the mitigation measures outlined in the revised analysis will actually achieve "no net increase" in emissions. Even if there were such evidence, a present-day "net zero" threshold alone would not necessarily demonstrate consistency with all applicable plans, policies, laws, and regulations.

Response No. 09-66:

This comment states that the Draft AEA does not analyze the project's consistency with applicable GHG plans, policies, laws and regulations, including California's long-term GHG reduction goals. The Draft AEA includes an extensive summary of applicable plans, policies, laws and regulations involving GHG (Draft AEA, pp. 2-5 through 2-13), and finds that the project would comply with all such plans, policies, laws and regulations (Draft AEA, p. 2-36.) As discussed in responses to prior comments, extensive technical studies were undertaken to inventory all GHG emissions and to assess the efficacy of the mitigation measures. All of that information was provided in the Draft AEA and its technical reports. This technical information was reviewed by CARB and Ascent Environmental. As determined by the lead agency in consultation with Ascent Environmental and CARB, substantial evidence supports the Draft AEA's conclusion that the project will result in no net increase in GHG emissions.

The comment does not identify any specific error or deficiency with the Draft AEA's consistency analysis provided on page 2-36, which concludes:

> "In addition, because the project would result in no net increase of GHG emissions, it would not conflict with any plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The state, and by extension regional and local climate policy is rooted in achieving emissions level below the reference year of 1990 and is based on levels established by scientific evidence to avoid the most adverse impacts of climate change. Therefore, relevant plans, such as [C]ARB's Scoping Plan, SCAG's RTP/SCS, and Los Angeles County's CCAP, all establish non-zero targets (i.e., some level of positive net emissions above existing conditions for land developments to accommodate planned growth) to achieve future GHG emissions targets. By achieving the project applicant's commitment to reach zero net emissions, the feasibility and reliability of which has been demonstrated in the analysis above, the project would lead to no net increase in GHG emissions and would not, therefore, result in any adverse change that could conflict with any relevant plan, policy, or regulation adopted for the purpose of reducing GHG emissions."

Nevertheless, in response to this comment and for informational purposes, additional analysis of applicable laws, regulations and policies is provided here.

Statewide GHG Emissions Reduction Targets

Under AB 32, statewide emissions must be reduced to 1990 levels by 2020. Under SB 32, statewide emissions must be reduced to 40 percent below 1990 levels by 2030. Under Executive Order S-3-05, statewide emissions must be reduced to 80 percent below 1990 levels by 2050.

After implementation of Mitigation Measures 2-1 through 2-13, the project would reduce its unmitigated emissions by 526,103 MT CO_2e/year to net zero emissions, as confirmed by the technical analysis of the Air Resources Board. (Draft AEA, p. 1-18.) In the 2014 First Update to the Scoping Plan, CARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately."[132] Therefore, the 2014 First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050."[133] And, many of the emission reduction strategies recommended by CARB would serve to reduce the project's post-2028 emissions level to the extent applicable by law.[134]

Energy Sector: CARB identified the expansion of California's renewable resources as an important component of the GHG reduction program outlined in its 2014 First Update, citing third-party studies concluding that the maximum penetration of renewable energy sources in California could be as high as 74 to 80 percent by 2050.[135] Further increases in the state's Renewables Portfolio Standard, beyond the 45 percent requirement for 2027 that is accounted for in this analysis (see Public Utilities Code Section 399.15(b)(2)(B)), would serve to further reduce the project's emissions.

Transportation Sector: Anticipated and continued deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all would serve to reduce the project's emissions level.[136] It is expected that these types of advancements will occur through coordinated federal United States Environmental Protection Agency (USEPA) and National Highway Traffic Safety Administration (NHTSA) and state (CARB) regulatory action, as well as through roadway and transit improvements undertaken at the state, regional and local levels. Relatedly, California's Executive Branch has established a goal to cut the petroleum use in cars and trucks by half by 2030 (see discussion of 2015 State of the State Address, above).

Water Sector: The project's emissions level would be reduced as a result of further desired enhancements to water conservation technologies.[137]

Waste Management Sector: Plans to further improve recycling, reuse and reduction of solid waste would beneficially reduce the project's emissions level.[138]

Recent studies show that the state's existing and proposed regulatory framework will allow the state to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies do not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrate that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new

132 ARB, First Update to the Climate Change Scoping Plan: Building on the Framework (May 2014), p. 32.

133 Id. at p. 4. See also id. at pp. 32-33 [recent studies show that achieving the 2050 goal will require that the "electricity sector will have to be essentially zero carbon; and that electricity or hydrogen will have to power much of the transportation sector, including almost all passenger vehicles"].

134 Id. at Table 6: Summary of Recommended Actions by Sector, pp. 94-99.

135 Id. at Appendix C, p. 33.

136 Id. at pp. 55-56.

137 Id. at p. 65.

138 Id. at pp. 66-67, 69 ["By 2050, direct GHG emissions from waste sector activities could be reduced by 25 percent, creating a net negative GHG footprint for the waste sector."].

technologies and other regulations not analyzed in the study could allow the state to meet the 2030 and 2050 targets.[139]

The project's mitigation program advances many of the state's primary policies directed towards the reduction of GHG emissions and the establishment of a clean energy paradigm, as summarized above. For example, Mitigation Measure 2-1 and Mitigation Measure 2-2 direct that the project's residential and commercial development areas, as well as the private recreation centers and public facilities, would achieve Zero Net Energy standards, as defined by CEC. Additionally, Mitigation Measure 2-11 will secure meaningful energy efficiency improvements in existing disadvantaged communities.[140] A host of mitigation measures (i.e., Mitigation Measures 2-4, 2-5, 2-8, 2-9, and 2-12) also advance the state's objective to transition to a zero-emission transportation fleet; and Mitigation Measure 2-6 is consistent with the objective to manage the demand for traditional transportation means through a suite of strategies that influence the transportation habits of the project's residents, employees, etc. Further, as discussed above, because the project would not increase GHG emissions above existing levels following implementation of the thirteen recommended mitigation measures, it would not conflict with any of the state's policies to reduce GHG emissions, including the 2030 target in SB 32 and the 2050 target in Executive Order S-3-05.

2014 CARB Scoping Plan

CARB's 2014 First Update to the Scoping Plan ("First Update") describes the type of activities required to achieve the state's 2050 statewide GHG emissions reduction goal of 80 percent below 1990 levels. These activities include: "energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately."[141]

Mitigation Measures 2-1 through 2-13 advance many of the state's policies for the reduction of GHG emissions, as set forth in the First Update. These include the following:

Zero Net Energy: Mitigation Measures 2-1 and 2-2 direct the project's residential and commercial development areas, private recreation centers, and public facilities will achieve Zero Net Energy standards as defined by the CEC through a combination of energy efficient design and renewable energy generation. This advances the First Update's emphasis on energy demand reduction through efficiency, decarbonizing electricity, and increasing market penetration and deployment of efficiency and clean energy technologies.

Building Retrofit Program. Mitigation Measure 2-11 requires the applicant will undertake or fund a building retrofit program in disadvantaged communities in Los Angeles County, with the retrofits to focus on energy efficiencies including cool roofs, solar panels, solar water heaters, smart meters, energy efficient lighting, energy efficient appliances, energy efficient windows, insulation, and water conservation measures. This advances the First Update's policies relating to energy demand reduction, efficiency, clean energy technology deployment, and decarbonization of electricity (see revised Appendix G of Draft AEA Appendix 1 in Final AEA Appendix 13).

Zero Emission Vehicles. Mitigation Measures 2-4, 2-5, 2-8, 2-9 and 2-12 require the applicant to implement a host of measures related to EVs, including on-site EV charging stations in residences and commercial areas, EV purchase subsidies, zero-emission school bus program, a zero-emission transit bus program, and

139 Energy and Environmental Economics (E3), Summary of the California State Agencies' PATHWAYS project: Long-term Greenhouse Gas Reduction Scenarios (April 2015); Greenblatt, Jeffrey, Energy Policy (Vol. 78), Modeling California Impacts on Greenhouse Gas Emissions (March 2015), pp. 158-172.

140 As defined in the Newhall Ranch Building Retrofit Program (a copy of which is located in Appendix G of Appendix 2.1-A), disadvantaged communities include: (i) census tracts with a median household income (MHI) at or below 80 percent of the state MHI; (ii) census tracts identified as among the most disadvantaged 25 percent of census tracts according to the Office of Environmental Health Hazard Assessment's CalEnviroScreen; (iii) areas with at least 75 percent of public school students meeting eligibility criteria for free or reduced price meals; or (iv) areas that do not meet the above criteria, or where data are insufficient, but for which there is a quantitative assessment demonstrating a reasonable basis for why the community should be considered disadvantaged.

141 ARB, First Update to the Scoping Plan: Building on the Framework (May 2014), p. 32.

off-site EV charging stations at sites throughout Los Angeles County. These measures are consonant with the First Update's emphasis on electrification of on-road vehicles.

Therefore, the project is consistent with the policies embodied in the First Update, and with the state's efforts to achieve a reduction in GHG emissions of 80 percent below 1990 levels by 2050. Moreover, CARB's January 20, 2017 draft of *The 2017 Climate Change Scoping Plan Update* recognizes this project as one of "[s]everal recent examples of sustainable land use development projects in California [that] have demonstrated that it is feasible to design projects that achieve zero net additional GHG emissions."

Senate Bill 375

Senate Bill 375 (2008) requires the Southern California Association of Governments (SCAG) to include a Sustainable Communities Strategy (SCS) in its Regional Transportation Plan (RTP) that will achieve GHG emission reduction targets set by CARB by reducing VMT from light-duty vehicles through the development of more compact, complete, and efficient communities. For SCAG's jurisdiction, CARB adopted regional targets for reduction of mobile source-related GHG emissions by 8 percent by 2020 and 13 percent by 2035. The project is consistent with SCAG's attainment of its regional GHG emissions reduction targets because it will reduce its emissions to net zero following implementation of Mitigation Measures 2-1 through 2-13, as discussed below.

The California Supreme Court has noted that "CEQA expressly allows streamlining of transportation impacts analysis for certain land use projects based on metropolitan regional 'sustainable communities strategies.'" (*Center for Biological Diversity v. Cal. Dept. of Fish and Wildlife* (2015) 62 Cal.4th 204, 230.) The Court specifically referred to Public Resources Code Section 21159.28 relative to the analysis of GHG emissions. (*Ibid*.)

Public Resources Code Section 21159.28(a) provides:

> "If a residential or mixed-use residential project is consistent with the use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy ..., for which the State Air Resources Board pursuant to subparagraph (I) of paragraph (2) of subdivision (b) of Section 65080 of the Government Code has accepted the metropolitan planning organization's determination that the sustainable communities strategy ... would, if implemented, achieve the greenhouse gas emission reduction targets and if the project incorporates the mitigation measures required by an applicable prior environmental document, then any findings or other determinations for an ... an environmental impact report ... prepared or adopted for the project pursuant to this division shall not be required to reference, describe, or discuss (1) growth inducing impacts; or (2) any project specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network."

Section 21159.28(d) further provides that qualifying residential or mixed-use residential projects must allocate at least 75 percent of the total building square footage to residential uses.

Meridian Consultants prepared reports specific to the project, submitted by the project applicant in May 2016, which are hereby incorporated into the Final AEA: *RMDP/SCS Project Consistency with SCAG's 2012-2035 RTP/SCS and 2016-2040 RTP/SCS*, May 2016; Meridian Consultants LLC, *Analysis of RMDP/SCP project Eligibility for SB 375 CEQA Streamlining*, May 2016.[142]

[142] For the Mission Village Recirculated Portions of EIR (November 2016) (SCH No. 2005051143) and the Landmark Village Recirculated Portions of EIR (November 2016) (SCH No. 2004021002), detailed technical appendices were prepared by Meridian Consultants, LLC that analyzed the village-level projects' consistency with the RTP/SCS and the projects' eligibility for streamlining under SB 375 (Public Resources Code Section 21159.28(d)), all of which are incorporated by reference. (See Appendix 2.1-C, Meridian Consultants LLC, Mission Village Consistency with SCAG's 2012-2035 RTP/SCS and 2016-2040 RTP/SCS, October 2016 available at: http://planning.lacounty.gov/assets/upl/case/tr_061105-1_apx2_1c.pdf; Appendix 2.1-D Meridian Consultants LLC, Analysis of Mission Village project Eligibility for SB 375 CEQA Streamlining, October 2016, available at: http://planning.lacounty.gov/assets/upl/case/tr_061105-1_apx2_1d.pdf ; Appendix 2.1-C, Meridian Consultants LLC, Landmark Village Consistency with SCAG's 2012-2035 RTP/SCS and 2016-2040 RTP/SCS, October 2016, available at:

In this instance, and as detailed in Meridian Consultants' *RMDP/SCP project Consistency with SCAG's 2012-2035 RTP/SCS and 2016-2040 RTP/SCS* (May 2016), the project meets all of the criteria in Public Resources Code Section 21159.28: First, the project is consistent with the use designation, density, building intensity, and applicable policies contained in SCAG's adopted 2012 and 2016 Sustainable Communities Strategy plans. Appendix D of Meridian's consistency evaluation contains a technical memorandum authored by Stantec, a transportation engineering firm. The Appendix D memorandum demonstrates that the project's VMT per capita, in both the SCAG region and Los Angeles County, will be anywhere from 14 to 32 percent lower than that forecasted by SCAG in the 2012-2035 RTP/SCS and 2016-2040 RTP/SCS. The project's enhanced efficiencies on a VMT per capita basis are attributable, in part, to the comprehensive scope of the Newhall Ranch Transportation Demand Management Plan. Second, in June 2012, CARB determined that the 2012 Sustainable Communities Strategy plan, if implemented, would achieve the GHG emissions reduction targets adopted by CARB for the region. In June 2016, CARB determined that the 2016 Sustainable Communities Strategy plan, if implemented, would achieve the GHG emissions reduction targets adopted by CARB for the region. Third, the project has incorporated the substantive requirements of the GHG mitigation measures from SCAG's certified Program EIRs for the 2012 and 2016 Sustainable Communities Strategy plans. Fourth, approximately 87 percent of the Newhall Ranch Specific Plan's total building square footage consists of residential uses.

Because the project is consistent with the criteria identified in Public Resources Code Section 21159.28, the project's emissions from cars and light-duty trucks are addressed at the regional level through SCAG's Sustainable Communities Strategy plans. Nonetheless, conservatively, the AEA's analysis of project impacts provided fully accounts for the project's emissions from cars and light-duty trucks.

SCAG RTP/SCS

SCAG adopted its 2012-2035 RTP/SCS in April 2012 which is expected to reduce per capita transportation emissions by 9 percent in 2020 and by 16 percent in 2035. Its goals and policies focus on transportation and land use planning, including building infill projects, locating residents closer to where they work and play, and designing communities so there is access to high quality transit service.

The project is consistent with the strategies and policies contained in the 2012-2035 and 2016-2040 RTP/SCS. The analysis by Meridian Consultants (discussed above) provides a detailed evaluation of the project's consistency with the 2012-2015 and 2016-2040 RTP/SCS, and reached a conclusion that the project is consistent with both plans.

First, as to vehicle trips and VMT, the project includes an on-site transit system, an active transportation network, and a comprehensive TDM program required by Mitigation Measure 2-6. The project would be located next to existing, approved, and planned infrastructure, urban services, transportation corridors, transit facilities, and employment centers, and it would locate dense residential development within walking, bicycling, or on-site EV distance of major commercial development in the project. Therefore, the project is consistent with the 2012-2035 RTP/SCS goals and objectives related to vehicle trips and VMT.

Moreover, as discussed above, Appendix D of Meridian's consistency evaluation contains a technical memorandum authored by Stantec, a transportation engineering firm. The Appendix D memorandum demonstrates that the project's VMT per capita, in both the SCAG region and Los Angeles County, will be anywhere from 14 to 32 percent lower than that forecasted by SCAG in the 2012-2035 RTP/SCS and 2016-2040 RTP/SCS.

Second, as to increased use of alternative fuel vehicles, as explained above, the project would implement a series of mitigation measures aimed at increasing the use of EVs. These include measures related to installation of on-site EV charging stations in residences and commercial areas, off-site EVs in areas around Los Angeles County, and on-site use of zero-emission school buses and transit buses, as well as a subsidy

http://planning.lacounty.gov/assets/upl/case/tr_53108_apx2_1c.pdf ; Appendix 2.1-D, Meridian Consultants LLC, Analysis of Landmark Village project Eligibility for SB 375 CEQA Streamlining, October 2016, available at: http://planning.lacounty.gov/assets/upl/case/tr_53108_apx2_1d.pdf .)

program for purchases of new EVs. Therefore, the project is consistent with goals and policies in the 2012-2035 RTP/SCS related to alternative fuel vehicles.

Third, as to energy efficiency, as explained above, the project will implement a series of mitigation measures requiring that residences, commercial areas, private recreation centers, and public facilities on-site are designed to meet Zero Net Energy standards as defined by CEC. The applicant will also implement a program of building retrofits in disadvantaged communities in Los Angeles County which is focused on energy efficiency. Therefore, the project is consistent with the goals and policies in the 2012-2035 RTP/SCS related to energy efficiency.

For the 2016-2040 RTP/SCS, the emphasis on increasing mobility and sustainability remains a foundational component. The major themes set forth in the 2016-2040 RTP/SCS are also very similar to those included in the 2012-2035 RTP/SCS, discussed above. The project is consistent with the 2016-2040 RTP/SCS goals as follows:

Integrating Strategies For Land Use And Transportation. The project-related development would be designed with planning principles that integrate land uses and transportation options. For example, the extensive on-site trail system, which also would connect to off-site trails, would enable residents to travel by foot or bicycle to the mixed-use core within the project.

Striving for Sustainability. The project-related development would implement a suite of design and mitigation strategies in furtherance of sustainable development principles. For example, Mitigation Measures 2-1 and 2-2 would lead to the development of the state's first-ever Zero Net Energy large-scale, master-planned community.

Increasing Capacity Through Improved System Management. The project-related development would achieve improved systems management through implementation of Mitigation Measure 2-6's transportation demand management program, which would provide residents and visitors to the project site with a suite of transportation options and incentives. Additionally, Mitigation Measure 2-7 requires the implementation of traffic signal coordination improvements along identified major roadways.

Giving People More Transportation Choices. The project includes the construction and operation of a bus transfer station to enhance the transit interconnectivity options provided on the project site. Additionally, Mitigation Measure 2-6's transportation demand management program would provide the project's residents and employees with options and incentives to travel by transit, car-share and bike-share programs, neighborhood EV networks, and tech-enabled mobility (see Final AEA Appendix 14).

Leveraging Technology. Mitigation Measure 2-6's transportation demand management program includes a provision for tech-enabled mobility. Additionally, Mitigation Measures 2-1 and 2-2 require use of Zero Net Energy technology in the built environment; and, Mitigation Measures 2-4, 2-5 and 2-12 require the creation of a robust network of EV charging infrastructure.

Responding To Demographic And Housing Market Changes. The project-related development would accommodate a broad range of housing needs in the SCAG region through its provision of a variety of product types for various income and age levels, including affordable housing and age-qualified housing.

Supporting Commerce, Economic Growth, And Opportunity. The project-related development would support commerce, economic growth and opportunity in the SCAG region through its inclusion of land uses allowing for the establishment of new office and commercial retail development.

Promoting The Links Among Public Health, Environmental Protection, And Economic Opportunity. The project-related development would use a suite of design and mitigation strategies to comprehensively establish communities that: (i) maximize public health through incentives and opportunities to travel by alternative transportation modes; (ii) preserve the environment through the large-scale set aside of valuable

open space areas; and, (iii) promote economic opportunity through the provision of land uses allowing for the establishment of new office and commercial retail development.

County of Los Angeles Community Action Climate Plan

As part of the County General Plan's Air Quality Element, the County adopted a Community Climate Action Plan to reduce GHG emissions associated with community (not municipal) activities in unincorporated Los Angeles County by at least 11 percent below 2010 levels by 2020. The County plans to adopt a substantial update to the Climate Action Plan that will take effect in 2022, and would be reasonably expected to provide a reduction target for years beyond 2020. As discussed above, after implementation of Mitigation Measures 2-1 through 2-13, the project would result in zero net GHG emissions, as confirmed by the independent review and evaluation by CDFW, CDFW's consultant, and CARB (Draft AEA, p. 1-18; **Responses to Comment Nos. O9-55** and **O9-58**). The project would result in no adverse change in the County's GHG emissions and, as such, would align with the types of reduction strategies embodied in the Community Climate Action Plan; however, because the policies and the 2020 horizon year of the Climate Action Plan would sunset before the project is completed, consistency with the plan becomes moot. When Los Angeles County updates the plan and extends the reduction target year, it will be able to incorporate the zero net emissions of the project into its future Countywide emissions projections.

Comment No. O9-67:

The revised analysis does not explicitly address the requirements of AB 32, SB 32, SB 375, or any other California climate statute, policy or regulation in any detail. AB 32 requires reductions to 1990 levels by 2020, and SB 32 requires 40% below 1990 levels by 2030; current (2014) emissions remain about 10 MMT CO_2e/yr above 1990 (2020 target) levels, and about 180 MMt CO_2e/yr above 2030 target levels.[45] As the revised analysis acknowledges, the 2030 target is "the next interim step in the state's continuing efforts to pursue the long- term target" of 80% below 1990 levels by 2050. (AEA at 2-9.) In this context, simply maintaining current levels of emissions alone does not demonstrate compliance with mid-term and long-term state targets, all of which require substantial reductions from existing conditions. Nor does merely stating that "relevant plans . . . all establish non-zero targets" allowing positive emissions for land developments (AEA at 2-36) demonstrate consistency with these targets. Finally, as discussed above, the revised analysis fails to grapple with the ways in which heavy reliance on greenhouse gas offsets may defeat the purpose of SB 375 by facilitating far-flung, greenfield development. For all of these reasons, the conclusion that the project is consistent with all applicable climate plans, policies, and regulations lacks support.

[45] *Proposed 2030 Target Scoping Plan at 12-13.*

Response No. O9-67:

This comment asserts that the AEA does not address the requirements of California climate change statutes, policies, plans and regulations, including AB 32, SB 32, and SB 375. This is not the case. Because this comment largely repeats issues already raised in earlier comments, please see **Response to Comment No. O9-66** above for discussion of these topics.

In addition, the comment asserts that the project is not consistent with SB 375, but the record provides substantial evidence to the contrary. As discussed in **Response to Comment No. O9-66**, the project is consistent with SB 375. As discussed in **Response to Comment No. O9-66**, Meridian Consultants prepared reports specific to the project, submitted by the project applicant in May 2016, which are hereby incorporated into the Response to Comments Document: *RMDP/SCS project Consistency with SCAG's 2012-2035 RTP/SCS and 2016-2040 RTP/SCS*, May 2016; Appendix 2.1-B, Meridian Consultants LLC, *Analysis of RMDP/SCP project Eligibility for SB 375 CEQA Streamlining*, May 2016, Appendix 2.1-C. These reports demonstrate the project's consistency with SB 375 and SCAG's 2012-2035 RTP/SCS and 2016-2040 RTP/SCS.

Comment No. 09-68:

D. The Revised Analysis Fails to Conduct an Assessment of Energy Impacts Pursuant to CEQA Guidelines Appendix F.

CEQA expressly requires an analysis of energy impacts and potential energy conservation measures. (Pub. Res. Code §Section 21100(b)(3); CEQA Guidelines §Section 15126.4(a)(1)(C); CEQA Guidelines, App. F.) An EIR must explicitly and directly address energy consumption, including by calculating the amount of energy used by mobile sources and in construction and operation of a project; merely citing compliance with energy efficiency standards or relying on greenhouse gas reduction measures is insufficient to satisfy CEQA's energy impacts analysis requirements. (See Ukiah Citizens for Safety First v. City of Ukiah (2016) 248 Cal. App. 4th 256, 261-65; California Clean Energy Committee v. City of Woodland (2014) 225 Cal.App.4th 173.)

Response No. 09-68:

This comment provides background information that will be included as part of the record and made available to the decision makers prior to a final decision on the project.

Comment No. 09-69:

The prior EIRs prepared for this project did not contain an analysis of energy impacts and conservation measures sufficient to meet the standards articulate in Ukiah Citizens and California Clean Energy Committee. The revised analysis, moreover, describes a project with substantially different energy impacts than the project addressed in the prior EIRs. Greenhouse gas emission estimates, building efficiency standards, mobile source assumptions, and a host of other factors affecting energy use and conservation have changed in the revised analysis. Accordingly, before the Department or the County can move ahead with the project, an energy analysis sufficient to meet CEQA's standards must be prepared.

Response No. 09-69:

In response to the comment's assertion that the AEA should include an assessment of energy impacts, please see **Topical Response 1: Scope of Additional Environmental Analysis**, for information regarding the judicially-delineated issues to be addressed in the AEA. The California Supreme Court's 2015 decision only found issue with the portion of the environmental analysis that addresses the significance of the project's GHG emissions and the validity of two mitigation measures for the unarmored threespine stickleback under Fish and Game Code section 5515. No other aspect of the environmental evaluation was re-opened and CEQA affords a strong presumption against requiring additional analysis. Notices for the AEA, which limited requests for comments to the two topics addressed in the AEA. Therefore, this comment is outside the scope of the AEA. Furthermore, the author of this comment previously submitted comments on the prior Final EIR's analysis of energy impacts, and the Supreme Court did not find fault with the 2010 Final EIR's analysis of energy impacts. The comment does not identify any flaws with the prior analysis of energy impacts that require additional consideration based on the AEA.

Although not required, the following information is provided for informational purposes. As background, the prior EIR considered the energy-related impacts of the project. Specifically, Appendix H of the *Climate Change Technical Report* (February 2009) consisted of a Utilities Technical Appendix prepared by ENVIRON International Corporation. The information presented in the Utilities Technical Appendix subsequently was updated in Appendix A of the *Climate Change Technical Addendum* (October 2009), also prepared by ENVIRON International Corporation. The information presented in the subject documentation consisted of comprehensive electricity and natural gas usage estimates for the proposed project and the other alternatives under consideration by CDFW. The MMRP adopted by CDFW also incorporated the energy-related mitigation measures previously adopted by the County of Los Angeles in connection with its Newhall Ranch Specific Plan approvals (see, e.g., mitigation measures adopted in connection with NRSP EIR Section 4.10, Air Quality; Section 4.13, Natural Gas; Section 4.14, Electricity). The adequacy of the energy analysis in the prior EIR was never challenged in any of the judicial proceedings relating to this project by the author of this comment or others.

While the comment states that the Draft AEA "describes a project with substantially different energy impacts than the project addressed in the prior EIRs," none of the criteria for preparation of a subsequent or supplemental EIR identified in CEQA Guidelines Section 15162(a) have been triggered. Specifically, as to subdivision (a)(1), there have been no substantial changes to the project that would create a new significant environmental effect or a substantial increase in the severity of a previously identified significant effect related to energy conservation. Specifically, there is no increase in the size or intensity of the project, and the project applicant is not requesting any new land use or regulatory approvals that were not previously requested. See Section 1.0 of the Draft AEA. With the very limited exception of the bridge-related modifications, which reduce impacts and eliminate the need for unarmored threespine stickleback take avoidance measures, the same project attributes (including the same land use plan) are analyzed in the Draft AEA as the prior EIR. Moreover, as described further below, the project's new GHG emissions mitigation framework has a beneficial effect on the energy consumption profile of the project.

Similarly, as to subdivision (a)(2), the comment identifies no substantial changes to the project-related circumstances that would create a new significant environmental effect or a substantial increase in the severity of a previously identified significant effect related to energy conservation.

Finally, as to subdivision (a)(3), the comment identifies no new information of substantial importance that was not known and could not have been known, with the exercise of reasonable diligence, at the time the prior EIR was certified that otherwise evidences new impacts, substantially more severe impacts, or newly feasible mitigation measures or alternatives that are not being proposed for adoption and implementation.

On the subject of Appendix F, the project's new mitigation framework for GHG emissions complements the energy conservation goals identified therein and is compatible with the identified mitigation concepts. For example, Mitigation Measure 2-1 and Mitigation Measure 2-2 serve to reduce the electricity and natural gas consumption of on-site buildings and facilities through requirements to achieve the California Energy Commission's ZNE standards (a "beyond code" commitment), which will require a suite of building energy design enhancements and the use of renewable energy resources, which may be configured on an aggregated basis. Mitigation Measure 2-3 requires the installation of solar water heating, or another equivalent technology, to heat on-site swimming pools at private recreation centers, thereby reducing natural gas consumption. Mitigation Measure 2-4 through Mitigation Measure 2-6, as well as Mitigation Measure 2-8 and Mitigation Measure 2-9, function to secure the penetration of zero emission vehicles in the planned community, as well as the reduction in VMT through comprehensive transportation demand management strategies targeted to increase multi-modal transportation options, all of which serve to reduce the consumption of petroleum-based fuels in vehicles. Mitigation Measure 2-7 will reduce idling-related GHG emissions and the corresponding consumption of petroleum-based fuels in vehicles that otherwise would be idling. Finally, Mitigation Measure 2-11 and Mitigation Measure 2-12 will improve existing, off-site energy conservation levels by retrofitting existing buildings to reduce their energy consumption levels and installing EV charging infrastructure to serve drivers in other portions of Los Angeles County.

Comment No. 09-70:

II. The AEA's Proposed Modifications to Santa Clara River Bridge Crossing and Bank Stabilizations to Protect Unarmored Threespine Stickleback are Inadequate and Incomplete
The AEA recognizes that the SCR is a dynamic and ever-changing system (at 3-29). The "no water contact" construction approach has potential to reduce the impacts to the UTS during bridge construction through working exclusively outside of the wetted channel and only during the "dry season." Even with these proposed safeguards, impacts could still occur to the fish during construction.

Response No. 09-70:

The comment states that despite the "no water contact" construction approach for the project's bridges, and despite additional safeguards to prevent construction activities from intruding into the wetted channel of the Santa Clara River, "impacts could still occur to the fish during construction." The Draft AEA does conclude that, without mitigation, impacts from construction could occur to unarmored threespine stickleback. The

Draft AEA also describes mitigation measures that would reduce impacts to unarmored threespine stickleback to a less-than-significant level.

As detailed in the Draft AEA, the bridge piers and bank stabilization will be constructed and installed outside the wetted channel of the Santa Clara River. Thus, the Draft AEA has analyzed the modified bridge and bank stabilization construction methods, and has determined that the revised design and construction methods will avoid impacts to stickleback by eliminating the need for stream diversion, fish collection, and fish relocation as previously required by mitigation measures BIO-44 and BIO46, thereby eliminating the need for these two measures. As discussed in the Draft AEA, there will be less-than-significant construction impacts to the stickleback with implementation of Mitigation Measures 3-1, 3-2, and 3-3.

The comment does not identify or describe how impacts might occur given the project's "no water contact" requirement. Consequently, CDFW cannot further respond meaningfully to the comment.

Comment No. 09-71:

Additionally, the proposal "no water contact" only addresses the potential construction impacts, not the long-term impacts from the bridge construction. While it reduces the potential impacts and "take" of the fish, it does not eliminate it for the following reasons:

Response No. 09-71:

The comment states that the proposed "no water contact" approach to bridge construction "only addresses the potential construction impacts, not the long-term impacts from bridge construction."

As explained in the Draft AEA, Chapter 3, Unarmored Threespine Stickleback, the previously certified 2010 Final EIR identified potentially significant impacts to unarmored threespine stickleback, a fully-protected fish species under Fish and Game Code section 5515, and included biota Mitigation Measures BIO-44 and BIO-46 to allow for the U.S. Fish and Wildlife Service to collect and relocate fish during construction-related stream diversion activities in or near the Santa Clara River. CDFW adopted those two mitigation measures as part of its approval of the project in December 2010.

First, the California Supreme Court held that the construction-related collection and relocation mitigation measures (BIO-44 and BIO-46) violated the Fish and Game Code section 5515 prohibition against authorizing the take or possession of unarmored threespine stickleback. As a result of the Supreme Court decision, the project applicant has modified bridge design and construction methods that do not require stream diversion or the collection and relocation of fish under Mitigation Measures BIO-44 and BIO-46; as a result, Mitigation Measures BIO-44 and BIO-46 have been eliminated and the Draft AEA has concluded that impacts to the unarmored threespine stickleback from the project will be less than significant with addition of Mitigation Measures 3-1, 3-2, and 3-3. In addition, as explained in the Draft AEA, page 3-27, the modifications in bridge design and construction do not change the location, size, and use of the bridges.

As detailed in the Draft AEA, the bridge piers and bank stabilization will be constructed and installed outside the wetted channel of the Santa Clara River. Thus, the Draft AEA analyzes the modified bridge and bank stabilization construction methods that avoid impacts to unarmored threespine stickleback by eliminating the need for stream diversion, fish collection, and fish relocation as previously required by Mitigation Measures BIO-44 and BIO-46, thereby eliminating the need for these two measures. As discussed in the Draft AEA, impacts from project construction on the stickleback will be less than significant with addition of Mitigation Measures 3-1, 3-2, and 3-3.

Second, the previously certified 2010 Final EIR already addressed potential long-term operational impacts after construction of the bridges. Please refer to the Draft AEA, page 3-12, for a summary of the impacts identified in the prior 2010 Final EIR. As noted above, the modifications in bridge construction do not change the location, size, and use of the bridges. Thus, the operational "long-term impacts" of the bridges would be the same as those analyzed in the 2010 Final EIR; and in some cases, the impacts would be less because the modified bridges would have a total of five fewer piers (which equates to 20 fewer columns and

supporting piles) than the bridges analyzed in the 2010 Final EIR. (Each bridge pier consists of a row of 4 columns.) Further, any other "long-term impacts" resulting from bridge construction were raised or could have been raised in the prior legal challenge to the previously certified 2010 Final EIR; and, thus, any further challenge is beyond the scope of the AEA.

Third, though not required, the Draft AEA, page 3-27, addresses the potential impacts of long-term maintenance and repair of the bridges, and also states that much of that assessment was included in the prior 2010 Final EIR, including encouraging bridge repairs to occur from the bridge deck to avoid the wetted channel, limiting the maintenance area to 30 feet on either side of the bridge, and limiting the access of equipment to the riverbed. In addition, the Draft AEA includes a detailed discussion of scouring at the bridge piers; and after the evaluation, it concludes that due to the dynamic nature of the river, which is subject to flashy conditions and "reset events" after large storms, the potential for scouring at bridge piers would be less-than-significant requiring no mitigation.

Fourth, the comment does not identify any specific "long-term impacts" that were not addressed, but should have been evaluated. Therefore, it is difficult to respond further in light of the general nature of the comment.

Comment No. O9-72:

- The "dry season" work, which is proposed to run from June 1 to September 30 (AEA at 1-20) will overlap the breeding/nesting season for the UTS which is recognized as occurring year round, with less breeding activity occurring from October to January[46].

Response No. O9-72:

The comment states that the proposed "no water contact" approach to bridge construction will not eliminate take of unarmored threespine stickleback because "[t]he 'dry season' work, which is proposed to run from June 1 to September 30 (AEA at 1-20) will overlap the breeding/nesting season for the unarmored threespine stickleback which is recognized as occurring year round, with less breeding activity occurring from October to January."

The comment does not provide explanation of how construction during the dry season work would result in take of unarmored threespine stickleback or affect its reproduction. As explained in the Draft AEA, page 3-27, in some cases, bridge impacts would be less than those analyzed in the 2010 Final EIR because the modified bridges would have a total of five fewer piers (which equates to 20 fewer columns and supporting piles) than the bridges previously analyzed. The potential impacts identified in this comment relate to construction activities that were already part of the prior project construction design (which were analyzed in the 2010 Final EIR) and are not unique to, or made more severe by, the project design changes covered in the Draft AEA. Because this issue could have been raised previously and is not specifically related to the project modifications evaluated in the Draft AEA, the comment is outside the scope of the AEA and no response is needed. Nevertheless, for informational purposes, the following response is provided to the comment.

In addition, as described in the Draft AEA, all bridge-related construction activities, including installation of bridge piers, would take place outside the wetted channel in the dry portion of the riverbed during the dry season. No water contact would be permitted. Moreover, the proposed project includes redundant safeguards to prohibit construction equipment, personnel, or debris from intruding into or encroaches upon the wetted channel (see, e.g., Draft AEA Mitigation Measures 3-1 and 3-2, along with those from the 2012 Final EIR (except BIO-44 and BIO-46). Thus, CDFW has determined that the proposed bridge construction will not affect unarmored threespine stickleback breeding or nesting or cause take of unarmored threespine stickleback. The comment does not explain how "dry season" bridge construction activities would interfere with or otherwise affect unarmored threespine stickleback breeding and nesting, both of which occur in the wetted channel of the river. The wetted channel is being entirely avoided, as such, no significant impacts to the stickleback will occur.

Comment No. 09-73:

One issue that the AEA did not thoroughly analyze is the impacts to the UTS from the "dry season" pile driving. The best available science indicates that severe impacts, including possible mortalities, could still occur[47] even though the pile driving will not be done in the wetted channel. The dynamics of sound have been well studied and Popper and Hastings (2009) note:

"the pulse propagating down the length of the pile may couple to the substrate at the water bottom and cause waves to propagate outward through the bottom sediment. These transient waves in the substrate can be transmitted from the bottom into the water at some distance away from the pile to create localized areas of very low and, or very high sound pressure and acoustic particle motion because of interference with the sound pulse directly from the pile that is traveling outward through the water. Thus it is possible that the received levels of sound could be higher at some locations farther from the pile than at locations closer to it. This has been observed in some monitoring data (Caltrans, 2001)"

(at pg. 457)

These findings are of concern because 1) the pulses are know [sic] to cause fish mortality[48] and 2) even though no pile driving will occur in the wetted channel, the pile driving is likely to reach the shallow subsurface within the river channel, which would then potentially move the pulse to areas where the UTS are located, including potentially negatively affect the fish themselves, their nests and nesting and breeding activities.

[46] *USFWS 2009. Unarmored Threespine Stickleback (Gasterosteus aculeatus williamsoni) 5-Year Review: Summary and Evaluation. available at http://ecos.fws.gov/docs/five_year_review/doc2629.pdf . Attached as Ex. JJ*

[47] *Popper & Hastings 2009. Review Paper: The effects of anthropogenic sources of sound on fishes. Journal of Fish Biology (2009) 75, 455–489. Attached as Ex. II.*

[48] *IBID*

Response No. 09-73:

The comment states that the Draft AEA "did not thoroughly analyze … impacts to the unarmored threespine stickleback from 'dry season' pile driving." According to the comment, "[t]he best available science indicates that severe impacts, including possible mortalities, could still occur even though pile driving will not be done in the wetted channel." In support of this position, the comment cites a study published by Popper and Hastings (2009). The comment further states that "the pile driving is likely to reach the shallow subsurface within the river channel, which would potentially move the pulse to areas where the unarmored threespine stickleback are located," resulting in adverse impacts on the fish.

As explained in the Draft AEA, page 3-27, in some cases, bridge impacts would be less than those analyzed in the 2010 Final EIR because the modified bridges would have a total of five fewer piers (which equates to 20 fewer columns and supporting piles) than the bridges previously analyzed. The potential impacts identified in this comment relate to construction activities that were part of the prior project construction design (which were analyzed in in the 2010 Final EIR) and are not unique to, or made more severe by, the project design changes covered in the Draft AEA. Because this issue could have been raised previously and is not specifically related to the project modifications, the comment is outside the scope of the AEA and no response is needed. Nevertheless, for informational purposes, the following response is provided to the comment.

As explained in the Draft AEA, the piers for the two permanent bridges (the Long Canyon Road bridge and the Commerce Center Drive bridge) will be installed using a Cast-in-Drilled-Hole (CIDH) technique that does not require or involve pile driving. Therefore, there was no reason to study the effects of pile driving on fish at these locations. With respect to the temporary haul route bridges, support piers will be installed via vibratory pile driving, which is different from and much quieter than standard "impact" or "hammer" pile driving. The

Draft AEA analyzed the potential impacts of vibratory pile driving on unarmored threespine stickleback and other fish, and determined that such impacts would be less than significant and would not result in take of unarmored threespine stickleback. (Draft AEA, pp. 3-32—3-33). This analysis was based, in part, on a review of scientific studies of vibratory pile impacts on fish. These studies are cited in the Draft AEA.

The Popper and Hastings (2009) study, which cites monitoring data from Caltrans (2001), focuses exclusively on impact/hammer pile driving and does not address vibratory pile driving. The following passage from the study makes this clear:

Pile-driving sounds are discussed in detail in the companion review (Hastings and Popper, 2005). Briefly, however, the sounds from pile driving result from a rapid release of energy when two objects hit one another. The characteristics of impact sounds depend primarily on the physical properties of the impacting objects. When a pile-driving hammer strikes a pile, sound from the impact radiates into the air and a transient stress wave, or pulse, propagates down the length of the pile. The impact will also create flexural (or transverse) stress waves in the wall of the pile which couple with the surrounding fluids (air and water) to radiate sound into the water and additional sound into the air. (Popper and Hastings (2009), p. 457.)

Given that the Popper and Hastings (2009) study – as well as the 2005 study from which it is derived – addresses only impact/hammer pile driving and not vibratory pile driving, its analysis and conclusions are not material to the project or the Draft AEA. The primary impact components of impact pile driving, such as transient stress waves and flexural stress waves, do not occur with vibratory pile driving. This is because vibratory pile driving does not involve the pulse-creating impact of steel hammer on steel pile. In short, vibratory pile driving does not generate the kind of sound pressure typically associated with impact pile driving. In addition, the project requires that the piles for the temporary haul routes be installed at least 10 feet from the wetted channel. According to a report from the engineers at Moffatt & Nichol (2016), vibration within the sandy substrate of the dry riverbed "has a very limited expression beyond the immediate area of the pile, with minimal ground impacts expected 1 to 3 feet from the pile" (Draft AEA, p. 3-33).

Comment No. 09-74:

In addition, the expert analysis of the CBEC Engineering, Inc. identifies additional potential impacts and necessary clarifications in their Technical Memorandum (CBEC 2017, attached as Ex. GG). Clarifications are necessary in order to evaluate the effectiveness of the "no water contact" proposal to preclude impacts to UTS and include issues associated with how the wetted channel was defined, and how the local drainage features outside the wetted channel that affect the wetted channel, construction activities outside of but very near the wetted channel (CBEC at pg 2, Ex. GG).

Response No. 09-74:

The comment indicates that cbec Engineering, Inc. (cbec) has prepared a technical memorandum analyzing the project's potential to affect unarmored threespine stickleback. The comment states that cbec seeks clarification "in order to evaluate the effectiveness of the 'no water contact' proposal to preclude impacts on unarmored threespine stickleback" and needs more information on issues regarding "how the wetted channel was defined, how the local drainage features outside the wetted channel affect the wetted channel, [and] construction activities outside of but very near the wetted channel. After referencing the contents of cbec's technical memorandum, the comment, at page 24, incorporates by reference cbec's comments and requests that written responses be provided to cbec's comments and questions. As requested, CDFW has provided separate responses to the comments/questions presented in the cbec technical memorandum. Please refer to **Response to Comment Nos. 09-143 through 09-187** to cbec's technical memorandum, dated February 12, 2017.

Comment No. 09-75:

The memorandum also identifies the failure of the AEA to assess the potential long-term impacts to UTS from bridge construction (CBEC at pg 2, Ex. GG) and identifies potential new impacts to UTS not addressed in the AEA or its appendices (CBEC at pg 2 to 3, Ex. GG).

Response No. 09-75:

The comment contends that the cbec technical memorandum addresses the "failure of the AEA to assess the potential long-term impacts to unarmored threespine stickleback from bridge construction." CDFW has thoroughly reviewed the cbec technical memorandum, and cbec does not make this contention. Instead, in context, cbec acknowledges that the Santa Clara River is an "alluvial stream system" subject to "both vertical and horizontal variation of the channel geometry [citing the Draft AEA PACE's technical memorandum analyzing the Santa Clara River low-flow inundation],"and that the Draft AEA documents "were limited to the assumption of a rigid river channel boundary with fixed geometry," which cbec acknowledges that a fixed geometry approach is "standard practice for evaluating hydraulic conditions under existing conditions." However, cbec points out that because of this standard practice, the AEA "does not address potential future changes to the river morphology and the associated effects the bridge piles may have on the river system once built and, in turn, how unarmored threespine stickleback may be impacted over time."

The comment contends that the cbec technical memorandum "identifies potential long-term new impacts to unarmored threespine stickleback not addressed in the Draft AEA or its appendices." In context, cbec states that one of the "objectives" of its technical memorandum was to identify "any new environmental impacts that might be associated with the No Water Contact alternative." On page 2, cbec's technical memorandum includes a sub-heading, "Identification of any new environmental impacts, and states "it is not clear if hyporheic zone investigations have been made to understand the potential groundwater connections between the wetted channel and the dry riverbed where grading will occur." cbec then identifies its "concern," namely whether "physical impacts to the unarmored threespine stickleback may occur during their nest building or breeding season … via construction intrusions into the hyporheic zone, below the water table, where unarmored threespine stickleback may inhabit wetted interstitial spaces between riverbed sediments." Please see **Response to Comment No. 09-71**, which relates to a similar issue. As explained in that response, this comment does not raise a new impact beyond the scope of the construction activities in the 2010 Final EIR and therefore is beyond the scope of the AEA. Please also refer to **Response to Comment Nos. 09-147 and 09-148** to cbec's technical memorandum, dated February 12, 2017, which specifically address potential affects to unarmored threespine stickleback from long-term operation of the bridges and to the hyporheic zone of the Santa Clara River.

Comment No. 09-76:

Section 3.3 of the memorandum analyzes the inadequacies in the impact analysis and proposed mitigation.

Response No. 09-76:

The comment states that Section 3.3 of the cbec technical memorandum "analyzes the inadequacies in the impact analysis and proposed mitigation." In context, in Section 3.3 of the cbec technical memorandum, cbec refers only to Draft AEA Section 1, Introduction and Summary, which cbec states was "the primary file for review," having limited its review to "public information and the files provided by CBD." (See cbec technical memorandum, pp. 3, 4.) It is unclear why the cbec analysis did not include the complete unarmored threespine stickleback analysis, which is provided in Chapter 3 of the Draft AEA. Further, contrary to CBD's contention, Section 3.3 of the CBEC technical memorandum does not say it is analyzing "the inadequacies in the impact analysis and proposed mitigation." Instead, cbec references Section 1.4.2 of the introduction to the Draft AEA and presents the "questions [that] arose during the review of this document." Please refer to Response to Comment No. 09-151 through 09-162 to cbec's technical memorandum, dated February 12, 2017.

Comment No. 09-77:

Section 3.4 evaluates the analysis of Santa Clara River Low-Flow Inundation Analysis (PACE, 2016d).

Response No. 09-77:

The comment states that Section 3.4 of the cbec technical memorandum evaluates the "Santa Clara River Low-Flow Inundation Analysis" performed by PACE (2016d). Please refer to **Response to Comment Nos. 09-163 through 09-168.**

Comment No. 09-78:

Section 3.5 evaluates the analysis of the Geosyntec, 2016b. Memorandum: Santa Clara River Seasonal Streamflow Analysis. Section 3.6 evaluates the analysis of the Moffatt & Nichol, 2016c.

Response No. 09-78:

The comment states that (i) Section 3.5 of the technical analysis evaluates Geosyntec's 2016 study, titled "Memorandum: Santa Clara River Streamflow Analysis," and (ii) Section 3.6 of the technical memorandum evaluates the analysis of the Moffatt & Nichol report (2016c), titled "Memorandum: Implementation of Proposed 'No Water Contact' Construction Program." The cbec technical memorandum does contain sub-sections, but not as indicated in CBD's above comment. Section 3.5 addresses PACE's September 30, 2016, "Pier Scour Analysis," Section 3.6 covers the Geosyntec seasonal streamflow analysis, and Section 3.7 poses questions concerning the Moffatt & Nichol technical memorandum addressing implementation of the proposed "no water contact" construction program. Please refer to **Response to Comment Nos. 09-169 through 09-184** to CBEC's technical memorandum, dated February 12, 2017.

Comment No. 09-79:

Memorandum: Implementation of Proposed "No Water Contact" Construction Program. Section 4 includes a list of questions that would help to clarify the technical analysis of the appendices provided in the AEA. We incorporate these comments by reference and request written responses to CBEC's comments and questions.

Response No. 09-79:

The comment states that Section 4 of the cbec technical memorandum "includes a list of questions that would help to clarify the technical analysis of the appendices provided in the AEA." There is no such Section 4. Instead, Section 4 of the CBEC technical memorandum is a "References" list, followed by two attachments – Attachment A consists of Google Earth historic aerial photos, and Attachment B consists of two pages of excerpts "obtained from public information provided by CBD." Of the 13 bulleted excerpts, 6 provide no citation or supporting reference, and none of the excerpts are "questions that would help to clarify the technical analysis of the appendices provided in the AEA," as stated by CBD. Please refer to **Response to Comment Nos. 09-143 through 09-187** to CBEC's technical memorandum, dated February 12, 2017.

Comment No. 09-80:

Concerns about the state of UTS in the Santa Clara River outside of the Newhall Ranch project is also of issue here. As the Department is well aware, in 2014, the Department attempted to translocation UTS from the Santa Clara river into the San Francisquito Creek. The population of UTS in San Francisquito Creek had been extirpated circa 2005. The reason for the translocation was due to dwindling water in the Santa Clara River due to drought. 569 fish were ultimately rescued from the Santa Clara river and moved to the San Francisquito Creek over four separate days in 2014. Subsequent surveys on San Francisquito Creek in 2015 failed to relocate any of the translocated fish.[49] The outcome of this effort underscores the importance of maintaining habitat for this highly imperiled fish in the project area.

[49] *https://www.wildlife.ca.gov/Drought/projects/Stickleback*

Response No. 09-80:

The comment expresses concern "about the state of unarmored threespine stickleback in the Santa Clara River outside of the Newhall Ranch project[.]" The comment then provides 2014 information regarding CDFW attempts to translocate unarmored threespine stickleback from the Santa Clara River into San Francisquito Creek because drought conditions had reduced flows in the Santa Clara River.

The comment relating to the state of the unarmored threespine stickleback in the Santa Clara River does not raise a new impact beyond those evaluated in the 2010 Final EIR and, therefore, is beyond the scope of the AEA. This issue could have been raised as to the prior 2010 Final EIR analysis of project impacts, and the comment does not identify a change in the potential impacts as specifically related to the project's modified construction approach; as a result, the comment is beyond the scope of the AEA and no response is needed. Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding the scope of the AEA.

The following is provided for information purposes. As the state agency responsible for safeguarding the fully-protected unarmored threespine stickleback, CDFW is focused on unarmored threespine stickleback's long-term persistence throughout its range, not just within the Newhall Ranch project's reach of the Santa Clara River. However, the purpose of the AEA is to assess the proposed project's potential impacts on unarmored threespine stickleback. Such an assessment is necessarily limited to that portion of the Santa Clara River affected by the project. The unarmored threespine stickleback translocation effort cited in the comment did not take place at or near the project site. It has no bearing on the project. Moreover, the citation provided by CBD provides a more in depth description of the necessity of CDFW's actions, which are unrelated to the Newhall Ranch project site (https://www.wildlife.ca.gov/Drought/projects/Stickleback).

Comment No. 09-81:

The final AEA needs to address the technical issues identified in the CBEC 2017 (Exhibit GG) memorandum and provide additional analysis on impacts to the UTS based on responses. Additional mitigation measures must be added to address the impacts.

Response No. 09-81:

The comment indicates that the AEA needs to address the issues identified in the cbec technical memorandum and develop additional mitigation measures to offset project-related impacts to unarmored threespine stickleback. CDFW has address separately the cbec technical memorandum as requested by the comment. Please refer to **Response to Comment Nos. 09-143 through 09-187** to cbec's technical memorandum, dated February 12, 2017.

Comment No. 09-82:

The AEA does not consider any potential effects of changed bridge pile locations for the Commerce Center Drive bridge on surface and groundwater hydrology that may affect the highly sensitive Middle Canyon Spring. The final analysis should consider any such potential effects and ensure that the natural hydrology maintaining the spring is preserved, and if feasible, enhanced.

Response No. 09-82:

The comment states the AEA "does not consider any potential effects of changed bridge pile locations for the Commerce Center Drive bridge on surface and groundwater hydrology that may affect the highly sensitive Middle Canyon Spring." The comment further states that the final AEA should consider such effects and "ensure that the natural hydrology maintaining the spring is preserved, and if feasible, enhanced."

First, as explained, the proposed location of the Commerce Center Drive bridge has not changed since CDFW originally approved the Newhall Ranch project on December 3, 2010. Further, as stated above, in some cases, bridge impacts would be less than those analyzed in the 2010 Final EIR because the modified bridges would have a total of five fewer piers (which equates to 20 fewer columns and supporting piles) than

the bridges previously analyzed (see Draft AEA, p. 3-27.) Thus, the comment does not address any change in impact from the prior analysis in the 2010 Final EIR and is beyond the scope of the AEA. In addition, the Supreme Court invalidated only two of the numerous biota mitigation measures (BIO-44 and BIO-46) in the 2010 Final EIR. As a result, the scope of the AEA is limited to the whether the new mitigation measures cause impacts beyond what was previously analyzed in the 2010 Final EIR. Thus, the issue is barred from further consideration and no response is needed. (Ballona Wetlands Land Trust v. City of Los Angeles (2011) 201 Cal.App.4th 455, 479-480.) Nonetheless, for informational purposes, the following further responds to the comments raised.

In that 2010 Final EIR, CDFW evaluated impacts to Middle Canyon Spring because the prior EIR identified it as a "unique landscape feature" within the project site (see, e.g, 2010 Final EIR, p. 4.5-11-4.5-12). Middle Canyon Spring, located just west of the mouth of Middle Canyon, on an upper terrace of the Santa Clara River (2010 Final EIR, p. 4.5-196). Approximately four feet of elevation separate this terrace from the river floodplain at the point nearest the spring to the north, and approximately eight feet of elevation separate this terrace from the river floodplain at the most westerly point (2010 Final EIR, p. 4.5-196). An intermediate elevation terrace or geological structure is present between the spring terrace and the Santa Clara River (2010 Final EIR, p. 4.5-196).

In addition, there are no project components or related facilities within the Middle Canyon Spring; a survey/status report will be implemented to monitor and manage biological resources within and adjacent to the spring complex; and CDFW has adopted mitigation measures to avoid impacts to the spring, particularly during construction activities (e.g., Mitigation Measures BIO-51, BIO-74, BIO-77). In addition to the elevated terrace from the river floodplain, the monitoring, and the mitigation measures, no impacts would occur with construction of the Commerce Center Drive bridge because the project's existing mitigation measures requires avoidance of construction activities within spring complex. Moreover, because the project's modifications to the bridge construction do not change the location, size, and use of the bridge, the operational impacts of the bridge would be the same as those analyzed in the 2010 Final EIR (see Draft AEA, p. 3-27.) As a result, there are no new impacts beyond those previously evaluated in the 2010 Final EIR and the issue is beyond the scope of the AEA. The only adjustment is that the project's modified construction approach contemplates wider spans between bridge piles to avoid the wetted channel of the Santa Clara River, thereby reducing the number of piers; and, thus, any impact that pier construction would have on the hydrology or biology of Middle Canyon Spring was addressed, or could have been addressed, in the 2010 Final EIR.

Finally, the comment does not identify any specific effects that were not addressed in the previously certified 2010 Final EIR, nor why those impacts, if any, were not previously raised. Therefore, it is difficult to respond further in light of the general nature of the comment.

Comment No. 09-83:

Based on the analysis of impacts even with the implementation of the "no water contact" proposal, there is still potential for impacts to occur to UTS and other aquatic species. Therefore, as we have recommended previously, the project needs to prepare a Natural Communities Conservation Plan (NCCP) that includes the UTS as a covered species in order to assure that any potential take is covered. Because an NCCP is a habitat based plan, other impacted sensitive species and habitats should be included as covered species so that a single comprehensive conservation plan is created instead of the current piecemeal approach of required plans.

Response No. 09-83:

The comment states that "the project needs to prepare a Natural Communities Conservation Plan (NCCP) that includes the unarmored threespine stickleback as a covered species in order to assure that any potential take is covered." The comment also states that because an NCCP is a habitat-based plan, "other impacted sensitive species and habitats should be included as covered species so that a single comprehensive conservation plan is created instead of the current piecemeal approach of required plans." A later comment provides a list of required plans for the Newhall Ranch project as an example.

As discussed in **Response to Comment No. O9-71**, above, the Supreme Court decision invalidated two mitigation measures (BIO-44 and BIO-46), which authorized stream diversion and fish collection and relocation during in river construction of the bridges and bank stabilization within the project site. As a result of the Supreme Court decision, the Draft AEA focuses on reevaluating the methods by which the project's bridges and bank stabilization would be constructed, and has proposed to modify the bridge construction methods to avoid all work within the wetted channel of the Santa Clara River to protect stickleback and eliminate the need for stream diversion or fish collection and relocation under Mitigation Measures BIO-44 and BIO-46. The Draft AEA's "no water contact" approach allows CDFW to authorize the elimination of Mitigation Measures BIO-44 and BIO-46, as there will be less-than-significant impacts unarmored threespine stickleback. Further, based on the analysis of the modified construction methods, the Draft AEA concludes that the modified construction methods, coupled with the new mitigation measures, would not result in any new or more severe significant impacts beyond what was previously analyzed in the 2010 Final EIR. This comment does not raise a new impact beyond the scope of the construction activities in the 2010 Final EIR and, therefore, is beyond the scope of the AEA.

In addition, the NCCP issue raised in this comment was raised, or could have been raised, in connection with the prior analysis in the 2010 Final EIR. Thus, the issue is beyond the scope of the AEA and the issue is barred from further consideration. (Ballona Wetlands Land Trust v. City of Los Angeles (2011) 201 Cal.App.4th 455, 479-480.)

CDFW does not agree that the project, as modified and studied in the AEA, would cause significant impacts on unarmored threespine stickleback or any other aquatic species after mitigation. The Draft AEA, and the related hydrologic, engineering, and geomorphological studies, confirm that the project's bridge construction, as modified and with mitigation presented in the Draft AEA, address potential impacts and design considerations that would be implemented to avoid take and possession of unarmored threespine stickleback and other aquatic species. For these reasons, the project can be processed without the need for a NCCP.

Comment No. O9-84:

While we recognize that each village have or will have its own required plans identified in their respective EIRs, here, we provide a list of plans that are required either through the Newhall Ranch Specific Plan or the Landmark Village EIR as an example:

- Spineflower Conservation Plan,
- Resource Management Plan,
- Oak Resource Management Plan and an Oak Resource Replacement Plan (both at LV4.4-6),
- conceptual wetlands mitigation plan (Mitigation Measure LV 4.4-1),
- wetlands mitigation plan (Mitigation Measure LV 4.4-29 through 4.4-41),
- Slender Mariposa Lily Mitigation and Monitoring Plan (LLV 4.4-5),
- Undescribed Everlasting Mitigation and Monitoring Plan (LV 4.4-4),
- bat roost site creation plan (LV 4.4-26),
- an integrated pest management plan (LV 4.4-46),
- a revegetation plan (SP 4.6-2),
- a long-term management plan (SP 4.6-12),
- wildfire fuel modification plan (SP 4.6-52),
- Fire Management Plan (SP 4.6-72),
- Comprehensive Mitigation Implementation Plan (CMIP) (LV 4.4-1),
- a Plan to address the relocation of southwestern pond turtle (LV 4.4-9),
- the two-striped garter snake and/or south coast garter snake Relocation Plan (LV 4.4- 16)
- an arroyo toad monitoring plan (LV 4.4-17), if present
- a relocation plan for coast horned lizard, silvery legless lizard, coastal western whiptail, rosy boa, San Bernardino ringneck snake, and coast patch-nosed snake (LV 4.4-20)
- Exotic Wildlife Species Control Plan (LV 4.4-27)

- a red-legged frog monitoring plan (LV 4.4-55), if present
- and other mitigation plans as required by each village development plan.

Response No. 09-84:

The comment lists a series of planning documents which, according to the comment, "are required either through the Newhall Ranch Specific Plan or the Landmark Village EIR[.]"

CDFW appreciates the information provided in the comment. The list of planning documents, however, does not address any alleged deficiency in the Draft AEA and, therefore, does not require further response. Further, the project, as modified and studied in the Draft AEA, does not result in the need to change or alter the required plans for the project, because the construction methods and bridge pier placement have been modified to avoid contact with the wetted channel of the Santa Clara River; and these modifications enable construction to occur without any need for the prior BIO-44 and BIO-46 mitigation measures, which authorized stream diversion and fish collection/relocation through two mitigation measures (BIO-44 and BIO-46). The project's modifications to the construction methods for the bridges and bank stabilization, as identified in the Draft AEA, result in eliminating any work in the wetted channel of the Santa Clara River; and, thus, there would be no stream diversion, fish collection, or fish relocation under Mitigation Measures BIO-44 and BIO-46, which implicated the prohibitions against take or possession of unarmored threespine stickleback under Fish and Game Code section 5515 and the Supreme Court's decision.

In addition, comments concerning other planning documents not affected by the two eliminated mitigation measures (BIO-44 and BIO-46) are those that were raised, or could have been raised, in connection with the prior analysis in the 2010 Final EIR. As a result, those comments are beyond the scope of the AEA analysis and need not be the subject of any further response. Thus, the issue is barred from further consideration and is beyond the scope of the AEA. (Ballona Wetlands Land Trust v. City of Los Angeles (2011) 201 Cal.App.4th 455, 479-480.) Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding the scope of the AEA.

Finally, the comment generally states that the list of required plans should be covered in a single NCCP, but CDFW is not required by law to follow the comment's suggested approach. CDFW also does not concur with the comment suggesting that the other required plans represent a "piecemeal approach." To the contrary, CDFW (i) required each of those plans for particular purposes, (ii) the plans were either disclosed or identified during the public review and comment period on the prior 2010 EIR, (iii) agencies and all other interested persons were given an opportunity to comment on such plans, (iv) the prior litigation was the opportunity to challenge those plans, and (v) nothing in the Draft AEA analysis of unarmored threespine stickleback requires a reanalysis of such plans.

Comment No. 09-85:

III. The AEA Fails to Address New Scientific Data Available on Other Rare Species
While the AEA tries to impermissibly narrow the biological issues to just the UTS, the fact remains that between the time the original EIR was completed and now, new federal actions and additional scientific data have occurred that may affect rare species that likely occur within the project area and need to be included in the environmental review.

Response No. 09-85:

The comment states that the AEA "tries to impermissibly narrow the biological issues to just the unarmored threespine stickleback[.]"

Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding the scope of the AEA. In response to the Supreme Court decision, the AEA properly focuses on the modified construction methods to eliminate the need for Mitigation Measures BIO-44 and BIO-46. Based on the modified construction methods, the Draft AEA analyzes the potential environmental impacts resulting from the elimination of those two mitigation measures. Further, the Draft AEA did evaluate whether the revised

construction approach for bridges and bank stabilization, often referred to as the "no water contact" approach, would cause significant effects on other aquatic species and sensitive biological resources beyond those impacts already disclosed in the 2010 EIR (see Draft AEA, p. 3-37, discussing Impact 3-4, titled "New or Substantially More Severe Significant Impacts to Unarmored Threespine Stickleback or Other Biological Resources"). The analysis determined that no such effect would occur.

Comment No. 09-86:

For example, US Fish and Wildlife Services finalized revised critical habitat for the federally endangered and State species of concern arroyo toad on February 9, 2011 (attached as Ex. KK). Unit 6B of that designation lies directly upstream from the project area and Landmark village along the Santa Clara River. The arroyo toad relies upon the Santa Clara River in this area for successful breeding and reproduction, but also relies on the upland habitat most of the year for estivation/hibernation of adults, which make up the breeding population. More recent peer-reviewed data documents arroyo toads estivating/hibernating at distances up to 150 meters (492 feet) from surface flow waters in coastal southern California[50]. Because these rare amphibians exhibit local migrations to non-breeding habitat, they could occur within the dry season and other construction activity areas along the Santa Clara River. While preconstruction surveys are required for the arroyo toad, it is unclear how estivating/hibernating toads would be detected if they were to be performed as required - prior to construction.

[50] *Mitrovich et al. 2011. Attached as Exhibit HH.*

Response No. 09-86:

The comment states that "between the time the original EIR was completed and now, new federal actions and additional scientific data have occurred that may affect rare species that likely occur within the project area and need to be included in the environmental review." As examples of these "new federal actions" and "additional scientific data," the comment cites the U. S. Fish and Wildlife (USFWS) Final Rule, issued on February 9, 2011, revising the critical habitat designation for the federally-endangered and state "species of concern" arroyo toad. The comment references the Landmark Village project along the Santa Clara River and cites a 2011 study by Mitrovich et al., which found that arroyo toad will estivate/hibernate at distances up to 150 meters (492 feet) from surface flow waters in coastal southern California. According to the comment, "these rare amphibians exhibit local migrations to non-breeding habitat" and thus "could occur within the dry season and other construction activity areas along the Santa Clara River." Finally, the comment questions whether the required preconstruction surveys will be able to detect estivating/hibernating arroyo toad.

As described above, the scope of the Draft AEA focused on analyzing the project's modified construction methods for the bridges and bank stabilization, so as to avoid impacts to unarmored threespine stickleback and other aquatic species. Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding the scope of the AEA. Thus, the issue is beyond the scope of the comments requested by the lead agency for the AEA, and barred from further consideration. (Ballona Wetlands Land Trust v. City of Los Angeles (2011) 201 Cal.App.4th 455, 479-480.)

Further, the issues raised in this comment were raised, or could have been raised, in the previously certified 2010 Final EIR; and the Draft AEA analysis does not require a new analysis for arroyo toad, which was already thoroughly analyzed in the prior 2010 Final EIR. In any case, the Draft AEA did evaluate whether the revised construction approach for bridges and bank stabilization, often referred to as the "no water contact" approach, would cause significant effects on other aquatic species and sensitive biological resources beyond those impacts already disclosed in the 2010 EIR (see Draft AEA, p. 3-37, discussing Impact 3-4, titled "New or Substantially More Severe Significant Impacts to Unarmored Threespine Stickleback or Other Biological Resources"). The analysis determined that no such effect would occur. Although no response is needed because the comment is beyond the scope of the AEA, for informational purposes, the following further responds to the comments raised.

The 2010 Final EIR: (i) included numerous surveys for special-status species, including arroyo toad and the Santa Ana sucker, (ii) fully assessed the potential for the project to adversely affect arroyo toad, Santa Ana

sucker, and other special-status species, (iii) included work from the U.S. Army Corps of Engineers conducting a formal consultation with the U.S. Fish and Wildlife Service on impacts to arroyo toad and its critical habitat, and (iv) included requirements that CDFW adopt mitigation measures for the arroyo toad, the Santa Ana sucker, and other special-status species, concluding that the proposed project would not result in significant impacts on such species. In addition, CDFW issued an Incidental Take Permit addressing special-status wildlife species such as the arroyo toad, and the 2010 EIR and permit included avoidance, minimization, and mitigation measures for the arroyo toad and other special-status species. (See, e.g., 2010 Final EIR, pp. 4.5-21, 38, 56-59, 83, 126-127, 276-280, 611-638.) The litigation that ensued after CDFW certification of the 2010 EIR did not pursue any challenge to the legal adequacy of that analysis and any such challenge at this stage is time-barred. Moreover, the comment's reference to the revised critical habitat designation for arroyo toad is a federal issue not germane to the state CEQA process. Further, the critical habitat revisions do not affect the proposed project's development area.

With regard to the Mitrovich et al. (2011) study, it does not present information indicating that the proposed project would result in a significant effect on arroyo toad, or a new or more severe significant impact. Consequently, it does not compel CDFW to revisit and reanalyze project-related impacts on arroyo toad. (CEQA Guidelines, Section 15162(a)(3).)

First, as to the arroyo toad estivation/hibernation, the 2010 EIR already reported that the arroyo toad uses terrestrial habitats adjacent to aquatic areas for foraging, aestivation, and hibernation and that subadults and adults may range widely into the surrounding uplands, commonly within 650 to 3,280 feet, but up to 1.2 miles. Also, the 2010 EIR reported that radiotelemetry studies demonstrated that arroyo toads typically burrow no farther than about 121 feet to 1,062 feet from the edge of a stream, with an average distance of about 52 feet. (See RMDP/SCP Final EIR (June 2010), pp. 4.5-277-278.) These distances compare quite well with the data presented in Mitrovich et al. (2011). The 2010 EIR also adopted mitigation measures to reduce impacts to arroyo toad and its habitat, along with other adopted mitigation measures from the previously certified Newhall Ranch Specific Plan Program EIR. (See, e.g., RMDP/SCP Final EIR (June 2010), pp. 4.5-630-638.)

Second, as to the ability of preconstruction surveys to detect estivating/hibernating arroyo toad, the issue is both (i) beyond the scope of this court-required additional environmental analysis, and (ii) was raised, or could have been raised, during the 2010 EIR process, but was not the subject of the prior litigation. Thus, the issue is barred from further consideration. (Ballona Wetlands Land Trust v. City of Los Angeles (2011) 201 Cal.App.4th 455, 479-480.) In addition, the comment present no evidence that the preconstruction surveys and other measures already incorporated into the project will be inadequate to protect arroyo toad. (See 2010 Final EIR, pp. 4.5-56-4.5-60, 4.5-126-127.) For all these reasons, there is no requirement under CEQA to conduct further review of project-related impacts on arroyo toad or its habitat.

Comment No. 09-87:

Recent scientific data have become available on the Santa Ana sucker fish, a federally threatened species, that show genetic integrity of the species in the Santa Clara River above the Piru "dry gap." While the U.S. Fish and Wildlife Service do not currently recognize the population in the Santa Clara River as part of the listed population, the recent genetics work done by the U.S. Geological Survey on the species indicates that the basis for not listing the species in the Santa Clara River above the Piru "dry gap" is in error.[51] Therefore, impacts that could affect UTS need to also be evaluated for their impacts to Santa Ana Sucker.

[51] *Richmond et al. 2015. Attached as Exhibit LL.*

Response No. 09-87:

The comment states that recent genetics work on the Santa Ana sucker, a federally-threatened fish, indicates that the species should be listed upstream of the Piru "Dry Gap" as well as downstream of it, as is currently the case. According to the comment, "impacts that could affect unarmored threespine stickleback need to also be evaluated for their impacts to Santa Ana sucker."

This comment does not raise a new impact beyond the scope of the construction activities in the 2010 Final EIR and, therefore, is beyond the scope of the AEA. As explained in **Response to Comment No. 09-86**, above, the scope of the Draft AEA was properly focused on responding to the Supreme Court's decision invalidating two mitigation measures (BIO-044 and BIO-46). The issues raised in this comment were raised, or could have been raised, in the previously certified 2010 Final EIR, and the AEA analysis does not require a new analysis for the Santa Ana sucker, which was already thoroughly analyzed in the prior 2010 Final EIR. In addition, the new genetic data on Santa Ana sucker do not materially alter the assumptions used or conclusions drawn in the 2010 Final EIR analysis of project impacts on the species. Thus, the issue is barred from further consideration (*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 479-480.) Thus, the comment is beyond the scope of comments requested by the lead agency for this analysis. Nonetheless, for informational purposes, the following further responds to the comments raised.

The Draft AEA did evaluate whether the revised construction approach for bridges and bank stabilization, often referred to as the "no water contact" approach, would cause significant effects on other aquatic species and sensitive biological resources beyond those impacts already disclosed in the 2010 EIR (see Draft AEA, p. 3-37, discussing Impact 3-4, titled "New or Substantially More Severe Significant Impacts to Unarmored Threespine Stickleback or Other Biological Resources"). The analysis determined that no such effect would occur.

The proposed "no water contact" construction approach for the project's bridges and bank stabilization features – although instituted to avoid impacts to and take of unarmored threespine stickleback – also precludes impacts on other fish in the Santa Clara River, including Santa Ana sucker. Thus, regardless of whether the Santa Ana sucker population upstream of the Piru "Dry Gap" will ultimately secure federal protection under the federal Endangered Species Act, the project will not result in significant impacts on the species.

The 2010 Final EIR already evaluated the project in relation to the Santa Ana sucker existing conditions, impacts, alternatives, and mitigation. (See, e.g., 2010 Final EIR, pp. 4.5-21, 125-126, 1035-1054.) The referenced genetics work does not change or alter the analysis already conducted in the 2010 EIR, as that analysis fully evaluated project impacts to the Santa Ana sucker. (*Ibid*.)

Comment No. 09-88:

IV. The AEA Fails as a CEQA Document and Must be Revised and Recirculated Before the project Can Move Forward
The conservation groups have closely monitored and raised concerns about this project for many years. The groups, along with others, successfully challenged the Department's 2010 approvals for the project in the California Supreme Court. The Court criticized the project's environmental review and ruled on behalf of Petitioners on two issues with far-reaching environmental consequences that affect all aspects of the Department's approvals. Specifically, the Court found mitigation measures BIO-44 and BIO-46 adopted by the Department violate Fish and Game Code section 5515 because they result in impermissible take of the fully protected unarmored threespine stickleback. (Center for Biological Diversity, supra, 62 Cal.4th 204 at pp. 232-237.) The Court also found that although the Department may use a hypothetical "business as usual" scenario for evaluating the significance of greenhouse gas emissions in accordance with the Supreme Court's opinion. (Id. at pp. 224-25, 228-29), no substantial evidence supports the Department's finding that the project's greenhouse gas emissions will not result in a cumulatively significant environmental impact. (Id. at pp. 225-27.)

The facts of the case and the relevant case law required setting aside the legally defective approvals for the project and associated environmental review, after which the Department should have prepared a subsequent EIR. Those approvals include the Master Streambed Alteration Agreement (Notification No. 1600-2004-0016- RS) and Incidental Take Permits Nos. 2081-2008-012-05 and 2081-2008-013-05.I. Instead, the Department chose to keep those prior approvals in place and augment its prior environmental review with this AEA. (AEA 1-4 "the AEA augments the environmental information developed in the 2010 Final EIR. CDFW will take into account the combination of the 2010 Final EIR with its supporting materials

and the AEA when it considered related final action in the future.") In addition to the inadequacies in its environmental analysis that are detailed above, the AEA does not meet the statutory or regulatory requirements for an environmental review document under CEQA. Therefore, the AEA is an inadequate response to the Supreme Court's ruling and fails as a CEQA.

Response No. 09-88:

The comment presents a legal argument regarding the proper scope of the AEA. According to the comment, the two issues on which the Supreme Court ruled in Petitioners' favor – greenhouse gas emissions and the potential for Mitigation Measures BIO-44 and BIO-46 to cause take of unarmored threespine stickleback – have "far-reaching environmental consequences that affect all aspects of CDFW's approvals." The comment states that due to these alleged far-reaching consequences, all CDFW-issued project approvals should have been set aside, and CDFW should have prepared a subsequent EIR. The comment is critical of CDFW for keeping those project approvals in place and claims the AEA "is an inadequate response to the Supreme Court's ruling and fails as a CEQA document."

The thrust of this comment is that CDFW should have voided all approvals for the project and expanded the scope of the AEA to include the full range of CEQA impact categories – e.g., everything from biota to public facilities to traffic to visual resources. The comment, however, is not consistent with the Supreme Court decision or CEQA. Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding the scope of the AEA. The legal decision as to the nature and scope of the project are also within the discretion of CDFW under CEQA.

First, the Supreme Court's decision in *Center for Biological Diversity v. California Dept. of Fish & Wildlife* (2015) 62 Cal.4th 204 invalidated two distinct portions of the 2010 Final EIR, namely: (i) the determination that the project's GHG emissions would be less than significant was not supported by substantial evidence, and (ii) Mitigation Measures BIO-44 and BIO-46 violated the Fish and Game Code section 5515 prohibition against authorizing the take or possession of the fully protected stickleback species. No other portion of the Final EIR was found to be deficient; and, thus, the AEA has limited scope addressing the two issues where the Supreme Court found the prior analysis inadequate. Further, CDFW has determined, after careful review, that these two distinct portions of the Final EIR do not present "far reaching" environmental consequences requiring a reevaluation of the entire 2010 Final EIR, particularly where, as here, the Draft AEA presents avoidance measures for impacts associated with both GHG emissions and stickleback.

Specifically, in response to the Supreme Court's decision, the project applicant has proposed to CDFW to modify the previously approved project in two respects. As to the GHG issue addressed by the Supreme Court, the project applicant has committed to achieve zero new GHG emissions for the project with implementation of 13 mitigation measures, Mitigation Measures 2-1 through 2-13 described in the Draft AEA, which would reduce, mitigate, and offset 100 percent of the project's GHG emissions. With respect to unarmored threespine stickleback, the project applicant has proposed modified construction methods for bridges and bank stabilization in or near the Santa Clara River to obviate the need for the two prior Mitigation Measures BIO-44 and BIO-46, which were the only focus of the Supreme Court's decision.

Second, CDFW has determined that, after careful consideration, other environmental impacts resulting from approval and implementation of the project have been adequately addressed in the 2010 Final EIR. Also, CDFW has determined that consideration of alternatives, growth inducing impacts, and cumulative impacts are adequate in the 2010 Final EIR, except that cumulative impacts relating to GHG emissions and unarmored threespine stickleback are reviewed in the Draft AEA in light of the environmental impacts of the project applicant's proposed modifications related to GHG emissions and unarmored threespine stickleback. For information regarding other topics beyond GHG emissions and unarmored threespine stickleback, please refer to the 2010 Final EIR and related documents, all of which can be accessed and downloaded from the CDFW webpage: www.wildlife.ca.gov/regions/5/newhall. For further responsive information, please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding the scope of the AEA.

Comment No. 09-89:

A. The AEA Fails to Adequately Respond to the California Supreme Court's Ruling in Center for Biological Diversity v. Department of Fish and Wildlife

In 2015, the Supreme Court held that the Department violated CEQA by failing to support its conclusions regarding the project's greenhouse gas impacts with substantial evidence and by violating the Fish and Game Code's prohibition against "taking" fully protected species. (Center for Biological Diversity, supra, 62 Cal.4th at p. 240.) There are no parts of the project that can be severed from the parts infected by these violations. The appropriate next step by the Department was to decertify the project's Environmental Impact Report and setting aside the project and all project approvals that depend on the legally defective portions of the EIR.52 Partial decertification of an EIR is not consistent with the role of the EIR in the CEQA process and thus is in conflict with one of the core purposes of CEQA. As the court in Landvalue 77 succinctly held, "[t]he statutes and CEQA Guidelines provide for the certification of an EIR when it is complete, and the concept of completeness is not compatible with partial certification. In short, an EIR is either complete or it is not." (Landvalue 77, LLC v. Board of Trustees of California State University (2011) 193 Cal.App.4th 675, 682.).

[52] *This issue was raised in detail at the Los Angeles Superior Court as part of briefing on the remedy for Center for Biological Diversity v. Department of Fish and Wildlife (Case No. B131347) on December 9, 2016. That briefing is attached to this letter at Ex. QQ.*

Response No. 09-89:

The comment states the Supreme Court's decision held that CDFW "violated CEQA by failing to support its conclusions regarding the project's greenhouse gas impacts with substantial evidence," and violated the "Fish and Game Code's prohibition against 'taking' fully protected species." The decision is cited in the comment and titled, Center for Biological Diversity v. California Dept. of Fish & Wildlife (2015) 62 Cal.4th 204. The comment further states that the project cannot be "severed" and that CDFW should decertify the entire 2010 Final EIR and set aside "the project and all project approvals that depend on the legally defective portions of the EIR." Citing Landvalue 77, LLC v. Board of Trustees of Cal. State Univ. (2011) 193 Cal.App.4th 675, 682, the comment contends that partial decertification of an EIR is not consistent with CEQA.

Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding scope of the AEA, which addresses this comment. The balance of the comment presents related legal arguments and does not raise any environmental issue concerning the adequacy of the substantive information in the Draft AEA. The comment's legal arguments will be presented to CDFW prior to a final decision on whether to: (i) certify the environmental analysis and (ii) approve the project as modified.

Comment No. 09-90:

Here, the Final EIR for the project is clearly not complete and the limited environmental review in the AEA does not fill the remaining gaps. For example, the EIR's discussion of alternatives cannot stand based on the EIR's inadequate analysis of greenhouse gas impacts, as this error is fundamental to the comparison of various alternatives' environmental consequences. Similarly, the invalidation of mitigation measures BIO-44 and BIO-46 affects the entire suite of biological mitigation measures, and means that the project will have a significant impact that is not addressed anywhere in the existing EIR.

Response No. 09-90:

This comment asserts the Final EIR's discussion of alternatives should have been revised because the Supreme Court found deficiencies in the Final EIR's analysis of GHG emissions. As discussed in prior responses and in AEA Section 1.0, the Supreme Court's decision only found fault with the portion of the environmental analysis that addresses the significance of the project's GHG emissions (i.e., holding that substantial evidence did not support the less-than-significant determination) and the validity of two mitigation measures for the unarmored threespine stickleback under Fish and Game Code section 5515. No other aspect of the environmental evaluation was re-opened and CEQA affords a strong

presumption against requiring additional analysis. See also CDFW's revised notice for the Draft AEA, which limits requests for comments to the two topics addressed in the AEA. In addition, the analysis of alternatives in the Final EIR was raised in the *CBD v. CDFW* case, and the Court did not find fault with the alternatives analysis presented in the Final EIR or CDFW's consideration and rejection of the studied alternatives. Therefore, this comment is outside the scope of the AEA and no further response is needed.

Nonetheless, the following is provided for informational purposes.

The project has not changed from the project analyzed in the prior EIR. Alternatives were not the subject of the decision by the California Supreme Court or the Court of Appeal on remand and are not part of the revised analysis as required by the courts. As provided by CEQA, alternatives are analyzed in order to find project revisions or mitigation measures to lessen environmental impacts. As noted by the lead agency and by ARB, the project will not result in any net GHG emissions after implementation of mitigation measures. The lead agency has determined "the project will not make any contribution to cumulative GHG emissions, so the GHG impact would be less than significant after mitigation." Given that the project has not changed, alternatives were not the subject of the Supreme Court and Court of Appeals decisions and actions, and there is no significant CEQA impact, there is no basis for a new alternatives analysis.

Under CEQA, an EIR must analyze a range of reasonable alternatives to a project "which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." (CEQA Guidelines § 15126.6(a).) The Final EIR did this, analyzing seven alternatives to the project, including one No Action/No Project alternative and six "build" alternatives (Final EIR, Section 5.0) that would avoid or substantially lessen any of the significant effects of the project. The project's significant and unavoidable environmental impacts after the implementation of mitigation measures occurred in the categories of air quality, noise, agricultural resources, visual resources, solid waste (project-specific and cumulative), hazards, hazardous materials and public safety (cumulative only), and land use (project-specific only). (CDFW, CEQA Findings of Fact and Statement of Overriding Considerations, Dec. 3, 2010, at 19.) The Final EIR did not identify an unavoidable significant impact related to biological resources or climate change.

Following the Supreme Court's ruling, the lead agency prepared the Draft AEA, which imposed new mitigation measures relating to GHG emissions and take of the unarmored threespine stickleback. The Draft AEA circulated for public review provides the additional evidence that allows CDFW to determine, based on substantial evidence, that the project will not result in a significant impact related to GHG emissions. Specifically, the project, as mitigated, results in *no* impact to climate change because of its achievement of net zero GHG emissions and, therefore, would not cause any new or increased significant environmental impacts. The newly recommended Mitigation Measures 2-1 through 2-13 set forth in the AEA also would equally apply to the seven alternatives studied in the Final EIR, reducing the emissions of all alternatives to net zero emissions. The AEA provides the substantial evidence addressing the Supreme Court's decision on GHG emissions.

The comment states that the invalidation of Mitigation Measures BIO-44 and BIO-46 "affects the entire suite of biological mitigation measures, and means that the project will have a significant impact that is not addressed anywhere in the existing EIR."

Mitigation Measures BIO-44 and BIO-46 were invalidated by the Supreme Court decision in *Center For Biological Diversity v, California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, and their elimination does not affect the remainder of the mitigation measures in the biological resources section of the 2010 Final EIR. As stated in the Draft AEA, the Supreme Court held that CDFW's 2010 approval of mitigation measures (BIO-44 and BIO-46) violated the Fish and Game Code section 5515 prohibition against authorizing the take or possession of fully protected species. Specifically, the Supreme Court held that "Mitigation measures BIO-44 and BIO-46 provide for collection and relocation of special status fish, including the unarmored threespine stickleback, during construction in, or diversion of, the Santa Clara River." (*Id*. 62 Cal.4th at p. 231.)

BIO-44 and BIO-46, along with Mitigation Measures BIO-45 and BIO-47, were to be implemented, as originally approved by CDFW in 2010, in the context of a "stream crossing and diversion plan," including a stream diversion bypass channel comparable to the natural river channel. By mimicking the natural river channel, the mitigation would have offset identified impacts to fish and other special-status species resulting from disturbance caused by in-river construction activities during installation of the project's bridges and bank stabilization. The stream diversion plan also contemplated fish stranding surveys, fish stranding inspections, and the collection and relocation of stranded fish, if necessary, including stickleback. When the Supreme Court held that BIO-44 and BIO-46 could not be implemented for the reasons stated, the applicant proposed to CDFW to modify the bridge design and construction methods, as well as the construction timing, for the bridges and bank stabilization to preclude all contact with the wetted channel of the Santa Clara River during construction, thus avoiding impact on and the prospect of take of unarmored threespine stickleback. Specifically, the project has proposed to avoid all construction work in the wetted channel of the Santa Clara River, which obviates the need for a stream diversion plan or for creating a stream diversion bypass channel. The purpose of the project's modified bridge design and construction methods is to avoid contact with the wetted channel of the river, and the potential to strand or cause other adverse impacts to fish or other special-status species. This is explained thoroughly in Chapter 3 of the Draft AEA. In the absence of water contact, and in the absence of any dewatering or stream diversion activities that might affect unarmored threespine stickleback, there is no longer any need to "collect and relocate" stickleback pursuant to Mitigation Measures BIO-44 and BIO-46. Consequently, these two mitigation measures, which the Supreme Court determined were invalid, are no longer necessary, and CDFW's Errata to Mitigation Monitoring and Reporting Plan (MMRP) eliminates BIO-44 and BIO-46 from the MMRP.

Further, CDFW has determined that the elements of Mitigation Measures BIO-45 and BIO-47 that specifically require temporary stream diversions or creation of slow-moving water habitats are no longer needed to avoid, minimize, and mitigate construction impacts to unarmored threespine stickleback or other special status species because the proposed modified bridge design and construction methods no longer require work in the wetted channel or the creation of a stream diversion bypass channel during construction. As Chapter 3 of the Draft AEA makes clear, the project's modified bridge design and construction methods, along with the identified project features and new mitigation, avoid contact with water and the wetted channel of the Santa Clara River, eliminating the need for stream diversion. These modifications to the project enable construction to occur without the need for work in the wetted channel of the river, and without the need to divert waters, create a stream diversion plan or bypass channel, collect and relocate special status fish, or adversely impact other special status species.

As a result of these modifications, BIO-45(a) is not applicable because a stream diversion bypass channel will not be created and there will not be any construction work within the wetted channel. BIO-45(b) also is inapplicable because Section 2.2 of the Final AEA has adopted revised mitigation, which is more restrictive than BIO-45(b) and only applies to the installation of the bank stabilization, as bridge construction methods do not require dewatering. The new requirement is found in Mitigation Measure 3-3. Specifically, Mitigation Measure 3-3f requires the applicant to implement a CDFW reviewed and approved construction groundwater dewatering plan prior to construction of each area of bank stabilization, along with specific performance standards and monitoring of river elevations to ensure no effect on the wetted channel.

Similarly, BIO-47 is not applicable because project construction will not disturb or divert stream waters within the Santa Clara River. BIO-47 was designed to mitigate impacts resulting from stream diversions or construction within the wetted channel by creating slow-moving water habitats. As stated above, there will be no need for stream diversion or a bypass channel. In short, BIO-47 is no longer applicable to protect fish or other special status species because stream habitat will not be impacted by stream diversions, and project construction will not require diverting waters, creating a stream diversion plan or bypass channel, collecting or relocating special status fish, or adversely impacting other special status species. Relatedly, CDFW also has determined that the project as modified can be implemented consistent with Fish and Game Code section 5515.

As described in Chapter 3 of the Draft AEA and Section 2.2 of the Final AEA, the project would not create impacts on unarmored threespine stickleback that remain unmitigated. The modified "no water contact" bridge design and construction methods for bridges and bank stabilization, including the preemptive mitigation measures described in the Draft AEA, ensures that the project will avoid any significant impact on unarmored threespine stickleback. The elimination of Mitigation Measures BIO-44 and BIO-46 does not, as stated in the comment, "affect the entire suite of biological mitigation measures." Instead, the elimination of Mitigation Measures BIO-44 and BIO-46 results in a modification in the construction method and timing for bridges and bank stabilization, avoiding the wetted channel and avoiding impacts on the stickleback and rendering Mitigation Measures BIO-44 and BIO-46 unnecessary.

In addition, as discussed further below, CDFW has evaluated the remaining mitigation measures from the biological resources section of the 2010 Final EIR in light of the proposed avoidance of all construction work in the wetted channel of the river, and has determined that the remaining mitigation measures adequately minimize and mitigate biota impacts identified in the 2010 Final EIR.

Moreover, the comment does not explain *how* elimination of Mitigation Measures BIO-44 and BIO-46 affects the entire suite of other biological resource mitigation measures in the 2010 EIR. Without such an explanation, CDFW is unable to respond further to this comment.

The comment also infers that CDFW did not consider the prospect of whether invalidation of mitigation measures BIO-44 and BIO-46, and their elimination from the MMRP, would affect the suite of other biological resource mitigation measures. The CDFW does not concur with the comment.

In fact, CDFW considered the broader environmental spectrum of potential significant impacts, absent the two mitigation measures, and whether the proposed bridge design and construction methods would "cause new significant or more severe environmental effects generally, as compared to the effects analyzed and disclosed in the 2010 Final EIR." (Draft AEA, p. 3-1.) Based on this broader context, CDFW determined that "[n]o such effects would occur, however, but for the potential effects to unarmored threespine stickleback, other fish and wildlife, and their habitats" discussed in the Draft AEA. (*Ibid*.) CDFW explained that "[n]o new significant or more severe significant effects to other resources would occur, because of the limited nature of the modifications to the project that eliminate the need for the two mitigation measures (BIO-44 and BIO-46) that were the focus of the California Supreme Court decision." (*Ibid*.) The CDFW analysis was made in both a regional context and on a more local scale. (Draft AEA, p. 3-2.)

CDFW also undertook this analysis in the context of the engineering, hydrologic, and geomorphic information presented in Chapter 3 of the Draft AEA, including Draft AEA Appendix 4 (Effects to Unarmored Threespine Stickleback). Specific to that analysis, CDFW's engineering review asked whether the proposed bridge design and construction timing and methods would change any proposed mitigation measures and EIR or require additional measures. (Draft AEA, Appendix 4 [Department engineer review memorandum, pp. 2, 8-9].) In that engineering review, CDFW determined that the proposed timing and modified construction methods did not appear to change or invalidate other mitigation measures; however, the timing and methods did require additional project design features and mitigation measures set forth in Chapter 3 of the Draft AEA. The project design features include measures "to control contaminants, constrain work areas, avoid the wetted channel, and monitor and adjust project activities as needed to protect resources and minimize [the] opportunity for take of unarmored threespine stickleback." (Draft AEA, Appendix 4 [Department engineer review memorandum, pp. 8-9].)

Comment No. 09-91:

The AEA used by the Department to remedy the defects identified by the Supreme Court is not consistent with controlling law and is not in accordance with the closely interconnected nature of the Department's approvals. Instead, the approach taken by the Department here has improperly tied the Department's hands by precluding consideration of all feasible means of reducing or avoiding the project's environmental impacts as evidenced by the AEA's overly narrow and limited scope. These self-created constraints have resulted in an inadequate and incomplete environmental review document as the sections above detailed.

Response No. 09-91:

The comment states the AEA "is not consistent with controlling law and is not in accordance with the closely interconnected nature of CDFW's approvals." The comment states that CDFW's approach to responding to the writ of mandate precludes "consideration of all feasible means of reducing or avoiding the project's environmental impacts as evidenced by the AEA's overly narrow and limited scope." Finally, the comment claims these "self-created constraints have resulted in an inadequate and incomplete environmental review document[.]"

As to the first point, the comment does not explain how the Draft AEA is inconsistent with controlling law or out of step with CDFW's approvals. Without a more specific critique, CDFW cannot respond meaningfully to this portion of the comment.

Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding the scope of the AEA, which addresses this comment.

Regarding the claim that CDFW's approach to the writ of mandate precludes consideration of all feasible means of reducing the project's impacts, the comment does not reflect the scope of the AEA as required by CEQA. CDFW, through the AEA and its mitigation plan, has adopted measures that (i) reduce the project's impacts to less than significant levels, and (ii) preclude take of unarmored threespine stickleback. Accordingly, CDFW has addressed the Supreme Court decision and supports its less-than-significant impacts findings.

Given that the project's GHG emissions been reduced to net zero and Mitigation Measures BIO-44 and BIO-46 have been eliminated and there is no significant impact from project construction on the stickelback, it is unclear how the project has not adopted all feasible mitigation measures because there are less-than-significant impacts related to the two issues covered by the Draft AEA (see **Topical Response 1: Scope of the Additional Environmental Analysis**).

Moreover, neither CEQA nor the Fish and Game Code require that CDFW consider "all feasible means of reducing or avoiding the project's environmental impacts" when the impacts in question already have been fully mitigated by the measures selected by the lead agency.

Comment No. 09-92:

Instead, the appropriate response to the Supreme Court ruling is for the defective legal approval to be set aside and the Final EIR from 2010 should be de-certified. After which the Department should examine the project, in total, and its impacts on the environment in a revised EIR. It is the conservation groups' view that any form of environmental review more narrow or limited would inadequate and impermissible under CEQA.

Response No. 09-92:

The comment reiterates Petitioners' legal position that CDFW should (i) set aside all of the project approvals, and (ii) de-certify the entire 2010 Final EIR. According to the comment, CDFW "should examine the project, in total, and its impacts on the environment in a revised EIR." Petitioners believe that, under CEQA, this is the only permissible response to the Supreme Court's decision.

This comment repeats the same points raised in Comment 88. For that reason, please see **Response to Comment No. 09-88**. The legal decision as to the nature and scope of the writ and what elements of the project are required to be set aside will be made by the court.

Comment No. 09-93:

B. It Remains Unclear What Form of CEQA Document the Department Intended to Prepare

As a preliminary matter, the AEA does not appear to expressly state whether it is a supplemental EIR, a subsequent EIR, or some other type of CEQA compliance document such as a revised EIR. The term

"Additional Environmental Analysis" does not appear in any statute or regulation associated with CEQA. The Department's failure to identify the type of CEQA document and cite substantial evidence supporting its decision to prepare that document constitutes a violation of CEQA. If the original EIR is decertified, a revised draft EIR is the appropriate CEQA document. If the EIR is not decertified, a "subsequent EIR or a supplement to an EIR must be prepared if the lead agency determines, on the basis of substantial evidence in light of the whole record," that changes have occurred to the project, as set forth in Public Resources Code Section 21166. (9-303 CALIFORNIA REAL ESTATE LAW & PRACTICE Section 303.24.)

Courts have faulted agencies for failing to make these required determinations. In City of San Jose v. Great Oaks Water Co. (1987) 192 Cal.App.3d 1005, the lead agency substantially changed the nature of a project by modifying the project's sources of water supply. (Id. at 1015.) The Court concluded: "the City violated CEQA by failing to make a determination whether a subsequent or supplemental EIR was required by the redesign of the project, or whether an addendum to the final EIR would suffice." (Id. at 1017, emphasis added.) The Department committed the same procedural error in this instance by failing to make an express determination in light of the evidence as to whether a subsequent EIR, supplemental EIR, addendum to EIR, or revised EIR was required.

Response No. 09-93:

The comment states it is unclear what form of CEQA document CDFW has prepared when it published its November 2016, "Notice of Availability of the Draft Additional Environmental Analysis for the Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Environmental Impact Report."

The Notice of Availability summarized the project and its modifications in response to the Supreme Court's decision and provided notice of the public review/comment period for the Draft AEA, which began on November 3, 2016 and ended on January 6, 2017. The Notice made the Draft AEA was available for public review at three CDFW's offices and at six libraries in Los Angeles and Ventura counties. And, the Draft AEA was made available for public review on CDFW's webpage.

In addition, in December 2016, CDFW issued a revised Notice of Availability to announce the extension of the public review/comment period for the Draft AEA to February 13, 2017. Thus, CDFW provided a total of 75 days for public review and comment on the Draft AEA.

The Revised Notice also called for "[w]ritten comments limited to issues addressed in the Draft AEA." This was appropriate because the mechanism under CEQA for correcting the analysis in response to the Supreme Court's decision is to revise and recirculate the portions of the EIR that contained the identified deficiencies in accordance with CEQA's "recirculation" provisions under CEQA Guidelines Section 15088.5. Section 15088.5(c) states in relevant part that when necessary revisions are "limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified." Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding the scope of the AEA, which addresses this comment.

The comment states that CDFW has committed a procedural error under CEQA by not determining whether a subsequent EIR, supplemental EIR, addendum, or revised EIR was required, citing City of San Jose v. Great Oaks Water Co. (1987) 192 Cal.App.3d 1005, 1017. CDFW does not concur. Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding the scope of the AEA.

CDFW has determined it has (i) selected the appropriate form and type of environmental document – the AEA, and (ii) provided notice and an opportunity for the public and other agencies to review and comment on the draft, recirculated AEA. For those reasons, and for the reasons explained in **Response to Comment No. 09-88**, CDFW also has determined that neither a subsequent EIR, a supplemental EIR, nor an addendum was appropriate under the circumstances presented, particularly after taking into account the project's litigation and the Supreme Court directives.

Please also refer to **Response to Comment No. 09-88** for further responsive information.

Comment No. 09-94:

C. Regardless of the Title of the Environmental Review Document, CEQA Requires a Broader Analysis of the project's Environmental Impact than the AEA

Despite the Supreme Court ruling and the numbers of years that have passed since the Department last conducted an environmental review of the project, the AEA includes a very narrow and limited approach to its analysis focusing only on "the consideration of the project applicant's proposed revisions to the GHG reduction measures and to the method by which the bridges and bank stabilization would be constructed." (AEA 1-1.) This narrow scope precludes the necessary comprehensive analysis of the project impacts and conflicts with CEQA.

Response No. 09-94:

The comment states that the AEA, by focusing only on revisions to the GHG reduction measures and to the modified construction methods and timing for the bridges and bank stabilization, "precludes the necessary comprehensive analysis of the project impacts and conflicts with CEQA."

The comment repeats positions taken above comments. Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding the scope of the AEA. Please also refer to **Responses to Comment Nos. 09-88, 09-89, 09-90,** and **09-91.**

Comment No. 09-95:

For example, as noted above, the GHG analysis fails to analyze the potential environmental impacts associated with the proposed mitigation measures, including achieving ZNE. (See Section I(B)(1); see also CEQA Guidelines § 15126.4(a)(1)(D).) The AEA fails to provide an analysis of the potential environmental impacts of the proposed mitigation measures or even the information necessary to conduct such an analysis. The absence of such information and the failure to complete an analysis of the potential impacts from proposed mitigation measures violate CEQA.

Response No. 09-95:

This comment asserts that the AEA fails to analyze the potential environmental impacts of mitigation measures, including the mitigation measures relating to ZNE. This is not the case. As discussed above in **Response to Comment No. 09-21**, CEQA Guidelines Section 15126.4(a)(1)(D) requires "If a mitigation measure would cause one or more significant effects in addition to those that would be caused by the project as proposed, the effects of the mitigation measure shall be discussed but in less detail than the significant effects of the project as proposed." There would be no environmental impact from requiring that residences and commercial and public buildings achieve ZNE, because the measures used to achieve such standards include the implementation of building design requirements to reduce energy consumption and the use of solar and other renewable energy resources.

The specific performance standards identified in **Response to Comment No. 09-21** require that the commitments in Mitigation Measures 2-1 and 2-2 must be achieved. The limited scope of development to achieve ZNE supports a finding that Mitigation Measures 2-1 and 2-2 would not result in a new significant impact. However, to further support this determination, Ramboll Environ completed a technical review, included in Final AEA Appendix 10, which concludes that implementation of these mitigation measures would not result in any new significant impacts.

Comment No. 09-96:

Similarly, the "no water contact" construction approach described by the AEA fails to address the long-term impacts of the redesigned bridges and their construction on the unarmored three-spine stickleback. Impacts

such as "dry season" pile driving and potential changes to drainage features outside the wetted channel are left unanalyzed.

Response No. 09-96:

The comment states that the AEA fails to evaluate "the long-term impacts of the redesigned bridges and their construction on the unarmored three-spine stickleback. The comment cites two impacts – effects from "dry season" pile driving and "potential changes to drainage features outside the wetted channel" – that require further analysis.

As an initial matter, the long-term impacts of constructing the bridges and bank stabilization improvements were addressed in the previously certified 2010 Final EIR; and no one challenged the 2010 FEIR's analysis of these impacts. Thus, the issues are barred from further consideration. (Ballona Wetlands Land Trust v. City of Los Angeles (2011) 201 Cal.App.4th 455, 479-480.)

Further, given that the location, size, and proposed uses of the bridges and bank stabilization features have not changed since the 2010 Final EIR was certified, there is no reason to revisit or reevaluate those impacts in the AEA. While the spans between bridges have been increased from 100 feet to 165 feet, this merely reduces the number of bridge piers; it does not alter the long-term impact analysis, other than to incrementally reduce the impacts resulting from the reduced number of bridge piers. In short, the modified construction methods do not trigger the need for a new analysis of the long-term effects of operating the bridges or bank stabilization features. The fact that installation of the bridges and bank stabilization must occur during dry periods to avoids contact with the wetted channel of the river likewise creates no change to the 2010 Final EIR's long-term impacts analysis.

With respect to the two "long-term impacts" cited in the comment – dry season pile driving and effects on drainage features outside the wetted channel – there is no evidence that such impacts will occur or be significant. As discussed in **Response to Comment No. 09-73**, there will be no "impact/hammer" pile driving at any of the bridges. Instead, the permanent bridges at Commerce Center Drive and Long Canyon Road will be constructed with Cast-in-Drilled-Hole piles that do not involve pile driving. In addition, the piers for the temporary haul routes will be installed using vibratory (rather than hammer-style) pile driving, the impacts of that were analyzed in the Draft AEA and determined to be less than significant. (See Draft AEA, Section 3-2, pp. 3-32-3-33.) The comment does not identify which "drainage features outside the wetted channel" might be affected by bridge and bank stabilization construction. However, please refer to **Response to Comment Nos. 09-146, 09-151, and 09-153** for information responsive to whether drainage or water features tributary to the wetted channel, but outside of it, and would be impacted during construction, leading to associated impacts within the wetted channel.

Comment No. 09-97:

Most troubling, the AEA fails to revise or update the analysis of the project's environmental impacts in light of changed circumstances. The most recent environmental analysis for the project's environmental impacts was in 2010 in the Final EIR. In addition, the Final EIR also relied upon studies that dated further back. (See CDFW FEIR at 4.8-1 [CDFW FEIR traffic analysis was based on a 2008 Austin-Foust traffic analysis].)

Response No. 09-97:

Preliminarily, the comment states that the project's environmental impacts analysis, and in particular its traffic analysis, needs to be revised or updated in light of "changed circumstances," but the comment does not provide any evidence or information of such "changed circumstances." Because the comment has been raised as a general assertion without any specific support, a general response is all that is required. (Paulek v. California Dept. Water Resources (2014) 231 Cal.App.4th 35, 47.) Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding scope of the AEA. Moreover, any comments regarding the legal adequacy of the 2010 Final EIR traffic analysis are beyond the scope of the AEA, which properly focuses on GHG and stickleback issues consistent with the Supreme Court's decision. Further,

criticisms over the traffic data were raised, or could have been raised, in connection with the 2010 Final EIR and are beyond the scope of the AEA analysis.

Notwithstanding, for information purposes, the methodology used to conduct the 2010 Final EIR traffic impact analysis accounted for anticipated future increases in traffic volumes on the study area roadways and, therefore, any change in traffic volumes that has occurred over the years is accounted for as part of the analysis. Thus, any increases in traffic volumes on the study area roadways that have occurred during the intervening years do not constitute substantial changes in traffic conditions requiring major revisions to the EIR traffic impact analysis and, therefore, no update of the EIR traffic analysis is required. In addition, though the project has modified construction methods for the two permanent bridges, those modifications do not in any way change or alter traffic flow on those bridges. Please refer to **Topical Response 4: Traffic Impact Analysis** for additional information responsive to this comment.

Comment No. 09-98:

More recent studies show that circumstances have changed in a way that could impact the project's environmental impacts. For example, the AEA notes that "during the 2014 and 2015 surveys, no unarmored threespine stickleback or other species native to the Santa Clara River were observed in the project area. (AEA 3-11.) Instead, "during the habitat surveys, CDFW observed unarmored threespine stickleback between the Old Road Bridge and the Valencia WRP discharge, upstream of the project area in August 2015." (Id.) These surveys results differ from the surveying done in the Final EIR and require the AEA take a broader analysis of unarmored threespine stickleback populations in the Santa Clara River and how they will be impacted by the project, rather than just analyzing how the proposed modifications to the project will impact the species.

Response No. 09-98:

The comment states that the AEA fails to account for changes in environmental conditions that have occurred since CDFW certified the 2010 Final EIR. By way of example, the comment cites differences in the 2014 and 2015 unarmored threespine stickleback surveys conducted for the Draft AEA and the unarmored threespine stickleback surveys conducted for the 2010 Final EIR. According to the comment, the differences in unarmored threespine stickleback survey results "require the AEA take a broader analysis of unarmored threespine stickleback populations in the Santa Clara River and how they will be impacted by the project, rather than just analyzing how the proposed modifications to the project will impact the species."

First, the previously certified 2010 Final EIR determined that only two aspects of the project have the potential to cause significant impacts on unarmored threespine stickleback – bridge construction and bank stabilization. No party challenged that determination or indicated that other components of the project had the potential to adversely affect unarmored threespine stickleback. Thus, consistent with the 2010 Final EIR, the Draft AEA likewise focused on bridge construction and bank stabilization as the sources of potentially significant impacts on unarmored threespine stickleback. There is no evidence that the modified construction methods in the project – whether related to bridges and bank stabilization – will result in new or more severe impacts on unarmored threespine stickleback than those studied and disclosed in the 2010 Final EIR.

Second, the fact that the 2014 and 2015 unarmored threespine stickleback survey results differ somewhat from those used in the 2010 FEIR is neither surprising nor cause to redo the entire 2010 Final EIR analysis. As ENTRIX pointed out in its 2010 report on unarmored threespine stickleback, and as the Draft AEA reiterated, "the presence of unarmored threespine stickleback is variable (ranging from rare or absent in certain reaches of the river, to locally abundant in any given year) in the project reach." (See Draft AEA, Section 3.1.3, p. 3-10.) Due to these variations, the 2010 Final EIR assumed the unarmored threespine stickleback was present "at all pertinent locations (i.e., where project-related impacts might occur) within the project reach of the Santa Clara River." (Id.)

Third, as the comment acknowledges, the Draft AEA does account for changed environmental circumstances by using the 2014 and 2015 unarmored threespine stickleback survey data to update the unarmored

threespine stickleback survey data used in the 2010 Final EIR. That the 2014 and 2015 survey results differ from those incorporated in the 2010 Final EIR's impact analysis does not require a new analysis of the overall project's impacts on unarmored threespine stickleback. This is particularly true here, given that the AEA – despite the "no unarmored threespine stickleback presence" findings of the 2014 and 2015 surveys – nevertheless assumed the species was present throughout the project area. (See Draft AEA Section 3.1.3, pp. 3-10—3-11.) This was the same assumption the 2010 Final EIR used in its analysis of project impacts on unarmored threespine stickleback. (See Draft AEA Section 3.1.3, pp. 3-10.)

Please refer to **Response to Comment No. 09-88** for further responsive information.

Comment No. 09-99:

Also as noted above, new federal actions and collection of additional scientific data have occurred since the 2010 Final EIR and now. These "changed circumstances" impact rare species that likely occur within the project area and should considered in any new environmental review of the project. Examples of project impacts to species that should have been re-analyzed include but are not limited to arroyo toad and Santa Ana sucker fish. Other issues that should be reanalyzed in light of new circumstances include water availability, air quality and traffic.

Response No. 09-99:

The comment reiterates points raised in **Response to Comment No. 09-86,** stating that "new federal actions and collection of additional scientific data have occurred since [sic] the 2010 Final EIR and now." According to the comment, examples of project impacts to species that should have been reanalyzed "include but are not limited to arroyo toad and Santa Ana sucker fish." For responsive information, please refer to **Response to Comment Nos. 09-86** and **09-87**.

Comment No. 09-100:

Water availability and quality is a critical issue for California, with substantial implications for land use, the economy, and the environment. Since 2011, the state has been experiencing severe drought conditions, prompting a mandatory 25% reduction in municipal water use, cuts to senior agriculture water rights, and the 2014 Sustainable Groundwater Management Act. (Wilson 2016, attached as Ex. TT) Not only are the state's human residents vulnerable to impacts of drought, so too are its iconic plants, animals and regions. In the face of climate change, the gap between supply and demand will continue to widen as the existing water deficit is unreconciled with increased pressures from development, population growth and agriculture. (Wilson 2016, Ex. TT) California's water supply relies heavily on snow pack in the Sierra Nevada Mountains, which has been at record lows the past few years. (Weiser 2016, attached as Ex. SS) As the snow pack continues to diminish, California has become increasing dependent on groundwater extraction to meet its water needs. Aquifer depletion and land subsidence have become a serious concern as an increasingly warmer climate has resulted in less snowpack, less rain and more evaporation. (Cooley 2016, attached as Ex. RR) In light of California's severe drought, the long-term of availability of water for the project and the impact of the project on the region's limited water supply should be re-examined.

Response No. 09-100:

The comment states that in light of water availability, quality, and associated drought conditions, "the impact of the project on the region's limited water supply should be re-examined." CDFW does not concur. Please refer to **Topical Response 1: Scope of the Additional Environmental Analysis** regarding the scope of the AEA.

Nonetheless, for information purposes, the following information is provided.

First, as explained above, the scope of the Supreme Court's decision provides the basis for the issues addressed in the AEA. The Supreme Court decision does not require re-analysis of the project's water supply or water quality impacts and, instead, limit the required re-analysis to two distinct issues – significance findings regarding GHG emissions and invalidation of two construction-related mitigation measures related to stickleback. Any comments regarding the adequacy of the 2010 Final EIR's water supply and water quality

impact analyses are beyond both the scope of the Supreme Court's decision, and are barred by CEQA's 30-day statute of limitations, which required that any such claims be brought within 30 days following certification of 2010 Final EIR. (Pub. Resources Code, Section 21167, subd. (c); Ballona Wetlands Land Trust v. City of Los Angeles (2011) 201 Cal.App.4th 455, 479-480.)

Second, water supply impacts caused by drought conditions do not constitute significant new information as that term is defined under CEQA. (See, e.g., Citizens for Responsible Equitable Environmental Development v. City of San Diego (2011) 196 Cal.App.4th 515 [upholding use of an addendum to an EIR rather than subsequent CEQA review because information regarding drought and climate change did not constitute new information that required preparation for a subsequent or supplemental EIR].)

Third, the previously certified 2010 Final EIR thoroughly evaluated water supply and water quality impacts. The prior EIR's water supply/demand assessment also extensively addressed California's drought conditions and its effect on state and local water supplies. For further information, please refer to 2010 Final EIR, Section 4.3 Water Resources, and Section 4.4, Water Quality. CDFW has reviewed this comment, and has assessed whether there are substantial changes in the project or its circumstances that warrant any further analysis of the project's water supply and water quality impacts. Based on the comment and the water supply and water quality impacts already assessed, CDFW has determined there are no identified substantial changes in the project or its circumstances that warrant any further review or analysis of the project's water supply or water quality impacts.

Comment No. 09-101:

Air quality is a significant environmental and public health concern as unhealthy, polluted air contributes to, and exacerbates, many diseases and mortality rates. In the U.S., government estimates indicate that between 10-12% of total health costs can be attributed to air pollution. (VCAPCD 2003, attached as Ex. MM) Some of the nation's most polluted counties are in Southern California. (ALA 2016, attached as Ex. NN) Air pollution and its impacts are felt most heavily by young children, the elderly, pregnant women and people with existing heart and lung disease. People living in poverty are also more susceptible to air pollution as they are less able to relocate to less polluted areas, and their homes and places of work are more likely to be located near sources of pollution, such as freeways or ports, as there areas are more affordable. (BAAQMD 2016, attached as Ex. OO; ALA 2016) Pollution sources include transportation, industry and manufacturing, construction, the importation and movement of goods, and energy development.

Response No. 09-101:

This comment is an introduction to the comment that follows, and provides general background information regarding health issues associated with and sources of air pollution. The comment does not raise any specific issue regarding the environmental analysis presented in the Draft AEA and, therefore, no more specific response can be provided or is required. The comment will be included as part of the record and made available to the decision makers prior to a final decision on the project.

Comment No. 09-102:

Transportation presents one of the most significant sources of pollution in urban areas, where large segments of the population are constantly exposed to roads and traffic. (BAAQMD 2016; Newman, attached as Ex. PP.) As noted above, the project's GHG revisions have implications for its traffic analysis, which in turn can have implications for its air quality analysis. Similarly new data on traffic patterns and air quality could affect the project's GHG impacts and mitigation. The AEA seems to have revised trip generation estimates in some instances but failed to provide a comprehensive analysis of changed background conditions for traffic in the area. Rather than examining the GHG issue in isolation, the AEA should have analyzed each of these impacts fully in light of changed circumstances since the 2010 Final EIR. Analyzing only the GHG issue provides an incomplete picture to the public and fails to fully address the project's environmental impacts as required by CEQA.

Response No. 09-102:

The comment states that the AEA should re-analyze the air quality impacts of the project because the GHG emissions analysis has traffic implications and traffic generates air pollution. Please see **Topical Response 1: Scope of Additional Environmental Analysis**, which explains how the scope of this environmental analysis is pursuant to and consistent with the relevant 2015 decision issued by the California Supreme Court. As discussed at length in that response, the California Supreme Court's 2015 decision only found fault with the portion of the environmental analysis that addresses the significance of the project's GHG emissions and the validity of two mitigation measures for the unarmored threespine stickleback under Fish and Game Code section 5515. No other aspect of the environmental evaluation was re-opened and CEQA affords a strong presumption against requiring additional analysis. Notices for the Draft AEA, which limits requested for comments to the two topics addressed in the AEA, accords to the California Supreme Court's decision. Therefore, this comment is outside the scope of the AEA and no further response is needed.

Further, the subject of air quality was previously studied and evaluated by CDFW in Section 4.7, Air Quality, of the project's EIR. No legal challenge was brought against that analysis by the author of this comment or any other party. The comment does not identify any flaws or omissions with the prior air quality analysis that require additional considerations based on the AEA. The comment does not provide any basis for why supplemental analysis of air quality impact would be required.

Finally, the comment offers no evidence that the changed circumstances criteria set forth in CEQA Guidelines Section 15162 have been met. There is no evidence that new impacts or substantially more severe impacts to air quality would occur because of the project's GHG emissions analysis or the corresponding mitigation commitments. Instead, the Draft AEA's mitigation commitments for GHG emissions would reduce vehicle miles travelled and assist with the conversion of the historically internal combustion engine vehicle fleet to a zero-emission vehicle fleet (commitments that were not made in the 2010 Final EIR), thereby serving to beneficially reduce air pollution from traffic-related sources. The new mitigation commitments would likely achieve co-benefits in the form of traffic-related air quality emission reductions include: (i) the residential ZEV subsidy and charging equipment program (Mitigation Measure 2-4); (ii) the on-site and off-site ZEV charging equipment programs (Mitigation Measures 2-5 and 2-12); (iii) the Newhall Ranch TDM Plan (Mitigation Measure 2-6); (iv) the traffic signal synchronization improvements (Mitigation Measure 2-7); and (v) the zero-emission transit bus and school bus programs (Mitigation Measure 2-8 and Mitigation Measure 2-9). Additionally, although not necessary for the analysis of GHG emissions, non-traffic-related GHG mitigation measures proposed in the Draft AEA would likely have air quality co-benefits. More specifically, the ZNE commitments (Mitigation Measures 2-1 and 2-2), solar heating for swimming pools (Mitigation Measure 2-3), and the off-site building retrofit program (Mitigation Measure 2-11) would be reasonably expected to result in a reduction of air quality emissions. Traffic-related air pollution as well as overall air pollution is not expected to increase and could decrease based on the mitigation commitments for GHG emissions set forth in the Draft AEA. (Also see **Topical Response 4: Traffic Impact Analysis**.)

Comment No. 09-103:

Lastly, the AEA should have included an updated analysis of potential alternatives to the project since the AEA found a new significant impact from the project: its anticipated GHG emissions were higher than previously estimated. CEQA mandates that significant environmental damage be avoided or substantially lessened where feasible. (Pub. Res. Code § 21002; Guidelines §§ 15002(a)(3), 15021(a)(2), 15126(d).) An EIR "it must consider a reasonable range of potentially feasible alternatives that will foster informed decision decision-making and public participation." (Guidelines § 15126.6(a).) Even though the AEA includes mitigation measures that address the project's significant GHG emissions, it must still analyze alternatives to the project that would address the new significant impact. (Laurel Heights Improvement Assn v. Regents of Univ. of Cal. (1988) 47 Cal.3d 376, 403; Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 732.) Under CEQA, "the public agency bears the burden of affirmatively demonstrating that, notwithstanding a project's impact on the environment, the agency's approval of the proposed project followed meaningful consideration of alternatives and mitigation measures." (Mountain Lion Foundation v.

Fish & Game Com. (1997), 16 Cal. 4th 105, 134.) The AEA failure to include a revised analysis of alternatives violates CEQA.

Response No. 09-103:

This comment claims that the AEA should have included a revised alternatives analysis because the AEA identified a new significant impact relating to GHG emissions. To begin, the Draft AEA concluded that the project would achieve net zero GHG emissions, following implementation of the thirteen recommended mitigation measures, thereby avoiding any significant impacts. Please see **Response to Comment No. 09-90** above for information responsive to the request for preparation of a revised alternatives analysis. Also, please see **Response to Comment No. 09-105** below for information regarding the increase in the project's unmitigated GHG emissions, as compared to that previously estimated in the 2010 Final EIR; as explained in that response, the change is due to an evolution in the models and methods used to estimate GHG emissions. In closing, because the project would not result in a new significant GHG impact, no new alternatives analysis is required.

Comment No. 09-104:

D. If the Approvals for the project is Kept in Place and the EIR is not Decertified, the Department should have at a Minimum Prepared a Subsequent EIR not an AEA

If a court[53] finds that the approvals could remain in place while the Department re- evaluated the project environmental impact, a subsequent EIR would the appropriate form for the environmental review. Public Resources Code section 21166 provides the general rule as to when a supplemental EIR or subsequent EIR is required:

When an environmental impact report has been prepared for a project pursuant to this division, no subsequent or supplemental environmental impact report shall be required by the lead agency or by any responsible agency, unless one or more of the following events occurs: (a) Substantial changes are proposed in the project which will require major revisions of the environmental impact report. (b) Substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the environmental impact report. (c) New information, which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available.

[53] *The conservation groups acknowledge that the Superior Court has issued an order and writ for this case that makes such a finding; however, petitioners intend to appeal the order and writ.*

The California Supreme Court explained this section requires the agency to prepare a subsequent or supplemental EIR "in the event there are substantial changes to the project or its circumstances, or in the event of material new and previously unavailable information." (Friends of College of San Mateo Gardens v. San Mateo County Community College Dist. (2016) 1 Cal.5th 937, 960 ["Friends"].) CEQA Guidelines section 15162 and 15163 provide further detail. A supplemental EIR – as opposed to a subsequent EIR – is required if "[o]nly minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation." (Committee for Green Foothills v. Santa Clara County Bd. of Supervisors (2008) 161 Cal.App.4th 1204, 1229 (depublished); CEQA Guidelines §§ 15162, 15163(a)(2).) In contrast, a subsequent EIR is required for "major" revisions to the EIR.

Subdivision (a) of section 21166 applies here. The AEA documents "substantial" changes to the project, including: "proposed modifications to the project's GHG reduction measures, and to the design and construction methods for the proposed developments Santa Clara River bridge crossings and bank stabilization." (AEA 1-1.). Specifically, for the anticipated GHG emissions, the AEA discusses "the implementation of 13 mitigation measures," many of which the conservation groups have expressed concerns about as detailed above. In addition, the revised project also includes proposals "to modify the design and construction methods for the project's bridges and bank stabilization." (AEA 1-1.) These substantial changes will require "major" revisions to the EIR, as illustrated by the size of the AEA and its associated appendices. These substantial changes to the project require a subsequent EIR to be prepared.

Similarly, subdivision (b) of section 21666 also applies because the circumstances under which the project is being undertaken have changed. The California Supreme Court has issued a ruling clarifying CDFW's obligations regarding GHG and "take" analyses which has significantly altered the circumstances surrounding the project and its associated approvals.

Response No. 09-104:

The California Supreme Court's ruling in *Center for Biological Diversity, et al. v. California Dept. of Fish & Game, et al.* (Nov. 30, 2015, Case No. S217763) held that only two distinct portions of the Final EIR did not satisfy CEQA: the determination that the project's GHG emissions would be less than significant was not supported by substantial evidence, and Mitigation Measures BIO-44 and BIO-46 violated the Fish and Game Code section 5515 prohibition against authorizing the take or possession of fully protected species. No other portion of the Final EIR was found to be deficient.

The appropriate mechanism under CEQA for correcting the analysis in response to the California Supreme Court's decision is to revise and recirculate the portions of the EIR that contained the identified infirmities in accordance with CEQA's "recirculation" provisions under CEQA Guidelines Section 15088.5. Section 15088.5(c) states in relevant part that when necessary revisions are "limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified."

When recirculation of portions of an EIR are required, the lead agency must give notice and the opportunity for public comment pursuant to CEQA Guidelines Section 15087 and must consult with responsible agencies pursuant to Guidelines Section 15086, just as for a draft EIR. (CEQA Guidelines, Section 15088.5(d).) Following the expiration of the public comment period, the lead agency must respond to comments as required by Guidelines Section 15088, just as for a draft EIR. (*Id.* at Section 15088.5(f).) When only portions of the EIR are recirculated, the lead agency may request that comments be limited to the revised chapters or portions of the recirculated EIR. (*Id.* at Section 15088.5(f)(2).)

The comment states that a subsequent EIR was required, instead of the AEA, which was prepared pursuant to CEQA Guidelines Section 15088.5. The comment is incorrect. None of the conditions in Public Resources Code Section 21166 which require preparation of a subsequent EIR are present here. First, no "[s]ubstantial changes" have been proposed to the project which require major revisions of the EIR. (Pub. Res. Code Section 21166(a).) The project continues to cover the same project area and proposes to include the same mix of land uses, including residential, mixed-use/commercial, public facilities, and open space. The only changes made between the 2010 Final EIR and the AEA relate to the mitigation measures imposed to reduce GHG emissions and the design and construction methods and timing for installation of two project bridges, along with temporary haul routes and bank stabilization. Importantly, the modifications to the bridge design are located within the same impact footprint previously analyzed in the project's 2010 Final EIR. These changes do not relate to the nature or scope of the project, but rather to the details of its construction and its mitigation. These are not "substantial" changes in the definition of CEQA and the CEQA Guidelines.

Specifically, there is no increase in the size or intensity of the project, and the project applicant is not requesting any new land use or regulatory approvals that were not previously requested. See Section 1.0 of the Draft AEA.

Second, no substantial changes have occurred with respect to the circumstances under which the project is being undertaken. (Pub. Res. Code Section 21166(b).) As noted above, the project is still proposed for the same property and is under the jurisdiction of the same regulatory structure as it was when the Final EIR was approved.

Third, no "new information, which was not known and could not have been known at the time the environmental impact report was certified as complete," has become available which shows:

> "(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative."

(CEQA Guidelines Section 15126.4(a)(3).) First, the project will not have any additional significant effects not discussed in the previous EIR; the Draft AEA concludes that impacts related to both GHG emissions and take of unarmored threespine stickleback would be less than significant with the implementation of mitigation. Second, no significant effects previously examined in the Final EIR will be substantially more severe than shown in the previous Final EIR. Indeed, the project's net GHG emissions of zero are lower than the prior EIR analysis. Third, the applicant has not declined to adopt any mitigation measures or alternatives which are now determined to be feasible and would reduce one or more significant effects of the project. And finally, the applicant has not declined to adopt any mitigation measures or alternatives considerably different from those analyzed in the previous EIR that would substantially reduce one or more significant effects on the environment. Instead, the project applicant has agreed to adopt all of the mitigation measures relating to GHG emissions and unarmored threespine stickleback analyzed in the Draft AEA to reduce the respective impacts to to less-than-significant levels.

Therefore, the lead agency fully complied with CEQA in preparing the AEA and a subsequent EIR is not required.

Comment No. 09-105:

The Supreme Court's decision established new and different legal requirements for greenhouse gas analysis, and therefore constituted both a change in the circumstances under which the project will be undertaken and new information of substantial importance that could not have been known when the prior EIR was prepared. (Pub. Resources Code § 21166(b), (c); Guidelines § 15162(a)(2), (3).) Additionally, the AEA identifies the increase in GHG emissions as a new significant impact. (See AEA at 2-15 to 2-16 [adopting any increase in GHG emissions as threshold of significance].) The AEA also concludes that unmitigated emissions are roughly double emissions estimated in the prior EIR—even though the project itself supposedly has not changed. (Compare App 1 Table ES-2 [estimating 518,330 MT CO_2e/yr increase] with CDFW FEIR at 8.0-71 [estimating 269,053 MT CO_2e/yr increase].) This is an undeniably a substantial increase in emissions which requires major revisions of the EIR in the form of a subsequent EIR.

Response No. 09-105:

This comment argues that subdivision (b) of Public Resources Code Section 21166 applies and requires preparation of a subsequent EIR rather than the AEA. As explained above in **Response to Comment No. 09-104**, this is not the case. No substantial changes have occurred with respect to the circumstances under which the project is being undertaken.

The comment raises several examples of suggested "substantial changes," but none meet the standard under CEQA. First, the comment states that the Supreme Court "established new and different legal requirements for greenhouse gas analysis." This does not accurately describe the Supreme Court's holding. The Supreme Court held that the EIR's determination that GHG impacts were less than significant was not supported by substantial evidence and held that the EIR's Mitigation Measures BIO-44 and BIO-46 violated Fish and Game Code section 5515.

Here, the lead agency took into account the Supreme Court's decision when crafting the mitigation measures presented in the Draft AEA. To comply with the Supreme Court's decision, the lead agency has

imposed new mitigation measures supported by substantial evidence to reduce GHG emissions and new mitigation measures regarding the construction, maintenance, and operation of several bridges that do not violate Fish and Game Code section 5515. None of these mitigation measures substantially changes the nature or scope of the project, and the project will continue to have the same significant environmental impacts that were identified in the Final EIR. No new or more severe environmental impacts would result. As explained above in **Response to Comment No. 09-104**, the AEA is the appropriate document for analyzing these new mitigation measures.

The comment also claims that the AEA identifies a new significant impact relating to GHG emissions, and argues that this is a substantial change in circumstances justifying preparation of a subsequent EIR under Public Resources Code Section 21166(b). In fact, the Draft AEA concludes that the project would have a less-than-significant impact relating to GHG emissions following the implementation of Mitigation Measures 2-1 through 2-13 because the project's net GHG emissions would be zero. Of note, the project's achievement of zero net GHG emissions in the AEA is an emissions level that is lower than the post-mitigation GHG emissions level identified in the 2010 Final EIR. As such, there is no basis to conclude that the Draft AEA's GHG emissions inventory triggers the need for preparation of a subsequent EIR under Public Resources Code Section 21166(b).

The comment relatedly references a "change" in the project's estimated, unmitigated GHG emissions. In a Ramboll Environ-authored technical memorandum, titled "GHG Emissions Modeling: Post-2010 Modifications to Methodologies" (April 21, 2016), submitted to CDFW, Ramboll Environ explained that the AEA's unmitigated emissions estimate for the project was different from that presented in the 2010 Final EIR due to an evolution in the models and methods used to estimate GHG emissions. (The updated referenced technical memorandum is included in Final AEA Appendix 15.) As explained in the referenced memorandum, since completion of the prior Final EIR, the approach used to account for vehicle trips associated with commercial land uses has changed, such that CEQA-based emissions inventories now conservatively include the emissions associated with such trips even though they might not otherwise be characterized as "new" trips resulting from a project. Additionally, the emergence of the CalEEMod estimating model has changed the "industry standard" approach to estimating GHG emissions. At the time of preparation of the prior Final EIR's GHG emissions inventories, CalEEMod did not exist. The approximate doubling of the project's estimated, unmitigated GHG emissions does not reflect project changes that will increase GHG emissions but, rather, it reflects changes in the estimator modeling. It does not trigger the need for preparation of a subsequent EIR because the project will achieve zero net GHG emissions. The factors that resulted in the modification of the emissions estimates (i.e., available modeling tools and methods) have no effect on the prior Final EIR's findings with respect to other environmental resource categories.

In both the prior and current analysis, the same impact conclusion regarding GHG emissions was found in the Final EIR. There is no new significant environmental impact, or a substantial increase in the severity of an environmental impact, which would require preparation of a subsequent EIR. The project location, size and intensity has not increased from what was previously analyzed. As explained above, the AEA is the appropriate document to analyze the new mitigation measures and to comply with the Supreme Court's ruling.

Comment No. 09-106:

Therefore, a subsequent EIR is necessary here not a supplemental EIR. A supplement can be used only where "minor additions or changes" are necessary "to make the previous EIR adequately apply to the project in the changed situation." (15163(a)(2).) Here, changes in mitigation measures, the sharp increase in estimated emissions, the lack of reanalysis of alternatives, and changes in project context indicate that the Department should prepare a subsequent EIR not a supplemental EIR.

Response No. 09-106:

This comment reiterates the argument advanced in prior comments that a subsequent EIR was required and not a supplemental EIR, instead of the AEA. As explained above in **Responses to Comment Nos. 09-104** and

09-105, the AEA is the appropriate document to comply with the Supreme Court's ruling and no subsequent EIR was required.

Comment No. 09-107:

E. Even if a Supplemental EIR was the Appropriate Level of Environmental Review, the AEA does not meet the Requirements for a Supplemental EIR

While the conservation groups believe a supplemental EIR is inappropriate here it appears at times that the Department is attempting to treat the AEA as a supplement to the 2010 final EIR. Even if the Department intended the AEA to qualify as a supplemental EIR, the AEA fails to do so under CEQA Guidelines section 15163. Guidelines section 15163 provides that a supplemental EIR must contain "the information necessary to make the previous EIR adequate for the project as revised." This means that "[w]hen a lead agency is considering whether to prepare an [supplemental EIR], it is specifically authorized to limit its consideration of the later project to effects not considered in connection with the earlier project." (Temecula Band of Luiseno Mission Indians v. Rancho Cal. Water Dist. (1996) 43 Cal.App.4th 425, 437.)

Response No. 09-107:

This comment claims that if a supplemental EIR was the appropriate document to comply with the Supreme Court's ruling, the AEA fails to satisfy CEQA's requirements for supplemental EIRs. A supplemental EIR is appropriate where the conditions in CEQA Guidelines Section 15162 are present which would require preparation of a subsequent EIR, but "[o]nly minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation." (CEQA Guidelines Section 15163(a)(2).) As explained above in **Response to Comment No. 09-104**, none of the conditions requiring preparation of a subsequent EIR are present. Rather, the revised sections of the 2010 EIR are properly considered under CEQA Guidelines Section 15088.5. As explained in **Response to Comment No. 09-104**, the AEA is the appropriate document to comply with the Supreme Court's ruling.

Comment No. 09-108:

The AEA does not comply with its obligations under Guidelines section 15163. The AEA fails to establish that (a) it contains the information necessary to render the previous EIR adequate or (b) that it adequately considered effects not considered in connection with the earlier project. For example, the AEA contains no analysis of alternatives to the project even though the new GHG analysis significantly changes the anticipated impacts of the project and the range of feasible alternatives. The new GHG analysis also necessarily impacts the air quality analysis and corresponding alternatives analysis.

Response No. 09-108:

This comment criticizes the AEA's compliance with Section 15163 of the CEQA Guidelines, which govern preparation of a supplemental EIR. As explained above in **Responses to Comment Nos. 09-104** and **09-107**, a supplemental EIR was not required, and the AEA is the appropriate CEQA document to comply with the Supreme Court's ruling.

The comment also asserts that a revised analysis of alternatives to the project was required because of revisions to the analysis of GHG emissions. As explained above in **Response to Comment No. 09-90** above, no revised analysis of alternatives was required because the Draft AEA does not identify any new significant impacts.

Comment No. 09-109:

The AEA similarly fails to accurately describe changes to the project (e.g., by providing revised site plans or highlighting differences to original project, with specific references to original EIR). These defects render the AEA unintelligible as a whole and frustrate CEQA's goal of promoting informed decision-making and public participation.

Response No. 09-109:

The comment states that the AEA "fails to accurately describe changes to the project (e.g., by providing revised site plans or highlighting differences to original project, with specific references to original EIR)." The comment claims that the lack of comparative descriptions renders the AEA unintelligible and non-compliant with CEQA.

Specifically, there is no increase in the size or intensity of the project, and the project applicant is not requesting any new land use or regulatory approvals that were not previously requested. See Section 1.0 of the Draft AEA. Thus, the project's location, size and intensity have not increased.

None of the GHG mitigation measures change the nature or scope of the project or its development uses or footprint, and the project would continue to have the same significant environmental impacts as were identified in the 2010 Final EIR, except that the mitigated impact would be greatly reduced (i.e., net zero GHGs). No new or more severe significant environmental effects were identified or would result.

The Draft AEA explains the minor design changes to obviate the need for mitigation measures BIO-44 and BIO-46 and their unarmored threespine stickleback take avoidance measures. For example, the permanent bridges at Commerce Center Drive and Long Canyon Road have not changed in terms of their location, size, or proposed use. The modified project simply (i) increases the span between bridge piers to prevent contact with the wetted channel of the river, and (ii) restricts the construction "window" for bridge construction to the "dry season" when the wetted channel is at its narrowest. This is explained in the Draft AEA. The same is true of the temporary haul route bridges and bank stabilization features. Their proposed location, size, and use remain unchanged since 2010. Only the manner and time of construction has been altered, with the result being less-than-significant impacts to unarmored threespine stickleback.

Comment No. 09-110:

Conclusion

Thank you for the opportunity to submit comments on the project and the AEA. We look forward to working with the Department to assure that the project and its associated environmental review conforms to the requirements of state law while assuring that the significant environmental impacts of the project are adequately analyzed and mitigated. In light of the inadequacies in the AEA raised in this comment letter, we strongly urge the Department revise the AEA and recirculate it for further public review and comment. If you have any questions, please contact the Center at the number listed below.

Response No. 09-110:

This portion of the comment letter provides concluding remarks that reiterate the CBD's position that the AEA is inadequate, needs substantial revision, and must be recirculated for another round of public review. CDFW does not concur. These concluding remarks also do not raise new issues or provide additional evidence. Therefore, no further response is required or necessary.

Comment No. 09-111:

Provided below is the first page of Exhibit A to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

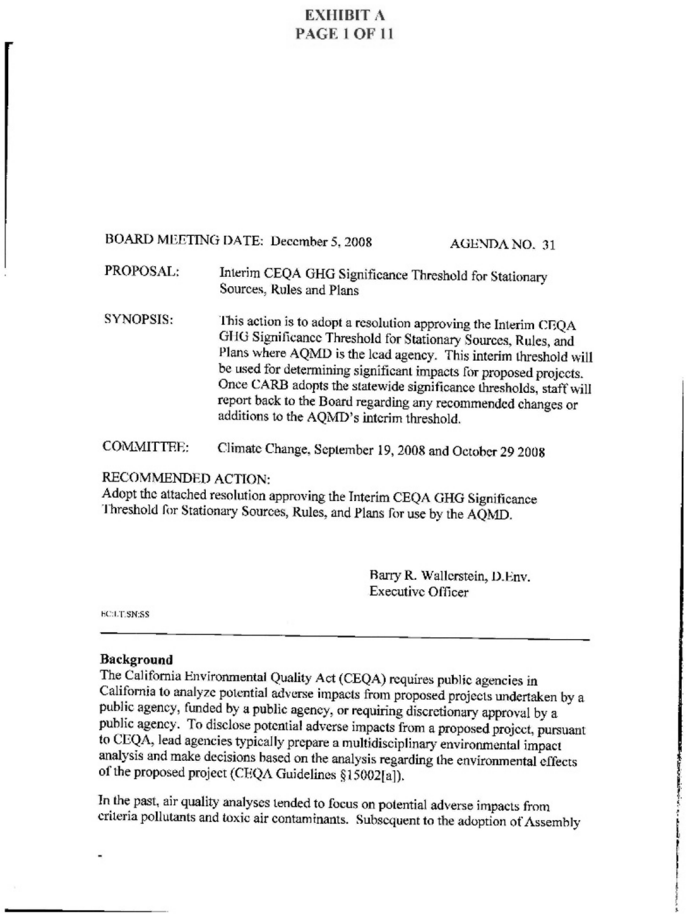


EXHIBIT A
PAGE 1 OF 11

BOARD MEETING DATE: December 5, 2008 AGENDA NO. 31

PROPOSAL: Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans

SYNOPSIS: This action is to adopt a resolution approving the Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans where AQMD is the lead agency. This interim threshold will be used for determining significant impacts for proposed projects. Once CARB adopts the statewide significance thresholds, staff will report back to the Board regarding any recommended changes or additions to the AQMD's interim threshold.

COMMITTEE: Climate Change, September 19, 2008 and October 29 2008

RECOMMENDED ACTION:
Adopt the attached resolution approving the Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans for use by the AQMD.

Barry R. Wallerstein, D.Env.
Executive Officer

[illegible]

Background
The California Environmental Quality Act (CEQA) requires public agencies in California to analyze potential adverse impacts from proposed projects undertaken by a public agency, funded by a public agency, or requiring discretionary approval by a public agency. To disclose potential adverse impacts from a proposed project, pursuant to CEQA, lead agencies typically prepare a multidisciplinary environmental impact analysis and make decisions based on the analysis regarding the environmental effects of the proposed project (CEQA Guidelines §15002[a]).

In the past, air quality analyses tended to focus on potential adverse impacts from criteria pollutants and toxic air contaminants. Subsequent to the adoption of Assembly

South Coast Air Quality Management District, Board Letter Re: Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, Agenda No. 31 at 2 (Dec. 5, 2008).

Response No. 09-111:

This staff report was cited by the commenter as a relevant source document for establishing that SCAQMD only has recognized the 30-year project life assumption in the context of industrial (stationary source) projects where SCAQMD is the lead agency. However, the comment paints an incomplete picture of the staff report. As discussed in **Topical Response 2: The 30-Year Project Life and Corresponding Duration of Mitigation Measure 2-13's GHG Emissions Mitigation Period**, SCAQMD's Board was not asked to take final action on the significance evaluation framework developed by staff for residential and commercial projects, due to the need for further work efforts related to CARB's then-pending interim GHG proposal. The staff report does not discriminate between project type (industrial vs. residential/commercial) for purposes of delineating the project life. As described and substantiated in the **Topical Response 2: The 30-Year Project Life and Corresponding Duration of Mitigation Measure 2-13's GHG Emissions Mitigation Period** and **Response to Comment No. 09-10**, the use of the 30-year project life is a methodological determination that is supported by substantial evidence.

Comment No. 09-112:

Provided below is the first page of Exhibit B to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

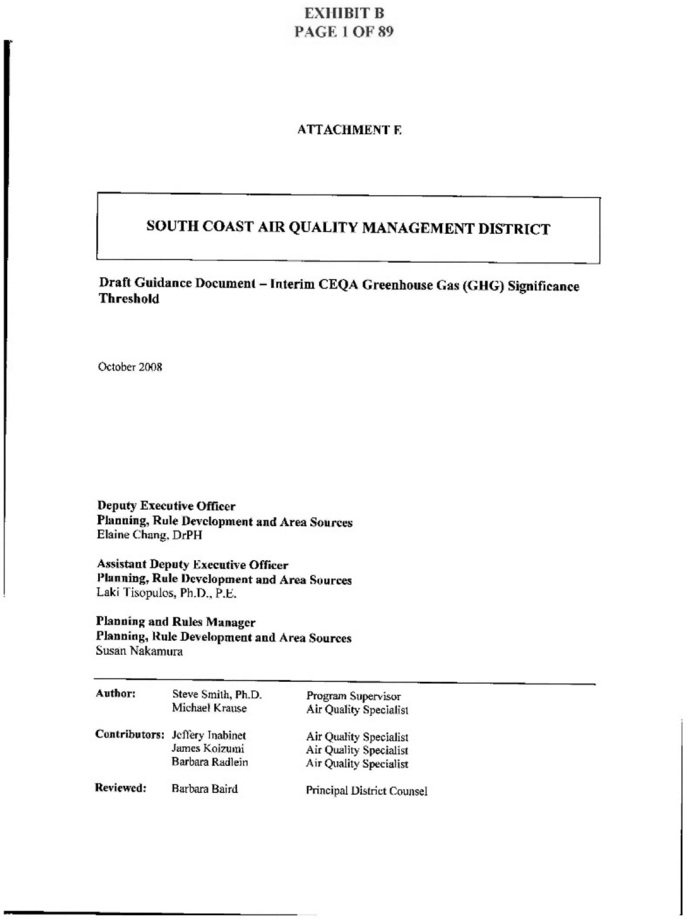


EXHIBIT B
PAGE 1 OF 89

ATTACHMENT E

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold

October 2008

Deputy Executive Officer
Planning, Rule Development and Area Sources
Elaine Chang, DrPH

Assistant Deputy Executive Officer
Planning, Rule Development and Area Sources
Laki Tisopulos, Ph.D., P.E.

Planning and Rules Manager
Planning, Rule Development and Area Sources
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	Barbara Radlein	Air Quality Specialist
Reviewed:	Barbara Baird	Principal District Counsel

South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold at 3-18, Table 3-4 (Oct. 2008).

Response No. 09-112:

This guidance document was cited by the commenter as a relevant source document for establishing that SCAQMD only has recognized the 30-year project life assumption in the context of industrial (stationary source) projects where SCAQMD is the lead agency. The comment specifically cited Table 3-4 of the guidance document, in which SCAQMD notes that the interim significance thresholds for "Residential/Commercial Sector projects" are "Not Recommended at this Time," including the allowance to "Implement offsite mitigation for life of project, i.e., 30 years with mitigation preference." Please see **Response to Comment No. 09-111** above for relevant information that is responsive to the commenter's inclusion of this attachment.

Comment No. 09-113:

Provided below is the first page of Exhibit C to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

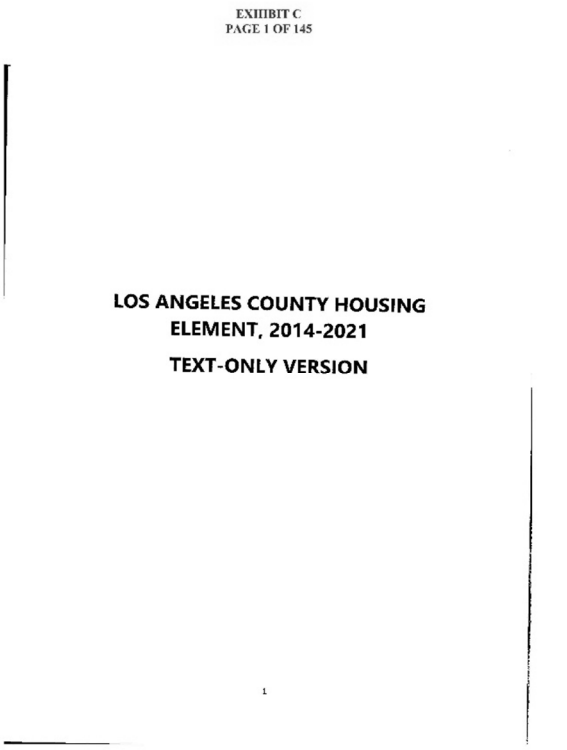

EXHIBIT C
PAGE 1 OF 145

LOS ANGELES COUNTY HOUSING
ELEMENT, 2014-2021

TEXT-ONLY VERSION

1

Los Angeles County Housing Element, 2014-2021. Page 82.

Response No. 09-113:

This publication was cited by the commenter as a relevant source document for establishing that half of the homes in Los Angeles County are more than 50 years old and, therefore, the Draft AEA's use of a 30-year project life is inappropriate. Please see **Topical Response 2: The 30-Year Project Life and Corresponding Duration of Mitigation Measure 2-13's GHG Emissions Mitigation Period** and **Response to Comment No. 09-10** for information that is responsive to this comment.

Comment No. 09-114:

Provided below is the first page of Exhibit D to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

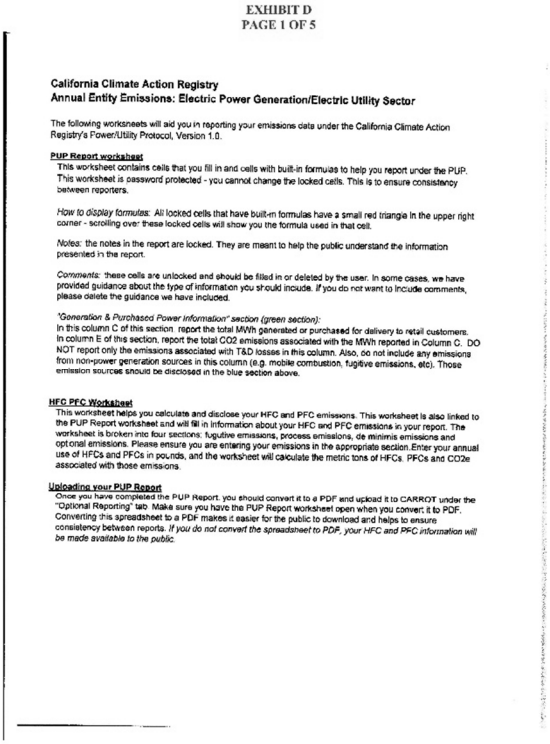

EXHIBIT D
PAGE 1 OF 5

California Climate Action Registry
Annual Entity Emissions: Electric Power Generation/Electric Utility Sector

The following worksheets will aid you in reporting your emissions data under the California Climate Action Registry's Power/Utility Protocol, Version 1.0.

PUP Report worksheet
This worksheet contains cells that you fill in and cells with built-in formulas to help you report under the PUP. This worksheet is password protected - you cannot change the locked cells. This is to ensure consistency between reporters.

How to display formulas: All locked cells that have built-in formulas have a small red triangle in the upper right corner - scrolling over these locked cells will show you the formula used in that cell.

Notes: the notes in the report are locked. They are meant to help the public understand the information presented in the report.

Comments: these cells are unlocked and should be filled in or deleted by the user. In some cases, we have provided guidance about the type of information you should include. If you do not want to include comments, please delete the guidance we have included.

"Generation & Purchased Power information" section (green section):
In this column C of this section, report the total MWh generated or purchased for delivery to retail customers. In column E of this section, report the total CO2 emissions associated with the MWh reported in Column C. DO NOT report only the emissions associated with T&D losses in this column. Also, do not include any emissions from non-power generation sources in this column (e.g. mobile combustion, fugitive emissions, etc). Those emission sources should be disclosed in the blue section above.

HFC PFC Worksheet
This worksheet helps you calculate and disclose your HFC and PFC emissions. This worksheet is also linked to the PUP Report worksheet and will fill in information about your HFC and PFC emissions in your report. The worksheet is broken into four sections: fugutive emissions, process emissions, de minimis emissions and optional emissions. Please ensure you are entering your emissions in the appropriate section.Enter your annual use of HFCs and PFCs in pounds, and the worksheet will calculate the metric tons of HFCs, PFCs and CO2e associated with those emissions.

Uploading your PUP Report
Once you have completed the PUP Report, you should convert it to a PDF and upload it to CARROT under the "Optional Reporting" tab. Make sure you have the PUP Report worksheet open when you convert it to PDF. Converting this spreadsheet to a PDF makes it easier for the public to download and helps to ensure consistency between reports. *If you do not convert the spreadsheet to PDF, your HFC and PFC information will be made available to the public.*

Southern California Edison, 2006 Annual Entity Emissions: Electric Power Generation/Electric Utility Sector.

Response No. 09-114:

This publication was cited by the commenter as a relevant source document for establishing that the Draft AEA's Utility GHG Intensity Factor may not appropriately account for emissions from biomass power generation. As described in **Response to Comment Nos. 09-13** and **09-14**, the approach used to calculate the SCE-specific Utility GHG Intensity Factor appropriately and reasonably accounts for biomass power generation in a manner that is consistent with CEQA modeling platforms for GHG emissions analysis and the state's own views on biomass power generation relative to the RPS.

Comment No. 09-115:

Provided below is the first page of Exhibit E to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

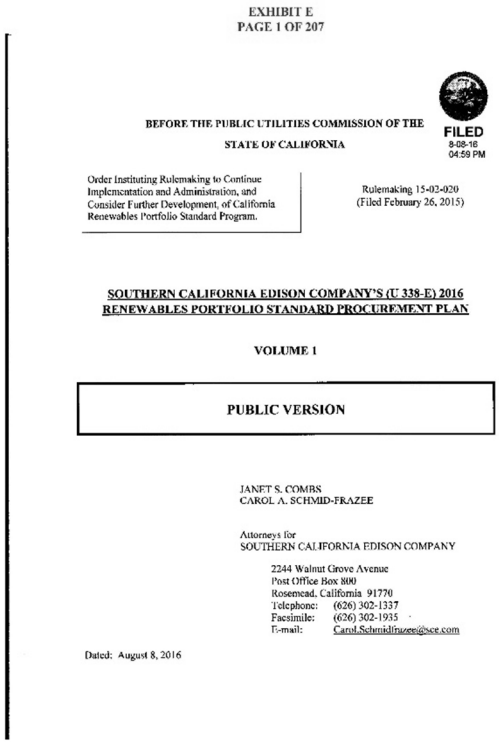

EXHIBIT E
PAGE 1 OF 207

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

FILED
8-08-16
04:59 PM

Order Instituting Rulemaking to Continue Implementation and Administration, and Consider Further Development, of California Renewables Portfolio Standard Program.

Rulemaking 15-02-020
(Filed February 26, 2015)

SOUTHERN CALIFORNIA EDISON COMPANY'S (U 338-E) 2016 RENEWABLES PORTFOLIO STANDARD PROCUREMENT PLAN

VOLUME 1

PUBLIC VERSION

JANET S. COMBS
CAROL A. SCHMID-FRAZEE

Attorneys for
SOUTHERN CALIFORNIA EDISON COMPANY

2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770
Telephone: (626) 302-1337
Facsimile: (626) 302-1935
E-mail: Carol.Schmidfrazee@sce.com

Dated: August 8, 2016

Southern California Edison, 2016 RPS Procurement Plan (Aug. 8, 2016), Public Appendix D, Joint IOU Cost Quantification at PDF page 200-205.

Response No. 09-115:

This RPS procurement plan was cited by the commenter as a relevant source document for establishing an SCE-specific forecast for biomass generation. The procurement plan does forecast biomass generation for the purpose of cost estimation. However, page 42 of the procurement plan notes that "SCE currently has no existing RPS-eligible biomass contracts." Further, SCE is under no obligation to provide biomass generation as listed in this forecast. Additionally, as noted in **Response to Comment No. 09-14**, more recent studies show that biomass is anticipated to be a small part of both the renewable and overall power contribution for California's investor-owned utilities. In 2015, biomass power generation contributed to only 1 percent of the total power delivered to SCE customers and only 2 percent of the renewable energy delivered to SCE customers. And, based on an E3 study, biomass will likely continue to be a small part (less than 5 percent) of California's investor-owned utilities annual renewable generation energy mix in 2030 under the 50 percent RPS.

Comment No. 09-116:

Provided below is the first page of Exhibit F to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

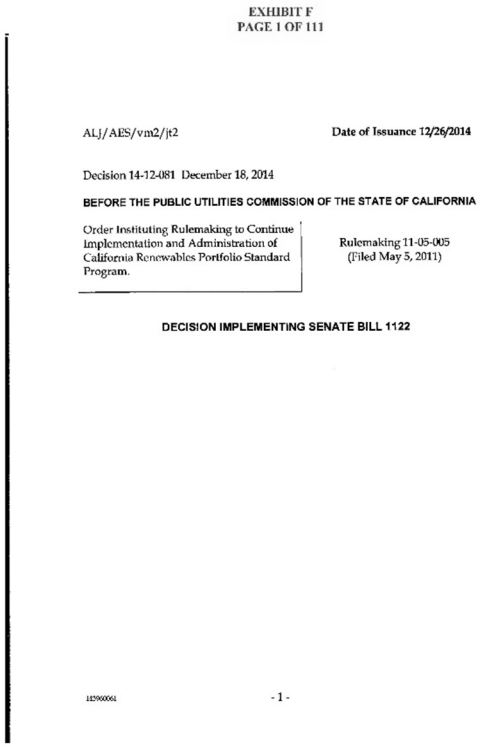

EXHIBIT F
PAGE 1 OF 111

ALJ/AES/vm2/jt2 Date of Issuance 12/26/2014

Decision 14-12-081 December 18, 2014

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Continue Implementation and Administration of California Renewables Portfolio Standard Program.

Rulemaking 11-05-005
(Filed May 5, 2011)

DECISION IMPLEMENTING SENATE BILL 1122

142960061 - 1 -

Public Utilities Commission, Decision D.14-12-081 at 85 (Dec. 26, 2014)

Response No. 09-116:

This CPUC decision was cited in support of the comment's conclusion that the Draft AEA's Utility GHG Intensity Factor may not appropriately account for emissions from the future biomass power generation. As described in **Response to Comment Nos. 09-13** and **09-14**, the approach used to calculate the SCE-specific Utility GHG Intensity Factor appropriately and reasonably accounts for biomass power generation in a manner that is consistent with CEQA modeling platforms for GHG emissions analysis and the state's own views on biomass power generation relative to the RPS.

Comment No. O9-117:

Provided below is the first page of Exhibit G to Letter No. O9. A full copy of the attachment is available on the CD that accompanies the Final AEA.

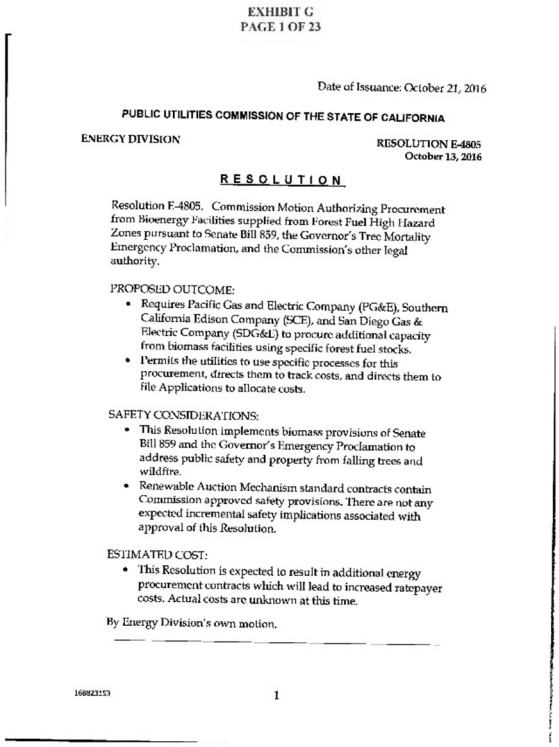

EXHIBIT G
PAGE 1 OF 23

Date of Issuance: October 21, 2016

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

ENERGY DIVISION

RESOLUTION E-4805
October 13, 2016

RESOLUTION

Resolution E-4805. Commission Motion Authorizing Procurement from Bioenergy Facilities supplied from Forest Fuel High Hazard Zones pursuant to Senate Bill 859, the Governor's Tree Mortality Emergency Proclamation, and the Commission's other legal authority.

PROPOSED OUTCOME:

- Requires Pacific Gas and Electric Company (PG&E), Southern California Edison Company (SCE), and San Diego Gas & Electric Company (SDG&E) to procure additional capacity from biomass facilities using specific forest fuel stocks.
- Permits the utilities to use specific processes for this procurement, directs them to track costs, and directs them to file Applications to allocate costs.

SAFETY CONSIDERATIONS:

- This Resolution implements biomass provisions of Senate Bill 859 and the Governor's Emergency Proclamation to address public safety and property from falling trees and wildfire.
- Renewable Auction Mechanism standard contracts contain Commission approved safety provisions. There are not any expected incremental safety implications associated with approval of this Resolution.

ESTIMATED COST:

- This Resolution is expected to result in additional energy procurement contracts which will lead to increased ratepayer costs. Actual costs are unknown at this time.

By Energy Division's own motion.

168823153

1

Public Utilities Commission Res. E-4805, Table 1 (Oct. 21, 2016)

Response No. O9-117:

This CPUC resolution was cited by the commenter as a relevant source document for establishing SCE's future biomass generation and its associated emissions in support of the comment's conclusion that the Draft AEA's Utility GHG Intensity Factor may not appropriately account for emissions from the biomass power generation. As described in **Response to Comment Nos. O9-13** and **O9-14**, the approach used to calculate the SCE-specific Utility GHG Intensity Factor appropriately and reasonably accounts for biomass power generation in a manner that is consistent with CEQA modeling platforms for GHG emissions analysis and the state's own views on biomass power generation relative to the RPS.

Comment No. 09-118:

Provided below is the first page of Exhibit H to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

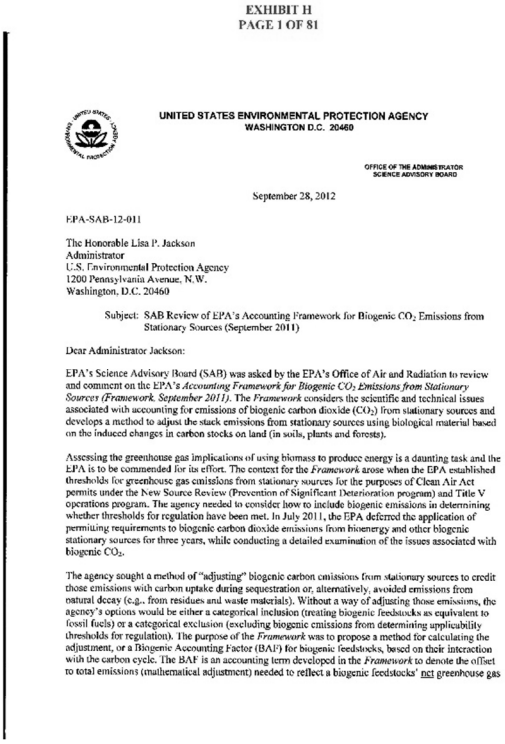

EXHIBIT H
PAGE 1 OF 81

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460

OFFICE OF THE ADMINISTRATOR
SCIENCE ADVISORY BOARD

September 28, 2012

EPA-SAB-12-011

The Honorable Lisa P. Jackson
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Subject: SAB Review of EPA's Accounting Framework for Biogenic CO_2 Emissions from Stationary Sources (September 2011)

Dear Administrator Jackson:

EPA's Science Advisory Board (SAB) was asked by the EPA's Office of Air and Radiation to review and comment on the EPA's *Accounting Framework for Biogenic CO_2 Emissions from Stationary Sources (Framework, September 2011)*. The *Framework* considers the scientific and technical issues associated with accounting for emissions of biogenic carbon dioxide (CO_2) from stationary sources and develops a method to adjust the stack emissions from stationary sources using biological material based on the induced changes in carbon stocks on land (in soils, plants and forests).

Assessing the greenhouse gas implications of using biomass to produce energy is a daunting task and the EPA is to be commended for its effort. The context for the *Framework* arose when the EPA established thresholds for greenhouse gas emissions from stationary sources for the purposes of Clean Air Act permits under the New Source Review (Prevention of Significant Deterioration program) and Title V operations program. The agency needed to consider how to include biogenic emissions in determining whether thresholds for regulation have been met. In July 2011, the EPA deferred the application of permitting requirements to biogenic carbon dioxide emissions from bioenergy and other biogenic stationary sources for three years, while conducting a detailed examination of the issues associated with biogenic CO_2.

The agency sought a method of "adjusting" biogenic carbon emissions from stationary sources to credit those emissions with carbon uptake during sequestration or, alternatively, avoided emissions from natural decay (e.g., from residues and waste materials). Without a way of adjusting those emissions, the agency's options would be either a categorical inclusion (treating biogenic feedstocks as equivalent to fossil fuels) or a categorical exclusion (excluding biogenic emissions from determining applicability thresholds for regulation). The purpose of the *Framework* was to propose a method for calculating the adjustment, or a Biogenic Accounting Factor (BAF) for biogenic feedstocks, based on their interaction with the carbon cycle. The BAF is an accounting term developed in the *Framework* to denote the offset to total emissions (mathematical adjustment) needed to reflect a biogenic feedstocks' net greenhouse gas

U.S. EPA Science Advisory Board, Science Advisory Board Review of EPA's Accounting Framework for Biogenic CO2 Emissions from Stationary Sources (Sept. 28, 2012).

Response No. 09-118:

This publication was cited by the commenter as a relevant source document for establishing that CO_2 emissions from biomass and fossil fuels are indistinguishable in support of the comment's conclusion that the Draft AEA's Utility GHG Intensity Factor may not appropriately account for emissions from the biomass power generation. As described in **Response to Comment Nos. 09-13** and **09-14**, the approach used to calculate the SCE-specific Utility GHG Intensity Factor appropriately and reasonably accounts for biomass power generation in a manner that is consistent with CEQA modeling platforms for GHG emissions analysis and the state's own views on biomass power generation relative to the RPS.

Comment No. 09-119:

Provided below is the first page of Exhibit I to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

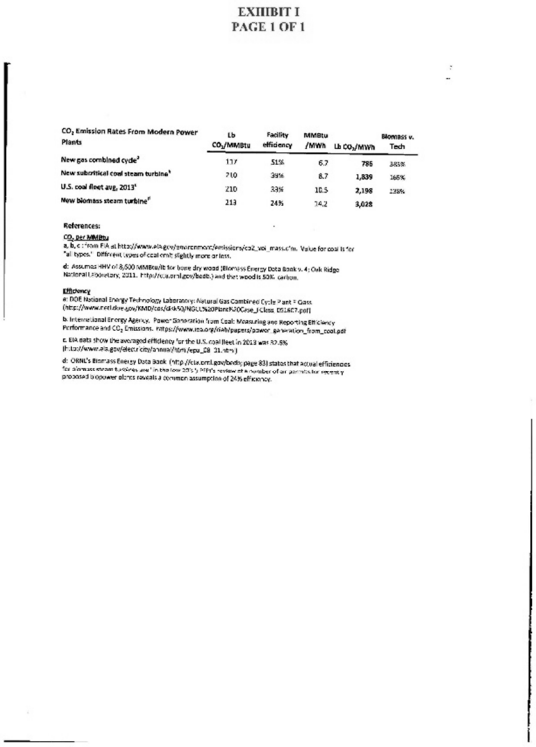

EXHIBIT I
PAGE 1 OF 1

CO_2 Emission Rates From Modern Power Plants	Lb CO_2/MMBtu	Facility efficiency	MMBtu /MWh	Lb CO_2/MWh	Biomass v. Tech
New gas combined cycle[a]	117	51%	6.7	786	348%
New subcritical coal steam turbine[b]	210	39%	8.7	1,839	168%
U.S. coal fleet avg, 2013[c]	210	33%	10.5	2,198	139%
New biomass steam turbine[d]	213	24%	14.2	3,028	

References:

CO_2 per MMBtu

a, b, c: From EIA at http://www.eia.gov/environment/emissions/co2_vol_mass.cfm. Value for coal is for "all types." Different types of coal emit slightly more or less.

d: Assumes HHV of 8,500 MMBtu/lb for bone dry wood (Biomass Energy Data Book v. 4; Oak Ridge National Laboratory, 2011. http://cta.ornl.gov/bedb.) and that wood is 50% carbon.

Efficiency

a: DOE National Energy Technology Laboratory: Natural Gas Combined Cycle Part 1: Gass (http://www.netl.doe.gov/KMD/cds/disk50/NGCC%20Plant%20Case_1-Class_EELACT.pdf)

b. International Energy Agency. Power Generation from Coal: Measuring and Reporting Efficiency Performance and CO_2 Emissions. https://www.iea.org/media/papers/power_generation_from_coal.pdf

c. EIA data show the averaged efficiency for the U.S. coal fleet in 2013 was 33.3% (http://www.eia.gov/electricity/annual/html/epa_08_01.cfm)

d: ORNL's Biomass Energy Data Book (http://cta.ornl.gov/bedb; page 83) states that actual efficiences for biomass steam turbines are "in the low 20's.") NRC's review of a number of air permits for recently proposed biopower plants reveals a common assumption of 24% efficiency.

Representative emissions calculations, based on Department of Energy, Energy Information Administration, International Energy Agency, and Oak Ridge National Laboratory data

Response No. 09-119:

This publication was cited by the commenter as a relevant source document for establishing that power generation from biomass produces more CO_2 per MWh than fossil fuel combustion in support of the comment's conclusion that the AEA's Utility GHG Intensity Factor may not appropriately account for emissions from the biomass power generation. As described in **Response to Comment Nos. 09-13** and **09-14**, the approach used to calculate the SCE-specific Utility GHG Intensity Factor appropriately and reasonably accounts for biomass power generation in a manner that is consistent with CEQA modeling platforms for GHG emissions analysis and the state's own views on biomass power generation relative to the RPS.

Comment No. 09-120:

Provided below is the first page of Exhibit J to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

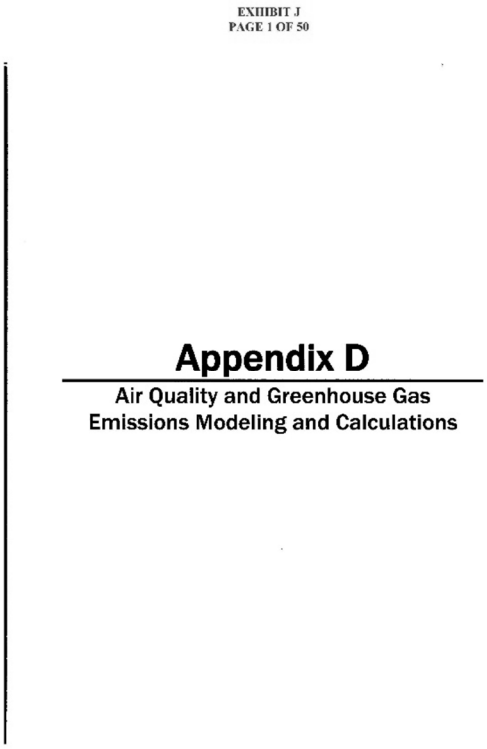

EXHIBIT J
PAGE 1 OF 50

Appendix D

Air Quality and Greenhouse Gas Emissions Modeling and Calculations

Ascent Environmental, Cabin Creek Biomass Facility project Draft Environmental Impact Report, App. D (July 27, 2012)

Response No. 09-120:

This publication was cited by the commenter as a relevant source document for establishing that power generation from biomass produces more CO_2 per MWh than fossil fuel combustion in support of the comment's conclusion that the AEA's Utility GHG Intensity Factor may not appropriately account for emissions from the biomass power generation. As described in **Response to Comment Nos. 09-13** and **09-14**, the approach used to calculate the SCE-specific Utility GHG Intensity Factor appropriately and reasonably accounts for biomass power generation in a manner that is consistent with CEQA modeling platforms for GHG emissions analysis and the state's own views on biomass power generation relative to the RPS.

Comment No. 09-121:

Provided below is the first page of Exhibit K to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

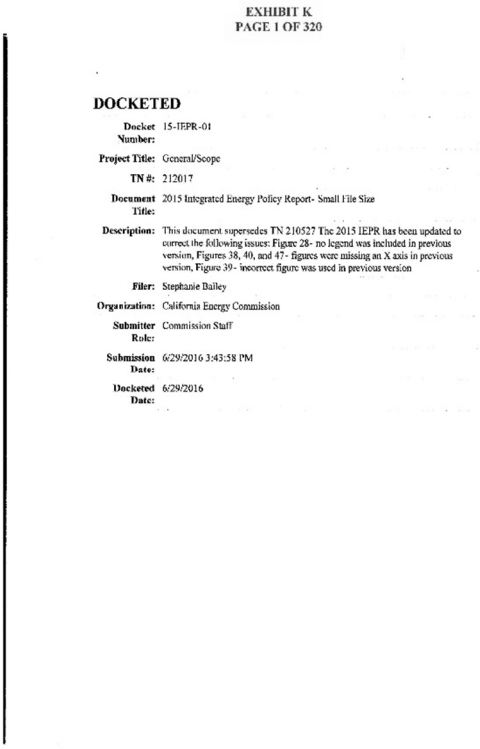

EXHIBIT K
PAGE 1 OF 320

DOCKETED

Docket Number:	15-IEPR-01
Project Title:	General/Scope
TN #:	212017
Document Title:	2015 Integrated Energy Policy Report- Small File Size
Description:	This document supersedes TN 210527 The 2015 IEPR has been updated to correct the following issues: Figure 28- no legend was included in previous version, Figures 38, 40, and 47- figures were missing an X axis in previous version, Figure 39 - incorrect figure was used in previous version
Filer:	Stephanie Bailey
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	6/29/2016 3:43:58 PM
Docketed Date:	6/29/2016

California Energy Commission, 2015 IEPR at 41-45 (June 2016)

Response No. 09-121:

This publication was cited by the commenter as a relevant source document in support of the argument that CEC's ZNE definition cannot function as an adequate performance standard because of "substantial unresolved questions and significant uncertainties," with a specific reference to "plug loads and natural gas usage." This is not correct. As described in **Response to Comment Nos. 09-19** and **09-20**, CEC's definition is unambiguous and allows a qualified energy expert to determine if a building achieves the ZNE standard.

Comment No. 09-122:

Provided below is the first page of Exhibit L to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

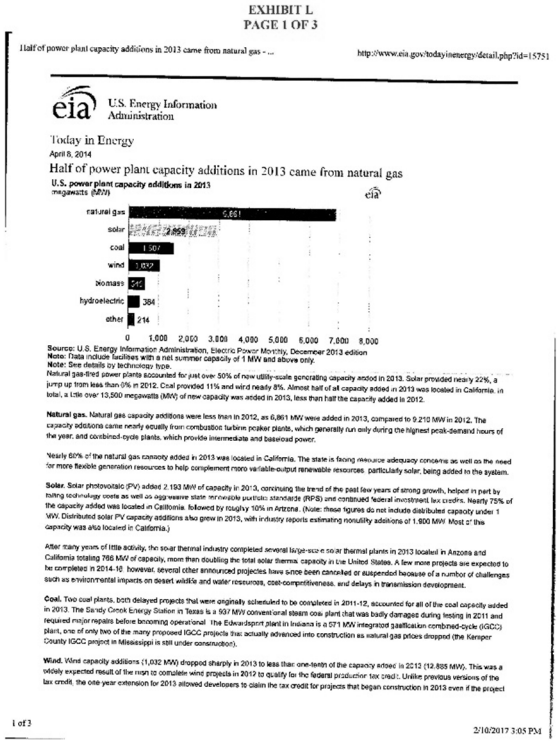

EXHIBIT L
PAGE 1 OF 3

Half of power plant capacity additions in 2013 came from natural gas - ... http://www.eia.gov/todayinenergy/detail.php?id=15751

eia U.S. Energy Information Administration

Today in Energy
April 8, 2014

Half of power plant capacity additions in 2013 came from natural gas

U.S. power plant capacity additions in 2013
megawatts (MW)

Source: U.S. Energy Information Administration, Electric Power Monthly, December 2013 edition
Note: Data include facilities with a net summer capacity of 1 MW and above only.
Note: See details by technology type.

Natural gas-fired power plants accounted for just over 50% of new utility-scale generating capacity added in 2013. Solar provided nearly 22%, a jump up from less than 6% in 2012. Coal provided 11% and wind nearly 8%. Almost half of all capacity added in 2013 was located in California. In total, a little over 13,500 megawatts (MW) of new capacity was added in 2013, less than half the capacity added in 2012.

Natural gas. Natural gas capacity additions were less than in 2012, as 6,861 MW were added in 2013, compared to 9,210 MW in 2012. The capacity additions came nearly equally from combustion turbine peaker plants, which generally run only during the highest peak-demand hours of the year, and combined-cycle plants, which provide intermediate and baseload power.

Nearly 60% of the natural gas capacity added in 2013 was located in California. The state is facing resource adequacy concerns as well as the need for more flexible generation resources to help complement more variable-output renewable resources, particularly solar, being added to the system.

Solar. Solar photovoltaic (PV) added 2,193 MW of capacity in 2013, continuing the trend of the past few years of strong growth, helped in part by falling technology costs as well as aggressive state renewable portfolio standards (RPS) and continued federal investment tax credits. Nearly 75% of the capacity added was located in California, followed by roughly 10% in Arizona. (Note: these figures do not include distributed capacity under 1 MW. Distributed solar PV capacity additions also grew in 2013, with industry reports estimating nonutility additions of 1,900 MW. Most of this capacity was also located in California.)

After many years of little activity, the solar thermal industry completed several large-scale solar thermal plants in 2013 located in Arizona and California totaling 766 MW of capacity, more than doubling the total solar thermal capacity in the United States. A few more projects are expected to be completed in 2014-15; however, several other announced projects have since been canceled or suspended because of a number of challenges such as environmental impacts on desert wildlife and water resources, cost-competitiveness, and delays in transmission development.

Coal. Two coal plants, both delayed projects that were originally scheduled to be completed in 2011-12, accounted for all of the coal capacity added in 2013. The Sandy Creek Energy Station in Texas is a 937 MW conventional steam coal plant that was badly damaged during testing in 2011 and required major repairs before becoming operational. The Edwardsport plant in Indiana is a 671 MW integrated gasification combined-cycle (IGCC) plant, one of only two of the many proposed IGCC projects that actually advanced into construction as natural gas prices dropped (the Kemper County IGCC project in Mississippi is still under construction).

Wind. Wind capacity additions (1,032 MW) dropped sharply in 2013 to less than one-tenth of the capacity added in 2012 (12,885 MW). This was a widely expected result of the rush to complete wind projects in 2012 to qualify for the federal production tax credit. Unlike previous versions of the tax credit, the one-year extension for 2013 allowed developers to claim the tax credit for projects that began construction in 2013 even if the project

1 of 3 2/10/2017 3:05 PM

U.S. Energy Information Administration, Half of power plant capacity additions in 2013 came from natural gas (April 8, 2014)

Response No. 09-122:

This publication was cited by the commenter as a relevant source document for the current electricity grid generation mix. As described in **Response to Comment No. 09-22**, this article is not relevant to the energy calculations used to estimate the emission reductions resulting from the project's ZNE commitment. Further discussions of electricity "peaker" plants are included in **Response to Comment No. 09-13**.

Comment No. 09-123:

Provided below is the first page of Exhibit M to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

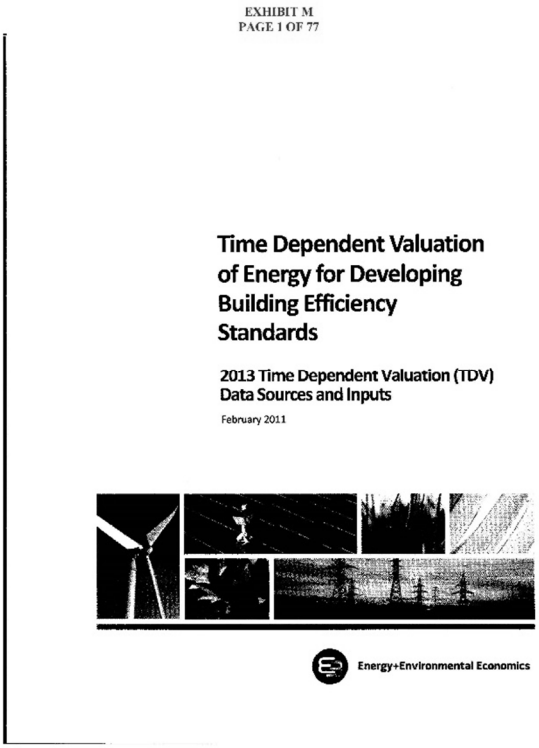

EXHIBIT M
PAGE 1 OF 77

Time Dependent Valuation of Energy for Developing Building Efficiency Standards

2013 Time Dependent Valuation (TDV) Data Sources and Inputs

February 2011

Energy+Environmental Economics

Energy and Environmental Economics, Time Dependent Valuation of Energy for Developing Building Efficiency Standards: 2013 Time Dependent Valuation (TDV) Data Sources and Inputs at 3 (February 2011)

Response No. 09-123:

This publication was cited by the commenter as a relevant source document to define Time Dependent Valuation (TDV) of energy. The comment does not raise any specific issue regarding the environmental analysis presented in the Draft AEA relative to TDV and, therefore, no more specific response can be provided or is required.

Comment No. 09-124:

Provided below is the first page of Exhibit N to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

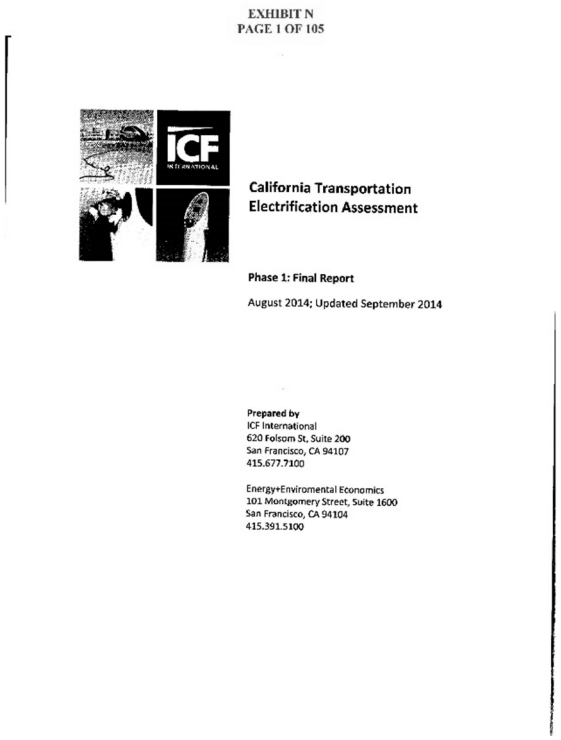

EXHIBIT N
PAGE 1 OF 105

California Transportation Electrification Assessment

Phase 1: Final Report

August 2014; Updated September 2014

Prepared by
ICF International
620 Folsom St, Suite 200
San Francisco, CA 94107
415.677.7100

Energy+Enviromental Economics
101 Montgomery Street, Suite 1600
San Francisco, CA 94104
415.391.5100

ICF International, California Transportation Electrification Assessment, Phase 1: Final Report at 18-19 (September 2014)

Response No. 09-124:

This publication was cited by the commenter as a relevant source document for establishing that the Draft AEA's GHG emission reduction calculations associated with Mitigation Measure 2-4 are “highly aggressive" and that "Market share for EVs by 2030, even under aggressive adoption assumptions is usually projected to be far lower than 50 percent." The comment mischaracterizes the calculation parameters as “highly aggressive” solely based on a study prepared by ICF International. As addressed in **Response to Comment No. 09-25**, what was considered an “aggressive” assumption by ICF in its study is consistent with what is now considered a “mid-range” assumption by Navigant in mid- to late 2016. Please also see **Topical Response 3: Zero Emission Vehicles at Newhall Ranch**.

Comment No. O9-125:

Provided below is the first page of Exhibit O to Letter No. O9. A full copy of the attachment is available on the CD that accompanies the Final AEA.

EXHIBIT O
PAGE 1 OF 1

State of California
DEPARTMENT OF MOTOR VEHICLES
STATISTICS FOR PUBLICATION
JANUARY THROUGH DECEMBER 2015

EMPLOYEE AND OFFICE STATISTICS

Number of Field Offices	175	- 17 Auxiliary Offices that include 3 CDL sites, 10 Industry Business Centers, 1 Scale Location, and 3 Travel Runs.
Number of Driver Safety Offices	16	- 10 are located within other DMV locations and 6 are independent. Additional 27 Resident Hearing Offices.
Number of Call Centers	3	- 3 independent facilities
Number of Investigations Offices	12	- An additional 38 are within other DMV locations.
Number of Occupational Licensing Offices	2	- An additional 14 are within other DMV locations
Number of Other Locations	5,000	- 175 Auto Clubs and 4,825 Business Partner sites.
Approximate Number of Employees	9,527	- Includes full-time, permanent-intermittent, and part-time employees. Approximately 6,272 (66%) are in Field, and approximately 3,255 (34%) are at Headquarters.

DRIVER LICENSE AND IDENTIFICATION CARD STATISTICS

A. **Total Driver Licenses Currently Issued:**	**25,914,851**	(Includes 3,794,927 people that also have an ID Card)
Identification Cards		
B. ID-Only (Age 16 and over)	2,925,964	
C. Both ID Card and Driver License	3,794,927	
D. Under Age 16 ID Cards	227,121	
E. ***Total Identification Cards***	**6,948,012**	(Includes 1,407,186 Senior Citizen ID Cards)
Total People with a Driver License and/or ID Card:	**29,067,936**	***(A + B + D)***
Total Driver Licenses and ID Cards Currently Issued:	**32,862,863**	***(A + E)***

REGISTERED VEHICLE STATISTICS

Automobiles	24,487,907	
Motorcycles	864,865	
CVRA Trucks	475,193	(Commercial Vehicle Registration Act)
Non-CVRA Trucks/Com. Vehicles *	5,092,390	
PTI Trailers	2,234,270	(Permanent Trailer Identification)
Trailer Coach/CCH	399,713	
CA Based IRP Trucks	80,604	(International Registration Plan)
Misc. Vehicles	113,725	(Miscellaneous vehicles include historical vehicles, spec/farm equipment, etc.)
Fee-Paid Registered	**33,768,367**	
Exempt Registered	577,958	
Total Registered:	**34,346,325**	
Foreign Based IRP Trucks	1,549,000	(Vehicles based in other states which pay fees to operate in California.)

AVERAGE FEE PAID BY BASIC VEHICLE TYPE (does not include IRP)

	TRUCK (CVRA)	TRUCK * (Non-CVRA)	AUTO	MOTORCYCLE	TRAILER (CCH)
Registration Fee	$46	$46	$46	$46	$46
CHP Fee	40	24	24	24	24
Vehicle License Fee (VLF)	199	53	79	28	52
Weight Fee	0	94	0	0	0
CVRA Fee **	904	0	0	0	0
Motorcycle Safety Fee	0	0	0	2	0
Total	***$1,189***	***$217***	***$149***	***$100***	***$122***
Percent of All Vehicles	1.5%	16.2%	78.1%	2.6%	1.3%

(The fee calculation does not include special fees such as air quality fees, abandoned vehicle fees, etc. that vary by county and air quality district)

NOTE: The current average VLF is $74 per vehicle, and the current overall Total fee paid per vehicle registration is $174.

* Includes pickup trucks and vehicles used or maintained for hire or for transportation of persons or of property.
** The first $122 of the CVRA fee is allocated to the Motor Vehicle Account.

DMV Forecasting Unit (916) 657-[illegible] March 2016

California Department of Motor Vehicles, Statistics for Publication January – December 2015

Response No. O9-125:

The commenter does not identify the relevance or purpose of this attachment; therefore, no more specific response can be provided or is required. Please see Topical Response 3: Zero Emission Vehicles at Newhall Ranch and Response to Comment Nos. O9-24 through O9-31 for additional information regarding the use of EVs at the project site.

Comment No. 09-126:

Provided below is the first page of Exhibit P to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

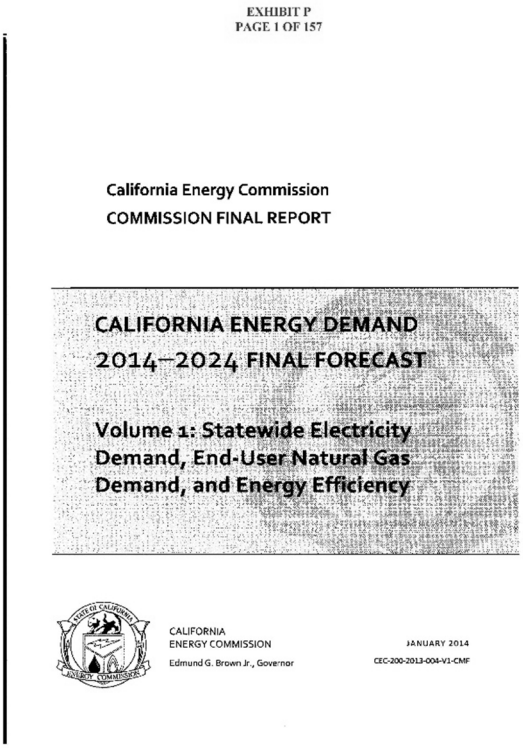

EXHIBIT P
PAGE 1 OF 157

California Energy Commission
COMMISSION FINAL REPORT

CALIFORNIA ENERGY DEMAND
2014–2024 FINAL FORECAST

Volume 1: Statewide Electricity Demand, End-User Natural Gas Demand, and Energy Efficiency

CALIFORNIA
ENERGY COMMISSION
Edmund G. Brown Jr., Governor

JANUARY 2014
CEC-200-2013-004-V1-CMF

California Energy Commission, California Energy Demand 2014–2024 Final Forecast, Volume 1: Statewide Electricity Demand, End-User Natural Gas Demand, and Energy Efficiency at 43 (Table 11) (January 2014)

Response No. 09-126:

This CEC report was cited by the commenter as a relevant source document for establishing that there will be roughly ten times as many PHEVs than BEVs on the road in 2024. CEC report, which reports 2012 data, does not adequately disclose the trend in BEVs versus PHEVs. As illustrated in **Response to Comment No. 09-29**, in 2013 and by the end of 2015, BEV sales exceeded sales of PHEVs. This trend is expected to continue for reasons discussed in **Topical Response 3: Zero Emission Vehicles at Newhall Ranch** that relate to CARB's comprehensive strategy to facilitate the penetration of zero-emissions technologies in the light-duty vehicle sector. For the reasons stated above, the Draft AEA analysis properly accounts for the difference between BEVs and PHEVs.

Comment No. 09-127:

Provided below is the first page of Exhibit Q to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

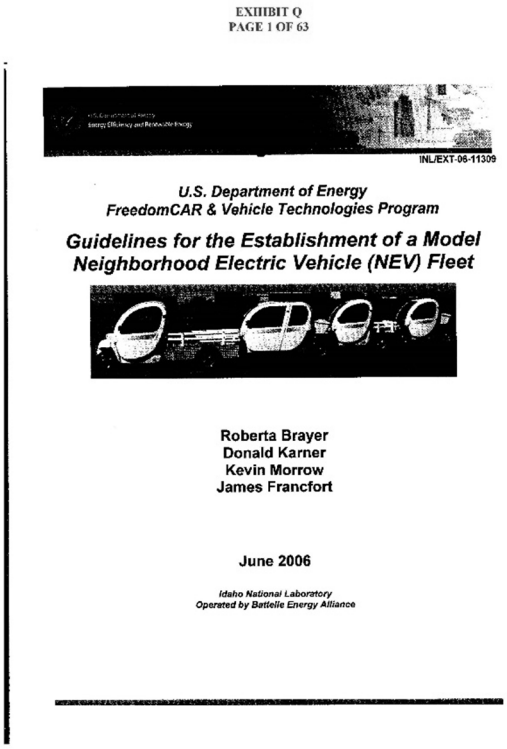

EXHIBIT Q
PAGE 1 OF 63

INL/EXT-06-11309

U.S. Department of Energy
FreedomCAR & Vehicle Technologies Program

Guidelines for the Establishment of a Model Neighborhood Electric Vehicle (NEV) Fleet

Roberta Brayer
Donald Karner
Kevin Morrow
James Francfort

June 2006

Idaho National Laboratory
Operated by Battelle Energy Alliance

Roberta Brayer et al., USDOE, Guidelines for the Establishment of a Model Neighborhood Electric Vehicle (NEV) Fleet, Report No. INL/EXT-06-11309 at 2 (June 2006)

Response No. 09-127:

This publication was cited by the commenter as a relevant source document for establishing that an NEV's range is typically around 30 miles for each full charge, in support of the comment's conclusion that the emissions reduction from EV and NEV are double counted. As described in **Response to Comment No. 09-31**, the GHG emission reductions attributable to mitigation measures for mobile sources were sequenced in order to eliminate potential double counting. As explained in Section 4.1.1 of the Draft AEA Appendix 1, the GHG emission reduction benefits of Mitigation Measure 2-6 (TDM Plan), including its NEV strategy, are subtracted from the project's unmitigated mobile source inventory before accounting for the benefit of Mitigation Measure 2-5. This approach is consistent with CAPCOA methodology on how to incorporate reductions from the NEV commitment.

Comment No. 09-128:

Provided below is the first page of Exhibit R to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

EXHIBIT R
PAGE 1 OF 6

Neighborhood Electric Vehicles: A Marginal Option | PluginCars.com http://www.plugincars.com/neighborhood-electric-vehicle-margins-1272...

Log In
Fac
iOS

Home Cars Guides Charging Stations

Level 2 EV Home Charger
ChargePoint Home - Faster Charger for your electric car. Go to chargepoint.com/home

Tweet 1
G+1

Neighborhood Electric Vehicles: A Marginal Option

By Nikki Gordon-Bloomfield | May 15, 2013

Acquired by Polaris Industries in 2011, GEM is the market leader for neighborhood electric vehicles. The e2 sells for below $8,000

Visit certain cities around the world, and you'll see tiny electric cars quietly whizzing around the streets, taking residents and holiday makers from place to place, delivering goods, or even doing the daily commute.

Called Neighborhood Electric Vehicles— NEVs for short—these small cars don't have the range or performance of bigger, highway-capable cars like the Nissan LEAF. But they can provide some consumers the first real-world experience of electric cars without breaking the bank.

Living with Limits

In most states, NEVs are electronically restricted by law to a top speed of between 25 and 35 miles per hour. In some cases, this means they cannot be driven on roads with a posted speed limit of 25 mph or greater, severely restricting where they can be driven.

Speed isn't the only thing that's limited in NEVs. Because most are powered by heavy battery packs—

Level 2 E
Home Ch
ChargePoint
Charger for y
car.
chargepoint.com

New to EVs? Start

1. Seven Things To Buying a Plug-In El
A few simple tips befor dealership.

2. Incentives for Plu Electric Cars (federal
take advantage of cre reduce EV costs.

3. Buying Your Firs
You'll want a home ch buy the right one.

Read all our Guide

1 of 6 1/31/2017 2:57 PM

Nikki Gordon-Bloomfield, Neighborhood Electric Vehicles: A Marginal Option (May 15, 2013), at http://www.plugincars.com/neighborhood-electric-vehicle-margins-127231.html

Response No. 09-128:

This publication was cited by the commenter as a relevant source document for establishing that an NEV's range is typically around 30 miles for each full charge, in support of the comment's conclusion that the emissions reduction from EV and NEV are double counted. Please see **Response to Comment No. 09-127** above for relevant information that is responsive to the commenter's inclusion of this attachment.

Comment No. 09-129:

Provided below is the first page of Exhibit S to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

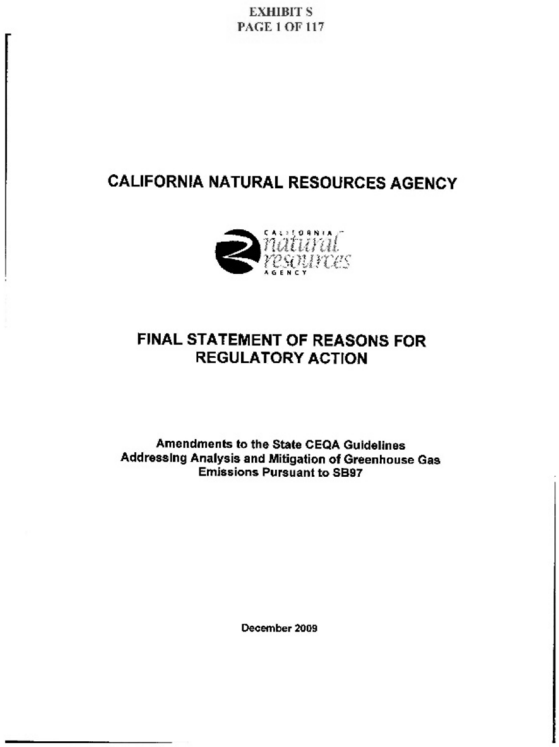

EXHIBIT S
PAGE 1 OF 117

CALIFORNIA NATURAL RESOURCES AGENCY

FINAL STATEMENT OF REASONS FOR REGULATORY ACTION

Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97

December 2009

Response No. 09-129:

This publication was cited by the commenter as a relevant source document for establishing that CEQA Guidelines Section 15126.5(c)(3) requires carbon offsets used for mitigation to be additional. As described in **Response to Comment No. 09-36**, the GHG Reduction Plan has been revised in response to comments to establish performance standards to comply with CEQA Guidelines Section 15126.5(c)(3).

Comment No. 09-130:

Provided below is the first page of Exhibit T to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

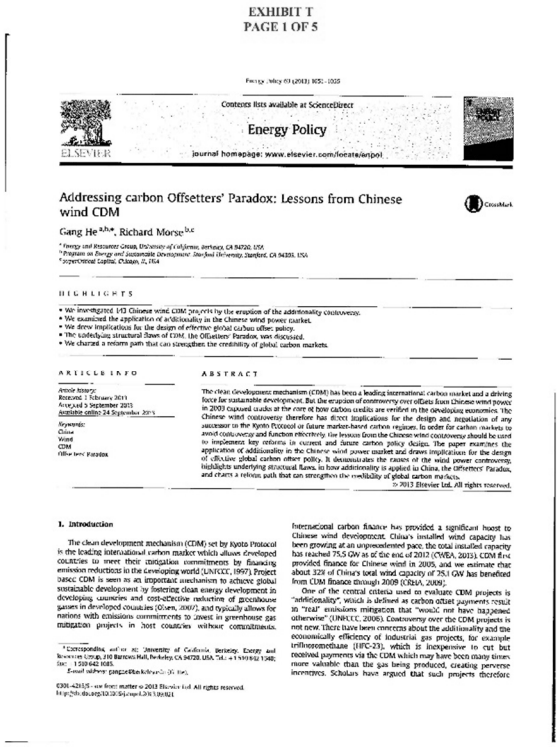

EXHIBIT T
PAGE 1 OF 5

Energy Policy 63 (2013) 1025–1035

Contents lists available at ScienceDirect

Energy Policy

journal homepage: www.elsevier.com/locate/enpol

Addressing carbon Offsetters' Paradox: Lessons from Chinese wind CDM

Gang He [a,b,*], Richard Morse [b,c]

[a] Energy and Resources Group, University of California, Berkeley, CA 94720, USA
[b] Program on Energy and Sustainable Development, Stanford University, Stanford, CA 94305, USA
[c] SuperCritical Capital, Chicago, IL, USA

HIGHLIGHTS

- We investigated 143 Chinese wind CDM projects hit by the eruption of the additionality controversy.
- We examined the application of additionality in the Chinese wind power market.
- We drew implications for the design of effective global carbon offset policy.
- The underlying structural flaws of CDM, the Offsetters' Paradox, was discussed.
- We charted a reform path that can strengthen the credibility of global carbon markets.

ARTICLE INFO

Article history:
Received 1 February 2013
Accepted 3 September 2013
Available online 24 September 2013

Keywords:
China
Wind
CDM
Offsetters' Paradox

ABSTRACT

The clean development mechanism (CDM) has been a leading international carbon market and a driving force for sustainable development. But the eruption of controversy over offsets from Chinese wind power in 2009 exposed doubts at the core of how carbon credits are verified in the developing economies. The Chinese wind controversy therefore has direct implications for the design and negotiation of any successor to the Kyoto Protocol or future market-based carbon regimes. In order for carbon markets to avoid controversy and function effectively the lessons from the Chinese wind controversy should be used to implement key reforms in current and future carbon policy design. The paper examines the application of additionality in the Chinese wind power market and draws implications for the design of effective global carbon offset policy. It demonstrates the causes of the wind power controversy, highlights underlying structural flaws in how additionality is applied in China, the Offsetters' Paradox, and charts a reform path that can strengthen the credibility of global carbon markets.

1. Introduction

The clean development mechanism (CDM) set by Kyoto Protocol is the leading international carbon market which allows developed countries to meet their mitigation commitments by financing emission reductions in the developing world (UNFCCC, 1997). Project based CDM is seen as an important mechanism to achieve global sustainable development by fostering clean energy development in developing countries and cost-effective reduction of greenhouse gasses in developed countries (Olsen, 2007), and typically allows for nations with emissions commitments to invest in greenhouse gas mitigation projects in host countries without commitments. International carbon finance has provided a significant boost to Chinese wind development. China's installed wind capacity has been growing at an unprecedented pace; the total installed capacity has reached 75.5 GW as of the end of 2012 (CWEA, 2013). CDM first provided finance for Chinese wind in 2005, and we estimate that about 32% of China's total wind capacity of 75.1 GW has benefited from CDM finance through 2009 (CREIA, 2009).

One of the central criteria used to evaluate CDM projects is "additionality", which is defined as carbon offset payments result in "real" emissions mitigation that "would not have happened otherwise" (UNFCCC, 2006). Controversy over the CDM projects is not new. There have been concerns about the additionality and the economically efficiency of industrial gas projects, for example trifluoromethane (HFC-23), which is inexpensive to cut but received payments via the CDM which may have been many times more valuable than the gas being produced, creating perverse incentives. Scholars have argued that such projects therefore

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0301-4215/$ - see front matter © 2013 Elsevier Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.enpol.2013.09.021

Response No. 09-130:

This publication was cited by the commenter as a relevant source document for speculation that "possibly the large majority" of CDM projects do not represent real additional emission reductions. As described in **Response to Comment No. 09-49**, the GHG Reduction Plan has been revised in response to comments to remove the CDM from the list of Approved Registries and to clarify that Carbon Offsets may not be issued using CDM methodologies.

Comment No. 09-131:

Provided below is the first page of Exhibit U to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

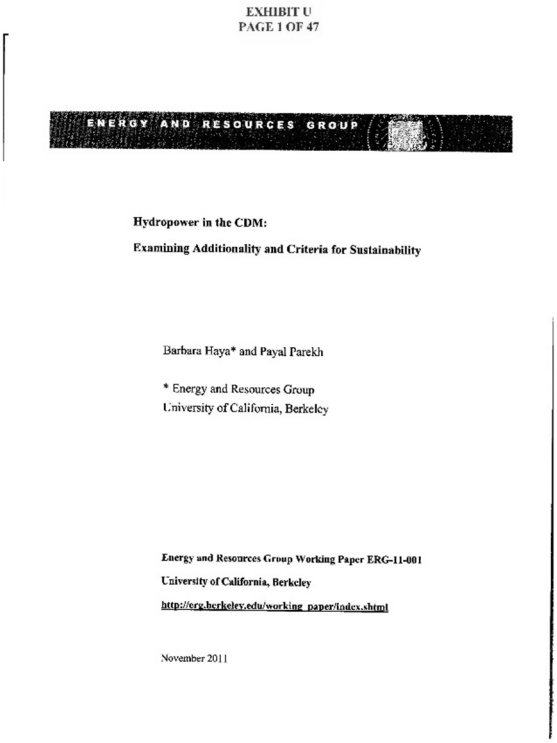

EXHIBIT U
PAGE 1 OF 47

ENERGY AND RESOURCES GROUP

Hydropower in the CDM:
Examining Additionality and Criteria for Sustainability

Barbara Haya* and Payal Parekh

* Energy and Resources Group
University of California, Berkeley

Energy and Resources Group Working Paper ERG-11-001
University of California, Berkeley
http://erg.berkeley.edu/working_paper/index.shtml

November 2011

Response No. 09-131:

This publication was cited by the commenter as a relevant source document for speculation that "possibly the large majority" of CDM projects do not represent real additional emission reductions. As described in **Response to Comment No. 09-49**, the GHG Reduction Plan has been revised in response to comments to remove the CDM from the list of Approved Registries and to clarify that Carbon Offsets may not be issued using CDM methodologies.

Comment No. 09-132:

Provided below is the first page of Exhibit V to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

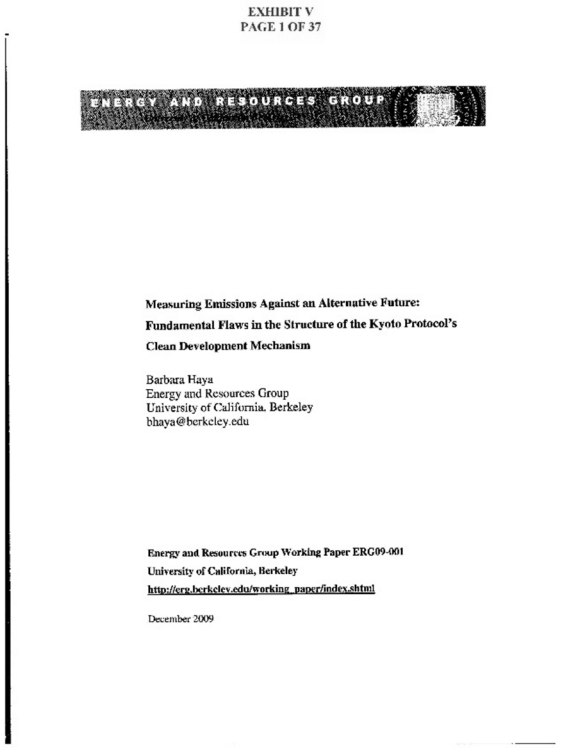

EXHIBIT V
PAGE 1 OF 37

ENERGY AND RESOURCES GROUP

Measuring Emissions Against an Alternative Future:
Fundamental Flaws in the Structure of the Kyoto Protocol's
Clean Development Mechanism

Barbara Haya
Energy and Resources Group
University of California, Berkeley
bhaya@berkeley.edu

Energy and Resources Group Working Paper ERG09-001
University of California, Berkeley
http://erg.berkeley.edu/working_paper/index.shtml

December 2009

Response No. 09-132:

This publication was cited by the commenter as a relevant source document for speculation that "possibly the large majority" of CDM projects do not represent real additional emission reductions. As described in **Response to Comment No. 09-49**, the GHG Reduction Plan has been revised in response to comments to remove the CDM from the list of Approved Registries and to clarify that Carbon Offsets may not be issued using CDM methodologies.

Comment No. 09-133:

Provided below is the first page of Exhibit W to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

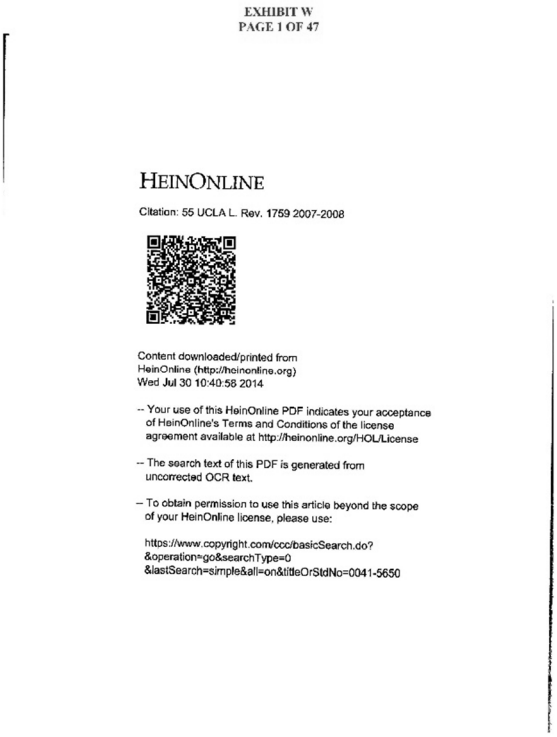

EXHIBIT W
PAGE 1 OF 47

Response No. 09-133:

This publication was cited by the commenter as a relevant source document for speculation that "possibly the large majority" of CDM projects do not represent real additional emission reductions. As described in **Response to Comment No. 09-49**, the GHG Reduction Plan has been revised in response to comments to remove the CDM from the list of Approved Registries and to clarify that Carbon Offsets may not be issued using CDM methodologies.

Comment No. 09-134:

Provided below is the first page of Exhibit X to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

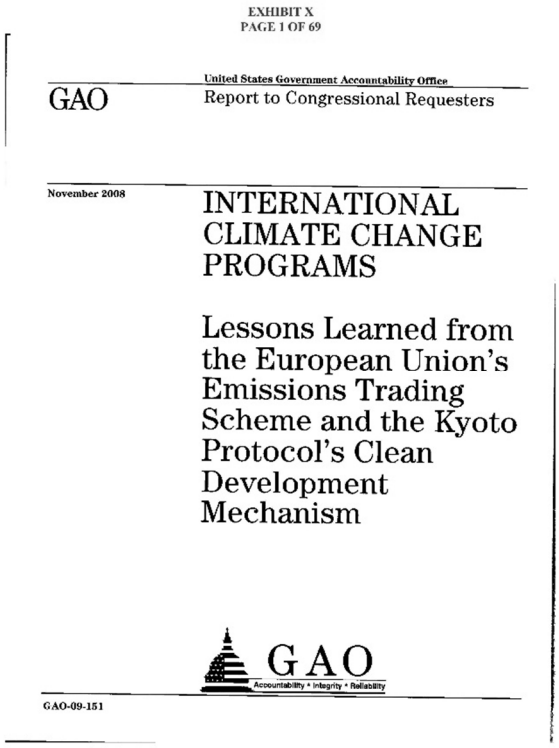

EXHIBIT X
PAGE 1 OF 69

United States Government Accountability Office
GAO
Report to Congressional Requesters

November 2008

INTERNATIONAL CLIMATE CHANGE PROGRAMS

Lessons Learned from the European Union's Emissions Trading Scheme and the Kyoto Protocol's Clean Development Mechanism

GAO
Accountability * Integrity * Reliability

GAO-09-151

Response No. 09-134:

This publication was cited by the commenter as a relevant source document for speculation that "possibly the large majority" of CDM projects do not represent real additional emission reductions. As described in **Response to Comment No. 09-49**, the GHG Reduction Plan has been revised in response to comments to remove the CDM from the list of Approved Registries and to clarify that Carbon Offsets may not be issued using CDM methodologies.

Comment No. 09-135:

Provided below is the first page of Exhibit Y to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

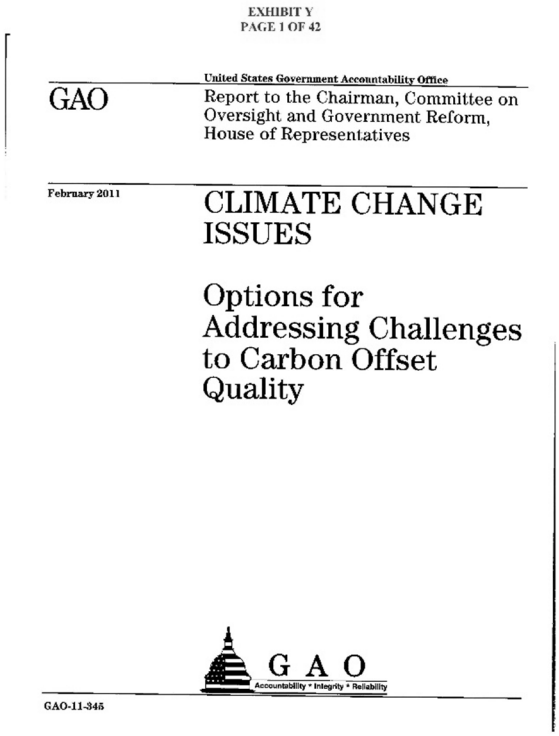

EXHIBIT Y
PAGE 1 OF 42

United States Government Accountability Office

GAO

Report to the Chairman, Committee on Oversight and Government Reform, House of Representatives

February 2011

CLIMATE CHANGE ISSUES

Options for Addressing Challenges to Carbon Offset Quality

GAO
Accountability * Integrity * Reliability

GAO-11-345

Response No. 09-135:

This publication was cited by the commenter as support for commenter's assertion that CDM projects do not represent real additional emission reductions. As described in **Response to Comment No. 09-49**, the GHG Reduction Plan has been revised in response to comments to remove the CDM from the list of Approved Registries and to clarify that Carbon Offsets may not be issued using CDM methodologies.

Comment No. 09-136:

Provided below is the first page of Exhibit Z to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

EXHIBIT Z
PAGE 1 OF 99

Carbon Offsetting: An Efficient Way to Reduce Emissions or to Avoid Reducing Emissions?
An Investigation and Analysis of Offsetting Design and Practice in India and China

by

Barbara Kresch Haya

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Energy and Resources

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Richard B. Norgaard, Chair
Professor Michael O'Hare
Professor Kate O'Neill

Fall 2010

Response No. 09-136:

This publication was cited by the commenter as support for commenter's assertion that CDM projects do not represent real additional emission reductions. As described in **Response to Comment No. 09-49**, the GHG Reduction Plan has been revised in response to comments to remove the CDM from the list of Approved Registries and to clarify that Carbon Offsets may not be issued using CDM methodologies.

Comment No. O9-137:

Provided below is the first page of Exhibit AA to Letter No. O9. A full copy of the attachment is available on the CD that accompanies the Final AEA.

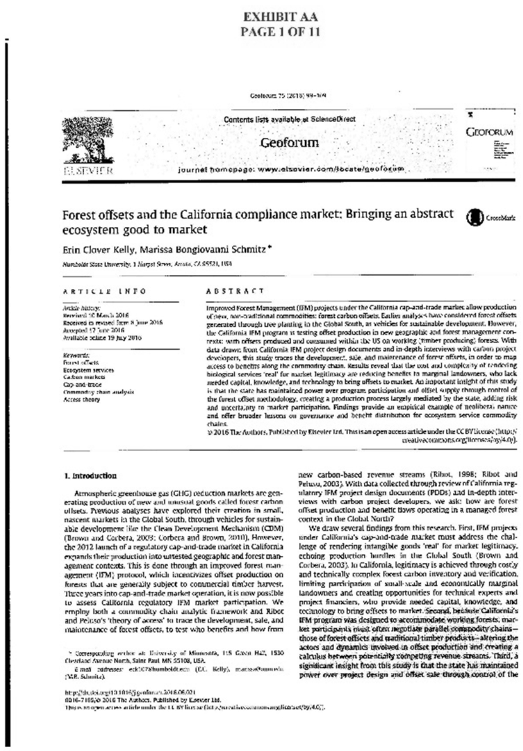

EXHIBIT AA
PAGE 1 OF 11

Geoforum 75 (2016) 99–109

Contents lists available at ScienceDirect

Geoforum

journal homepage: www.elsevier.com/locate/geoforum

Forest offsets and the California compliance market: Bringing an abstract ecosystem good to market

Erin Clover Kelly, Marissa Bongiovanni Schmitz*

Humboldt State University, 1 Harpst Street, Arcata, CA 95521, USA

ARTICLE INFO

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Forest offsets
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Carbon markets
Cap-and-trade
Commodity chain analysis
Access theory

ABSTRACT

Improved Forest Management (IFM) projects under the California cap-and-trade market allow production of new, non-traditional commodities: forest carbon offsets. Earlier analyses have considered forest offsets generated through tree planting in the Global South, as vehicles for sustainable development. However, the California IFM program is testing offset production in new geographic and forest management contexts: with offsets produced and consumed within the US on working (timber producing) forests. With data drawn from California IFM project design documents and in-depth interviews with carbon project developers, this study traces the development, sale, and maintenance of forest offsets, in order to map access to benefits along the commodity chain. Results reveal that the cost and complexity of rendering biological services 'real' for market legitimacy are reducing benefits to marginal landowners, who lack needed capital, knowledge, and technology to bring offsets to market. An important insight of this study is that the state has maintained power over program participation and offset supply through control of the forest offset methodology, creating a production process largely mediated by the state, adding risk and uncertainty to market participation. Findings provide an empirical example of neoliberal nature and offer broader lessons on governance and benefit distribution for ecosystem service commodity chains.

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1. Introduction

Atmospheric greenhouse gas (GHG) reduction markets are generating production of new and unusual goods called forest carbon offsets. Previous analyses have explored their creation in small, nascent markets in the Global South, through vehicles for sustainable development like the Clean Development Mechanism (CDM) (Brown and Corbera, 2003; Corbera and Brown, 2010). However, the 2012 launch of a regulatory cap-and-trade market in California expands their production into untested geographic and forest management contexts. This is done through an improved forest management (IFM) protocol, which incentivizes offset production on forests that are generally subject to commercial timber harvest. Three years into cap-and-trade market operation, it is now possible to assess California regulatory IFM market participation. We employ both a commodity chain analytic framework and Ribot and Peluso's 'theory of access' to trace the development, sale, and maintenance of forest offsets, to test who benefits and how from new carbon-based revenue streams (Ribot, 1998; Ribot and Peluso, 2003). With data collected through review of California regulatory IFM project design documents (PDDs) and in-depth interviews with carbon project developers, we ask: how are forest offset production and benefit flows operating in a managed forest context in the Global North?

We draw several findings from this research. First, IFM projects under California's cap-and-trade market must address the challenge of rendering intangible goods 'real' for market legitimacy, echoing production hurdles in the Global South (Brown and Corbera, 2003). In California, legitimacy is achieved through costly and technically complex forest carbon inventory and verification, limiting participation of small-scale and economically marginal landowners and creating opportunities for technical experts and project financiers, who provide needed capital, knowledge, and technology to bring offsets to market. Second, because California's IFM program was designed to accommodate working forests, market participants must often negotiate parallel commodity chains—those of forest offsets and traditional timber products—altering the actors and dynamics involved in offset production and creating a calculus between potentially competing revenue streams. Third, a significant insight from this study is that the state has maintained power over project design and offset sale through control of the

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Response No. O9-137:

This publication was cited by the commenter as a relevant source document for asserting that CARB-approved improved forest management carbon offset projects result in non-additional offsets. The publication raises questions about carbon forest carbon markets, including whether regulatory uncertainty and low carbon prices are preventing smaller landowners from access forest carbon markets. The paper does not establish, or even attempt to establish, that improved forest management projects are not additional. To the contrary, as described in Response to Comment No. O9-51, CARB forestry projects generate additional offsets, as CARB and California courts have found. See Response to Comment No. O9-32 for a discussion of using carbon offsets and direct reduction activities to mitigate GHG emissions.

Comment No. 09-138:

Provided below is the first page of Exhibit BB to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

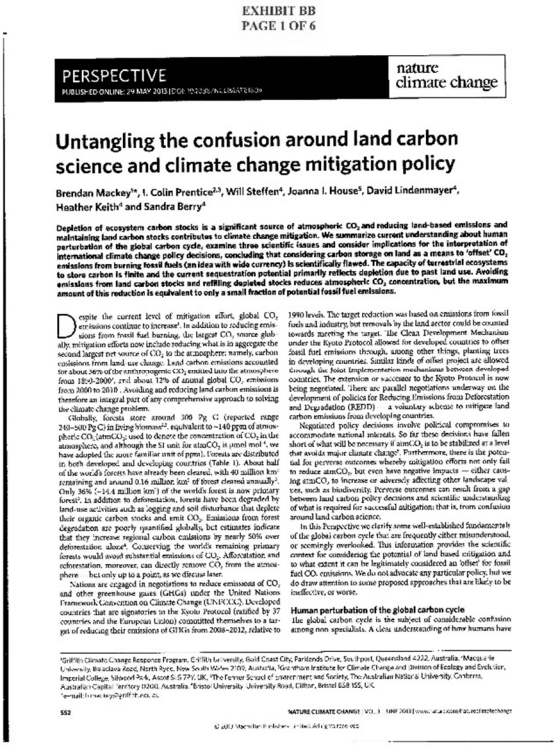

EXHIBIT BB
PAGE 1 OF 6

PERSPECTIVE
PUBLISHED ONLINE: 29 MAY 2013 | DOI: 10.1038/NCLIMATE1804

nature climate change

Untangling the confusion around land carbon science and climate change mitigation policy

Brendan Mackey[1]*, I. Colin Prentice[2,3], Will Steffen[4], Joanna I. House[5], David Lindenmayer[6], Heather Keith[6] and Sandra Berry[4]

Depletion of ecosystem carbon stocks is a significant source of atmospheric CO_2 and reducing land-based emissions and maintaining land carbon stocks contributes to climate change mitigation. We summarize current understanding about human perturbation of the global carbon cycle, examine three scientific issues and consider implications for the interpretation of international climate change policy decisions, concluding that considering carbon storage on land as a means to 'offset' CO_2 emissions from burning fossil fuels (an idea with wide currency) is scientifically flawed. The capacity of terrestrial ecosystems to store carbon is finite and the current sequestration potential primarily reflects depletion due to past land use. Avoiding emissions from land carbon stocks and refilling depleted stocks reduces atmospheric CO_2 concentration, but the maximum amount of this reduction is equivalent to only a small fraction of potential fossil fuel emissions.

Despite the current level of mitigation effort, global CO_2 emissions continue to increase[1]. In addition to reducing emissions from fossil fuel burning, the largest CO_2 source globally, mitigation efforts now include reducing what is in aggregate the second largest net source of CO_2 to the atmosphere, namely, carbon emissions from land use change. Land carbon emissions accounted for about 36% of the anthropogenic CO_2 emitted into the atmosphere from 1750–2000[2], and about 12% of annual global CO_2 emissions from 2000 to 2010[1]. Avoiding and reducing land carbon emissions is therefore an integral part of any comprehensive approach to solving the climate change problem.

Globally, forests store around 300 Pg C (reported range 240–500 Pg C) in living biomass[3], equivalent to ~140 ppm of atmospheric CO_2 ($atmCO_2$) used to denote the concentration of CO_2 in the atmosphere, and although the SI unit for $atmCO_2$ is μmol mol^{-1}, we have adopted the more familiar unit of ppm). Forests are distributed in both developed and developing countries (Table 1). About half of the world's forests have already been cleared, with 40 million ha remaining and around 0.16 million ha[4] of forest cleared annually[5]. Only 36% (~14.4 million km^2) of the world's forest is now primary forest[6]. In addition to deforestation, forests have been degraded by land-use activities such as logging and soil disturbance that deplete their organic carbon stocks and emit CO_2. Emissions from forest degradation are poorly quantified globally, but estimates indicate that they increase regional carbon emissions by nearly 50% over deforestation alone[4]. Conserving the world's remaining primary forests would avoid substantial emissions of CO_2. Afforestation and reforestation, moreover, can directly remove CO_2 from the atmosphere — but only up to a point, as we discuss later.

Nations are engaged in negotiations to reduce emissions of CO_2 and other greenhouse gases (GHGs) under the United Nations Framework Convention on Climate Change (UNFCCC). Developed countries that are signatories to the Kyoto Protocol (ratified by 37 countries and the European Union) committed themselves to a target of reducing their emissions of GHGs from 2008–2012, relative to 1990 levels. The target reduction was based on emissions from fossil fuels and industry, but removals by the land sector could be counted towards meeting the target. The Clean Development Mechanism under the Kyoto Protocol allowed for developed countries to offset fossil fuel emissions through, among other things, planting trees in developing countries. Similar kinds of offset project are allowed through the Joint Implementation mechanism between developed countries. The extension or successor to the Kyoto Protocol is now being negotiated. There are parallel negotiations underway on the development of policies for Reducing Emissions from Deforestation and Degradation (REDD) — a voluntary scheme to mitigate land carbon emissions from developing countries.

Negotiated policy decisions involve political compromises to accommodate national interests. So far these decisions have fallen short of what will be necessary if $atmCO_2$ is to be stabilized at a level that avoids major climate change[2]. Furthermore, there is the potential for perverse outcomes whereby mitigation efforts not only fail to reduce $atmCO_2$ but even have negative impacts — either causing $atmCO_2$ to increase or adversely affecting other landscape values, such as biodiversity. Perverse outcomes can result from a gap between land carbon policy decisions and scientific understanding of what is required for successful mitigation; that is, from confusion around land carbon science.

In this Perspective we clarify some well-established fundamentals of the global carbon cycle that are frequently either misunderstood, or seemingly overlooked. This information provides the scientific context for considering the potential of land based mitigation and to what extent it can be legitimately considered an 'offset' for fossil fuel CO_2 emissions. We do not advocate any particular policy, but we do draw attention to some proposed approaches that are likely to be ineffective, or worse.

Human perturbation of the global carbon cycle

The global carbon cycle is the subject of considerable confusion among non specialists. A clear understanding of how humans have

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Response No. 09-138:

This publication was cited by the commenter as support for commenter's assertion that there are fundamental physical limits on the ability of the earth's forests to absorb fossil fuel emissions, but the commenter provides no evidence to suggest that those limits will prevent forests from mitigation the project's emissions. As described in **Response to Comment No. 09-51**, loss or mismanagement of forests represents a significant threat as climate stability and forest offset projects are an opportunity to mitigate the harmful effects of GHG emissions. See **Response to Comment No. 09-32** for a discussion of using carbon offsets and direct reduction activities to mitigate GHG emissions.

Comment No. O9-139:

Provided below is the first page of Exhibit CC to Letter No. O9. A full copy of the attachment is available on the CD that accompanies the Final AEA.

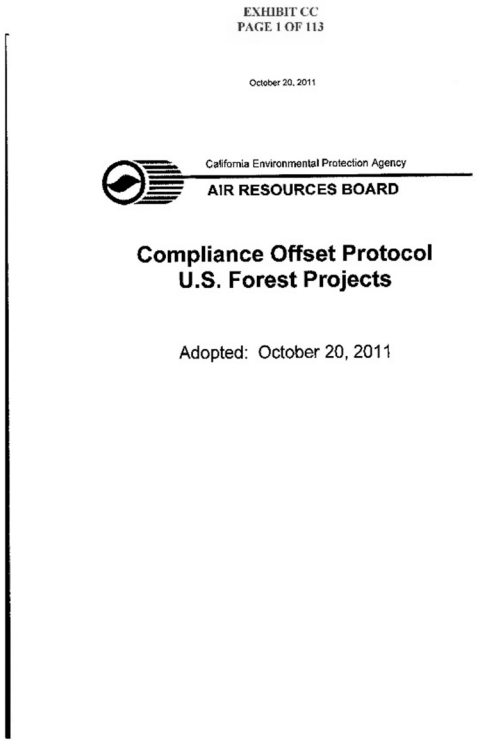

EXHIBIT CC
PAGE 1 OF 113

October 20, 2011

California Environmental Protection Agency
AIR RESOURCES BOARD

Compliance Offset Protocol
U.S. Forest Projects

Adopted: October 20, 2011

Response No. O9-139:

The commenter cites this publication as evidence that CARB forest carbon offset protocol requires GHG emission reductions to be monitored for 100 years. No further response is required. As described in **Response to Comment No. O9-51**, loss or mismanagement of forests represents a significant threat as climate stability and forest offset projects are an opportunity to mitigate the harmful effects of GHG emissions. See **Response to Comment No. O9-32** for a discussion of using carbon offsets and direct reduction activities to mitigate GHG emissions.

Comment No. 09-140:

Provided below is the first page of Exhibit DD to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

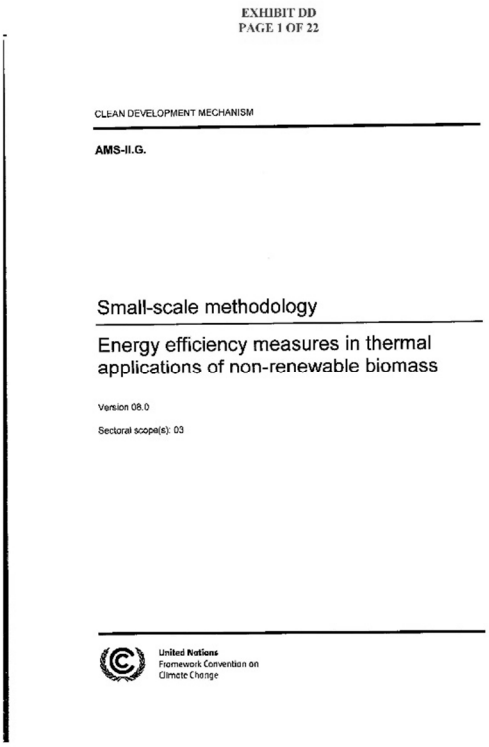

EXHIBIT DD
PAGE 1 OF 22

CLEAN DEVELOPMENT MECHANISM

AMS-II.G.

Small-scale methodology

Energy efficiency measures in thermal applications of non-renewable biomass

Version 08.0

Sectoral scope(s): 03

United Nations
Framework Convention on
Climate Change

Response No. 09-140:

The commenter cites this publication as evidence that CARB forest carbon offset protocol requires GHG emission reductions to be monitored for 100 years. No response is required. As described in **Response to Comment No. 09-51**, loss or mismanagement of forests represents a significant threat as climate stability and forest offset projects are an opportunity to mitigate the harmful effects of GHG emissions. See **Response to Comment No. 09-32** for a discussion of using carbon offsets and direct reduction activities to mitigate GHG emissions.

Comment No. 09-141:

Provided below is the first page of Exhibit EE to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

EXHIBIT EE
PAGE 1 OF 9

Articles

A cleaner burning biomass-fuelled cookstove intervention to prevent pneumonia in children under 5 years old in rural Malawi (the Cooking and Pneumonia Study): a cluster randomised controlled trial

Kevin Mortimer, Chifundo B Ndamala, Andrew W Naunje, Jullita Malava, Cynthia Katundu, William Weston, Deborah Havens, Daniel Pope, Nigel G Bruce, Moffat Nyirenda, Duolao Wang, Amelia Crampin, Jonathan Grigg, John Balmes, Stephen B Gordon

Summary

Background WHO estimates exposure to air pollution from cooking with solid fuels is associated with over 4 million premature deaths worldwide every year including half a million children under the age of 5 years from pneumonia. We hypothesised that replacing open fires with cleaner burning biomass-fuelled cookstoves would reduce pneumonia incidence in young children.

Methods We did a community-level open cluster randomised controlled trial to compare the effects of a cleaner burning biomass-fuelled cookstove intervention to continuation of open fire cooking on pneumonia in children living in two rural districts, Chikhwawa and Karonga, of Malawi. Clusters were randomly allocated to intervention and control groups using a computer-generated randomisation schedule with stratification by site, distance from health centre, and size of cluster. Within clusters, households with a child under the age of 4·5 years were eligible. Intervention households received two biomass-fuelled cookstoves and a solar panel. The primary outcome was WHO Integrated Management of Childhood Illness (IMCI)-defined pneumonia episodes in children under 5 years of age. Efficacy and safety analyses were by intention to treat. The trial is registered with ISRCTN, number ISRCTN59448623.

Findings We enrolled 10 750 children from 8626 households across 150 clusters between Dec 9, 2013, and Feb 28, 2016. 10 543 children from 8470 households contributed 15 991 child-years of follow-up data to the intention-to-treat analysis. The IMCI pneumonia incidence rate in the intervention group was 15·76 (95% CI 14·89–16·63) per 100 child-years and in the control group 15·58 (95% CI 14·72–16·45) per 100 child-years, with an intervention versus control incidence rate ratio (IRR) of 1·01 (95% CI 0·91–1·13; p=0·80). Cooking-related serious adverse events (burns) were seen in 19 children; nine in the intervention and ten (one death) in the control group (IRR 0·91 [95% CI 0·37–2·23]; p=0·83).

Interpretation We found no evidence that an intervention comprising cleaner burning biomass-fuelled cookstoves reduced the risk of pneumonia in young children in rural Malawi. Effective strategies to reduce the adverse health effects of household air pollution are needed.

Funding Medical Research Council, UK Department for International Development, and Wellcome Trust.

Lancet 2017; 389: 167–75

Published Online December 6, 2016

Introduction

Almost half of the world's population, including 700 million Africans, rely on biomass fuels for cooking (eg, animal dung, crop residues, wood, and charcoal).[1,2] Although a billion people in sub-Saharan Africa are projected to gain access to electricity by 2040, 530 million will remain dependent on biomass fuels.[3] Biomass fuel is typically burned in open fires, often indoors, leading to high levels of household air pollution from smoke. Women and children experience high exposures in and around the home due to gender-based domestic roles and these exposures have been linked to a range of adverse health outcomes, including chronic obstructive pulmonary disease, lung cancer, ischaemic heart disease, asthma, and pneumonia.[2–4] Household air pollution from biomass fuel smoke is a leading cause of global disability and mortality with over 4 million deaths attributed to this exposure annually by WHO.[5,6] This burden, including about half a million deaths due to pneumonia in young children, falls disproportionately on the poor, especially in sub-Saharan Africa. In Malawi, pneumonia is a leading cause of mortality among children younger than 5 years of age.[7,8] Over 95% of households depend on biomass for fuel and household air pollution levels are high and well beyond WHO safe limits.[9] A substantial burden of pneumonia in young children might be attributable to biomass smoke exposure in this setting.

Two trials to assess the effects of interventions to reduce exposure to biomass smoke on health outcomes have been published to date.[8,11] Both trials used stoves

www.thelancet.com Vol 389 January 14, 2017 167

Response No. 09-141:

This publication was cited by the commenter as support for commenter's characterization of the CDM cookstove project methodology. As described in Response to Comment No. 09-49, the GHG Reduction Plan has been revised in response to comments to remove the CDM from the list of Approved Registries and to clarify that Carbon Offsets may not be issued using CDM methodologies.

Comment No. 09-142:

Provided below is the first page of Exhibit FF to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

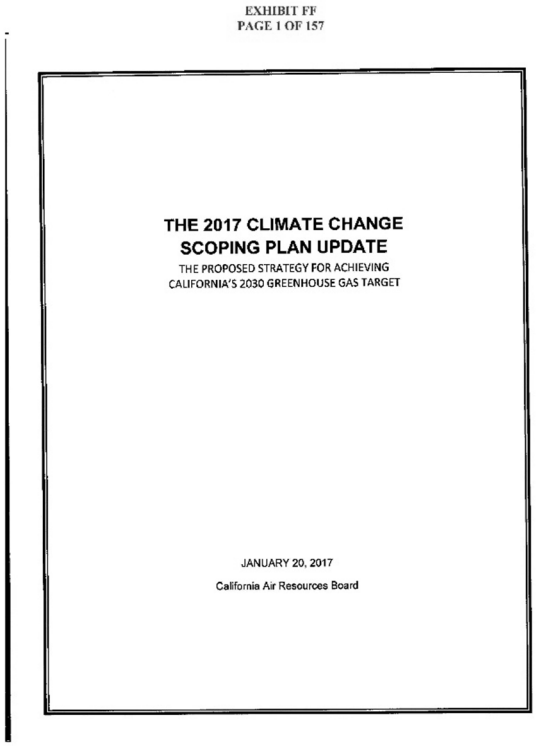

EXHIBIT FF
PAGE 1 OF 157

THE 2017 CLIMATE CHANGE SCOPING PLAN UPDATE

THE PROPOSED STRATEGY FOR ACHIEVING CALIFORNIA'S 2030 GREENHOUSE GAS TARGET

JANUARY 20, 2017

California Air Resources Board

Response No. 09-142:

This publication was cited by the commenter as a relevant source document to support the position that the project's GHG Reduction Plan precludes consideration of other feasible alternatives and mitigation measures. Please see **Response to Comment Nos. 09-59** through **09-61** above for relevant information that is responsive to the commenter's inclusion of this attachment. It also is noted that CARB, on page 136 of this publication, favorably refers to the project as a recent example of a sustainable land use development project that demonstrates the feasibility of achieving net zero emissions.

Comment No. 09-143:

INTRODUCTION

BACKGROUND

The Center for Biological Diversity (CBD) contracted with cbec, inc. eco engineering (cbec) to perform a technical review focusing on potential impacts to unarmored three-spine stickleback (UTS) from "No Water Contact (NWC)" design and construction related to the river reach involved in the Newhall Ranch project Technical Review as related to development and associated bridge construction at two locations on the Santa Clara River. This review is limited to comments on the adequacy of data, methods, and findings, with respect to hydrology, hydraulics, and geomorphology.

Response No. 09-143:

This comment states that CBD contracted with cbec "to perform a technical review" of the proposed "No Water Contact" approach to the design and construction of bridges at "two locations on the Santa Clara River." cbec's focus was "on potential impacts to unarmored threespine stickleback" from the "No Water Contact" approach. The comment also states that the technical review "is limited to comments on the adequacy of data, methods, and findings, with respect to hydrology, hydraulics, and geomorphology."

The comment provides a thorough scope of cbec's technical review but does not address any environmental issue as to the adequacy of the Draft AEA. Thus, no further response is required. CDFW also points out that cbec provides engineering services regarding hydrology, hydraulics, and geomorphology, but does not provide biological consulting services or opinions specific to unarmored threespine stickleback, other special-status fish species.

Comment No. 09-144:

GOAL AND OBJECTIVES

The goal of the technical review was to assess potential impacts to the UTS and its habitat from the proposed Newhall Ranch project development and associated bridge construction. The objectives of the review were to:

Evaluate the effectiveness of the No Water Contact (NWC) proposal to preclude impacts to the UTS during construction and during maintenance.

Based on the dynamic hydrology of the Santa Clara River, assess the bridge configuration once constructed to preclude impacts to UTS over time and maintaining the hydrologic regime that supports UTS.

Identify any new environmental impacts that might be associated with the No Water Contact alternative.

Response No. 09-144:

The comment identifies the three goals of cbec's technical review. cbec's technical memorandum, including its goals and objectives, will be provided to decision makers prior to a final decision on the proposed project's modifications evaluated in the Draft AEA.

Because the comment does not raise any environmental issue as to the adequacy of the Draft AEA, no further response is required.

Comment No. 09-145:

SUMMARY OF KEY FINDINGS

The following are key findings related to the objectives of this review:

Effectiveness of the NWC proposal to preclude UTS impacts – The project applicant has made a reasonable effort to develop mitigation measures that will avoid water contact during construction; however, there are several items that could be clarified as follows:

Wetted channel - Although it is not explicitly stated in any of the documents reviewed, it is understood that a flow rate of 500 cfs was used to establish the "wetted channel" and is the basis of the NWC method. Independent checks on this flow rate indicate it is a conservative flow rate to use to establish the wetted channel area for the June to September construction window; however, it is not clear how accurate the associated inundation area is because modeling and mapping of the wetted channel appears to have been done using only LIDAR data without more detailed field surveys.

Response No. 09-145:

The comment addresses the "effectiveness of the "No Water Contact" approach evaluated in the Draft AEA "to preclude unarmored threespine stickleback impacts" and states that the "project applicant has made a reasonable effort to develop mitigation measures that will avoid water contact during construction[.]" The comment then indicates that several items could be clarified, the first being how the "wetted channel" was established. Specifically, the comment expresses the position that a flow rate of 500 cfs [cubic feet per second] was used to establish the "wetted channel" and is "the basis of the No Water Contact method." The comment also states that cbec's independent analysis shows that this rate "is a conservative flow rate to use to establish the wetted channel area for the June to September construction window." But, the comment questions the accuracy of the associated inundation area "because modeling and mapping of the wetted channel appears [sic] to have been done using only LIDAR data without more detailed field surveys."

CDFW agrees that the project applicant, with assistance from CDFW, has made a reasonable effort to develop a "No Water Contact" construction approach which, along with corresponding best management practices and mitigation measures, will avoid water contact during construction.

With respect to the description of "wetted channel," the Draft AEA provides that description on page 3-6: "The wetted channel is the portion of a stream channel that is covered in water at any given time." The Draft AEA, page 3-6, then amplifies this description by explaining how the wetted channel varies according to changes in flow rates.

The width of the wetted channel fluctuates with hydrological changes (i.e., season to season). The bankfull flow is a discharge that fills the active channel to a stage above which any further increase in depth results in a rapid increase in width as flow spreads across the channel. The Santa Clara River has a broad, alluvial channel and floodplain. During the dry season, when the river experiences low flows, the wetted channel is restricted to the relatively narrow course along the lowest profile alignment within the bankfull channel. (*Ibid*.)

Thus, the description of "wetted channel" is meant to capture and account for the dynamic nature of the river; it does not represent a fixed width or position within the floodplain. For this reason, the comment is incorrect to state that the 500 cfs flow rate was used to establish the wetted channel. Instead, the 500 cfs flow rate, which is based on a review of historical climate and hydrological data, was used to determine and illustrate the feasibility of the proposed No Water Contact construction approach during the summer dry season. As acknowledged by the comment, the 500 cfs flow rate is conservative in that it represents the peak estimated flow rate during the summer months at the project's reach of the river. Thus, it does not represent the probable flow rate at the time of bridge construction. To the contrary, it is very likely that the actual flow rate at time of construction will be substantially less and the wetted channel will be correspondingly narrower.

The Draft AEA, page 3-6, explains this design criterion in detail:

The highest estimated, dry-season flow is approximately 500 cfs. For this hydrologic condition, the width of the wetted channel in the location of the two permanent bridges proposed in the project area varies from approximately 90 feet to 125 feet (PACE 2016a). Because 500 cfs represents the highest expected flow during the dry season, this condition is used as a design criterion to describe "wetted channel" for determining the placement of bridge piers. Based on the geometry and gradient of the Santa Clara River in these locations the approximate 500 cfs peak flow would result in an inundated area less than 165 feet in width at the location of the proposed bridge crossings (PACE 2016a, p.1.) This is important because the proposed modified bridge design and construction methods contemplate bridge piers placed at a minimum of 165 feet apart, which would span the wetted channel at these location during this highest dry-season flow condition. (*Ibid*.)

As shown above, the description of wetted channel and its use as a design criterion is explained in the Draft AEA, Chapter 3, Unarmored Threespine Stickleback. cbec likely requested clarification as to these issues

because its technical memorandum shows that the Center for Biological Diversity provided cbec with the Introduction section of the Draft AEA and unarmored threespine stickleback appendices, but did not provide Chapter 3. (See cbec technical memorandum, p. 3, under the section titled, Literature Review, paragraph 1 [stating cbec reviewed information/files, which included pages from the Draft AEA; and those pages are from the Introduction section of the Draft AEA only].)

Nonetheless, Draft AEA Appendix 4, Effects to Unarmored Threespine Stickleback, also accounted for the dynamic nature of the river, and indicating that the wetted channel does not represent a fixed width or boundary that does not move or erode. Specifically, Draft AEA Appendix 4 provides:

The estimated peak instantaneous flow rate of 500 cfs was used in a hydraulic model to predict maximum and average widths of inundation at each of the permanent bridges during the summer dry season (PACE, Aug. 5, 2016). The modeling software used in the analysis is Hydrologic Engineering Center – River Analysis System (HEC-RAS), which was developed by the U.S. Army Corp of Engineers. The modeling assumes a rigid boundary such that the streambed geometry is fixed and does not move or erode. However, as mentioned above, the Santa Clara River is a mobile-bed river subject to erosion and scour. The assumption of a rigid boundary is considered reasonable for low summer flows compared with much larger winter storms that may include reset events of over 10,000 cfs (PACE, Sept. 30, 2016).

The results of the modeling indicate that average inundation widths are about 93 feet at Commerce Center Drive and 85 feet at Long Canyon Road; maximum predicted inundation widths are 114 feet and 91 feet, respectively. PACE (Aug. 5, 2016) concludes that the dry season flows would not inundate the pier locations and would be conveyed between them given the proposed design (pier) spacing of 165 feet. Also, this should allow plenty of room to insulate the wetted channel from CIDH pile installation activities. (Draft AEA, Appendix 4, p. 6.)

As to the inundation area, the comment correctly states that the inundation area was mapped and modeled using LIDAR data without field surveys of the river itself. Field surveys are not possible for purposes of verifying historical flow data and hydrological conditions. Field surveys of existing conditions, while possible to perform, are of marginal utility, given that the width and exact location of the wetted channel will likely be different at the time of construction than they are today. Again, the purpose of the 500 cfs flow rate and modeled inundation area is to provide a conceptual illustration of worst-case conditions during the summer months and thereby demonstrate the feasibility of the proposed No Water Contact construction approach. In short, CDFW is aware that the wetted channel's alignment and width are variable. The modeled flow rates were used to help inform CDFW as to the likely maximum width to be encountered during the proposed bridge construction season at the planned location of the bridges.

Comment No. 09-146:

Local drainage features - It is understood that the bridge piers will be installed outside of the wetted channel during the dry season; however, it is not clear from available documentation if there are swales or other water features tributary to the wetted channel (i.e., outside of the wetted channel and that may not be evident from LIDAR data) and if these water features may be impacted during construction and long-term maintenance and lead to associated impacts within the wetted channel.

Response No. 09-146:

The comment acknowledges that the bridge piers will be installed outside of the wetted channel during the dry season, but seeks clarification as to whether "there are swales or other water features tributary to the wetted channel (i.e., outside of the wetted channel and that may not be evident from LIDAR data) . . . ." The comment also requests clarification as to whether such water features, if they exist, could be affected by construction and long-term maintenance of the bridges. The comment then asks whether impacts to swales and water features could "lead to associated impacts within the wetted channel."

The comment does not clarify the reference to "swales or other water features tributary to the wetted channel." Nevertheless, for purposes of this response, CDFW assumes the comment is intended to address

rivulets, pools, eddies, and other shallow wetted areas that occasionally form at the edges of the river. CDFW is aware that such "water features" do develop in response to changes in the river's flow regime and may support biological resources. They are, however, highly variable in terms of size, location, and composition. Moreover, they are often ephemeral, lasting a month or a season and then disappearing. In other words, a "water feature" observed at a particular location may not be there the following year, and an area without a rivulet or pool in October may develop one or several in April.

CDFW understands the importance of such wetted areas and treats them as part of the wetted channel that must be avoided during all construction activities. This "performance-based" requirement cannot be stressed strongly enough. Regardless of where the wetted channel is located or how wide it is at the time of construction, no work may be conducted within it and no piece of equipment or debris may encroach into it. This prohibition applies with equal force to any "swale or water feature" tributary to the river that contains water at the time of construction, as this is the only way to preclude impacts on unarmored threespine stickleback.

The Draft AEA, Appendix 4, page 9, addressed this issue, acknowledging that the "geomorphic and hydrologic behavior of the Santa Clara River renders it susceptible to abrupt changes in the planform geometry (i.e., channel shifting/migration) if subjected to large winter flow events that result in substantial bed mobilization (i.e., a reset event)" and that these "bed mobilizing events" have the "potential to disrupt or delay construction if the low-flow channel (i.e., summer wetted channel) adjusts its position to flow through a proposed pier location." Nonetheless, CDFW has concluded that such occurrences would not invalidate the "No Water Contact" approach, because the low-flow channel should be similar in character to the existing low-flow channel, although its alignment may be different. And, in any event, the "165-foot spacing of permanent bridge piers would remain valid; however, it may be necessary to move pier locations" to maintain the "No Water Contact" approach.

Comment No. O9-147:

Assessment of the bridge configuration once constructed to preclude impacts to UTS over time – It is acknowledged that the Santa Clara River is an alluvial stream system, which is subject to both vertical and horizontal variation of the channel geometry (PACE, 2016d); however, in all of the documents that were reviewed the technical analyses were limited to the assumption of a rigid river channel boundary with fixed geometry. While this is a standard of practice for evaluating hydraulic conditions under existing conditions it does not address potential future changes to the river morphology and the associated effects the bridge piles may have on the river system once built and, in turn, how UTS may be impacted over time. While it is not known how the river may change in the future, historic changes are documented and a simple exercise was performed to evaluate the relationship of the proposed bridge piles at both bridge locations with respect to historic channel planform patterns using Google Earth historic imagery (Attachment A). This exercise demonstrates that there is a high likelihood that the river channel may change location in the future and some bridge piles may become located within the active channel inhabited by UTS. Therefore, it would seem reasonable for the project applicant to address these future conditions and mitigation measures in the environmental analysis.

Response No. O9-147:

The comment states that the Santa Clara River "is an alluvial stream system, which is subject to both vertical and horizontal variation of the channel geometry," and cites the PACE (2016d) technical study attached as an appendix to the Draft AEA. The comment then states that all of the technical documents reviewed limited their analyses "to the assumption of a rigid channel boundary with fixed geometry." The comment acknowledges that this "is a standard of practice for evaluating hydraulic conditions under existing conditions," but contends such an approach "does not address potential future changes to the river morphology and the associated effects the bridge piles may have on the river system once built and, in turn, how unarmored threespine stickleback may be impacted over time." The comment states that while "it is not known how the river may change in the future, historic changes are documented . . . ." The comment then explains that cbec evaluated "the relationship of the proposed bridge piles at both bridge locations with respect to historic channel planform patterns using Google Earth historic imagery Attachment A)." According

to the comment, the evaluation shows there is a "high likelihood that the river channel may change location in the future and some bridge piles may become located within the active channel inhabited by unarmored threespine stickleback. The comment then states it would be reasonable for the project applicant to address these future conditions and mitigation measures in the AEA.

At the outset, it is important to differentiate the analysis of bridge construction impacts from the analysis of bridge operational impacts. With respect to the former, and as discussed above in **Response to Comment Nos. 09-145** and **09-146**, CDFW and its engineers did not assume "a rigid river channel boundary with fixed geometry" but instead contemplated that, due to the river's dynamic hydrology, the wetted channel would be variable as to width and alignment. The technical studies did attempt to calculate a worst-case inundation zone by inputting historical high flow record data into the hydrology model; but as explained above, this was done for purposes of illustration and to determine the overall feasibility of the "No Water Contact" construction approach. CDFW and its engineers are aware that the wetted channel, at the time of construction, is not likely to be in the same position or take the same shape or have the exact same dimensions as the wetted channel in 2016. However, the hydrology analysis does indicate that, based on historical flow data, the amount of variation during the dry season will fall within bounds that can be accommodated by bridge spans of 165 feet. And in the event the wetted channel during the dry season *cannot* be so accommodated, CDFW has imposed conditions on the project that would prohibit bridge construction until such time as river flows recede and allow the wetted channel to be spanned per the "No Water Contact" construction approach. Simply put, if the wetted channel's width cannot be comfortably accommodated by bridge spans of 165 feet at the time of construction (i.e., during the dry season), the project applicant must wait for more favorable conditions before building the bridge.

CDFW focused on construction-related impacts of the bridges and bank stabilization because the mitigation measures invalidated by the California Supreme Court – Mitigation Measures BIO-44 and BIO-46 – addressed potential effects on unarmored threespine stickleback during construction activities. The 2010 Final EIR did not identify any significant impact on unarmored threespine stickleback associated with the long-term operation of the bridges or bank stabilization features; thus, no mitigation measures were adopted to address such impacts. No party challenged this aspect of the 2010 Final Environmental Impact Report (EIR). Accordingly, it was not part of the litigation and not part of the Supreme Court's decision. CDFW, in preparing the Draft AEA, did acknowledge that after the bridge piers are installed during the dry season, some of those piers will eventually be in the wetted channel following winter rains (Draft AEA, pp. 3-24 through 3-25, 3-27 through 3-30.) The bridges were never designed to span the entire wetted channel on a year-round basis. To the contrary, the bridge piers are designed to withstand flood level flows. This aspect of the bridge design has not changed since the 2010 Final EIR was prepared and certified. The only difference is there will be fewer bridge piers under the new design than under the old one. Each bridge pier consists of 4 columns. Specifically, the number of piers at the Long Canyon Road bridge will go from 9 to 6, and the number of piers at the Commerce Center Drive bridge will go from 9 to 7. As each row of piers includes 4 columns, there will be 20 fewer columns (or 5 piers) than under the prior design.

Given these facts, the Draft AEA was not required to reassess the operational impacts of the bridges, as this analysis had already been performed as part of the 2010 Final EIR. Nevertheless, CDFW elected to examine two potential operational impacts that could affect unarmored threespine stickleback: (i) maintenance activities at the bridge deck and piers, and (ii) scour holes that may develop behind bridge piers. These are discussed in the Draft AEA (Draft AEA, pp. 3-24 through 3-25, 3-27 through 3-30.) Ultimately, CDFW determined that maintenance impacts could be mitigated to a less than significant level, and that impacts related to pier scour were less than significant and did not require mitigation (Draft AEA, pp. 3-25, 3-30 through 3-31.)

Comment No. 09-148:

Identification of any new environmental impacts - The wetted channel is defined based on surface topographic conditions; however, it is not clear if hyporheic zone investigations have been made to understand the potential groundwater connections between the wetted channel and the dry riverbed where grading will occur. The concern is if physical impacts to the UTS may occur during their nest building or

breeding season (Figure 1) via construction intrusions into the hyporheic zone, below the water table, where UTS may inhabit wetted interstitial spaces between riverbed sediments.

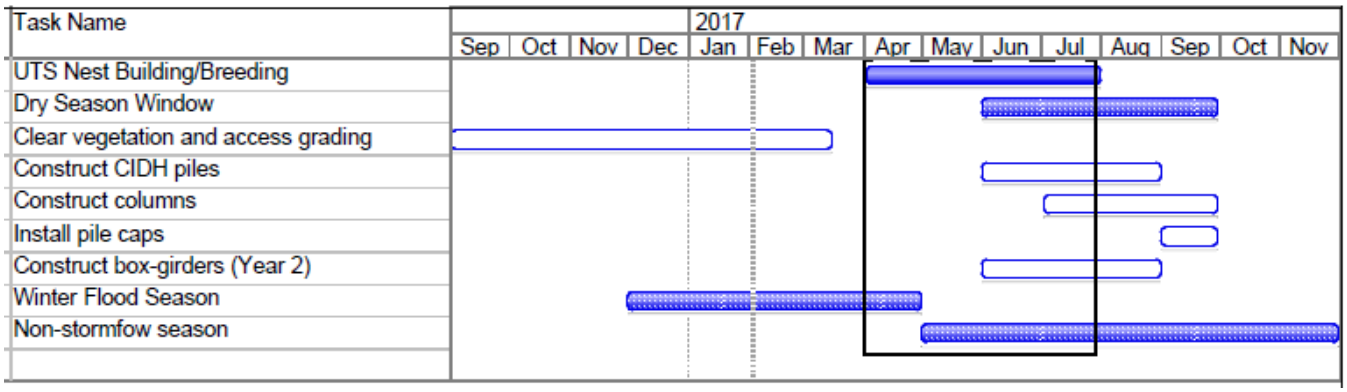

Figure 1. Seasonal Flow Conditions and Timing of Construction Activities

Response No. 09-148:

The comment questions whether CDFW investigated the hyporheic zone (a subsurface volume of sediment and porous space adjacent to or beneath a stream through which stream water readily exchanges) "to understand the potential groundwater connections between the wetted channel and the dry riverbed where grading will occur." The comment expresses concern that construction activities may intrude into "the hyporheic zone, below the water table, where unarmored threespine stickleback may inhabit wetted interstitial spaces between riverbed sediments," thereby affecting unarmored threespine stickleback during their nest building and breeding season.

Definitions of "hyporheic zone" differ depending on context. For purposes of this response, CDFW defines the hyporheic zone as an area beneath and adjacent to the active channel where ground water and surface water mix and can interchange. As defined, CDFW considers the hyporheic zone of the Santa Clara River part of the "wetted channel" where no bridge or bank stabilization (or construction of any kind) would be allowed to take place. During its review of site-specific research on unarmored threespine stickleback habitats, CDFW found no reference to unarmored threespine stickleback nesting or spawning in hyporheic zones or using hyporheic zones as part of their life history. Nor did CDFW identify any reference to hyporheic zones being critical to unarmored threespine stickleback survival. This is likely because unarmored threespine stickleback do not use interstitial spaces during spawning. Hyporheic inputs can affect or be used by certain fish species, especially those that are substrate spawners. For instance, spawning site selection by some species of salmon can be influenced by hyporheic inputs (Geist et al. 2002). However, unlike salmon, unarmored threespine stickleback are not substrate spawners because they do not rely on interstitial spaces between substrate particles for egg development; instead, they build nests on top of small depressions in sand with plant and detritus material in the form of small clumps or mounds (Baskin 1974, pg. 42). USFWS 2009 describes unarmored threespine stickleback reproduction as occurring in areas with adequate aquatic vegetation and slow-moving water with nests constructed of fine plant debris and algal strands. Further, unarmored threespine stickleback spawning occurs when surface water temperatures increase in the spring or during any time of the year when water temperature increase (i.e., low water years). Hyporheic inputs from groundwater tend to be colder and low in dissolved oxygen compared to the surrounding ambient surface water, making these areas non-preferable spawning sites for stickleback. In addition, nest construction occurs once a male establishes its territory, which typically occurs when the male excavates a pit in the sand under the water and gathers strands of plant and algal material to place in the nest (Moyle 2002). Nests constructed near a location of hyporheic inflow would likely be compromised due to upwelling during nest construction and egg incubation. With regard to any hyporheic zone beyond the immediate mixing zone adjacent to, or beneath, the flowing channel, unarmored threespine stickleback would not be present in such areas due to the lack of requisite aquatic habitat.

In conclusion, given that unarmored threespine stickleback would most likely not prefer spawning sites with direct hyporheic inflow, and given that no contact with the water is allowed, grading activities should not have an effect on unarmored threespine stickleback nest building and spawning associated with a hyporheic zone.

Comment No. 09-149:

LITERATURE REVIEW

Overview

cbec's review was limited to public information and files that were provided by the CBD including:

"Pages from NewhallDraftAEA.pdf" – This was the primary file for review and included pages 1- 18 to 1-24 from California Department of Fish and Wildlife (2016).

"AEA_Apdx_2 - no water contact construction" – This file included Geosyntec (2016a), Moffatt & Nichol (2016a), Moffatt & Nichol (2016b), and PACE (2015a).

"AEA_Apdx_3 - scour analysis" - This file included PACE (2016b) and PACE (2016c).

"AEA_Apdx_4 - Effects to UTS" - This file included State of California Department of Fish and Wildlife, 2016a and State of California Department of Fish and Wildlife (2016b).

"Landmark apx2_2a no water contact" - This file included Moffatt & Nichol, 2016b, Moffatt & Nichol, 2016c, PACE (2016d) and Geosyntec (2016b).

"Landmark apx2_2b - analysis of impacts to UTS" - This file included ICF International and R2 Resource Consultants, Inc. (2016), ICF International (2016), PACE (2016b), and PACE (2016c).

"Newhall-EIR-AEA-Map-Nov2016" -

"Pages from DFG002423" – Pages 2.0-81 to 2.0-93 from California Department of Fish and Wildlife (2010).

The following sections provide review comments associated with key documents.

Response No. 09-149:

This comment indicates that cbec's review was limited to excerpts from eight different documents provided by CBD. CDFW notes that cbec only reviewed six pages of the Draft AEA, all of which occur in the Introduction (pages 1-18 to 1-24). This means that cbec did not review those portions of the Draft AEA which specifically address impacts to unarmored threespine stickleback (pages 3-1 through 3-40.)

The comment does not raise issues as to the adequacy of the Draft AEA; and, thus, no further response is required.

Comment No. 09-150:

UTS HABITAT/LIFECYCLE CHARACTERISTICS

The excerpts compiled in Attachment B were obtained from public information provided by the CBD and are focused on UTS habitat/lifecycle characteristics associated with hydrologic, hydraulic, and geomorphic processes that were used to guide this review.

Response No. 09-150:

The comment indicates that the "excerpts compiled in Attachment B were obtained from public information provided by CBD and are focused on unarmored threespine stickleback habitat/lifecycle characteristics associated with hydrologic, hydraulic, and geomorphic processes that were used to guide" cbec's review.

The comment does not raise issues as to the adequacy of the Draft AEA; and, thus, no further response is required.

Comment No. 09-151:

California Department of Fish and Wildlife, 2016. Newhall Ranch RMDP/SCP project, Draft Additional Environmental Analysis

Section 1.4.2 of this document addresses the UTS and potential impacts and mitigation measures related to: Bridge Construction, Maintenance, and Operation; Construction, Operation, and Demobilization of Temporary Haul Routes Bridges; and, Bank Stabilization Construction. The following questions arose during the review of this document:

Impact 3-1 - It is understood that the bridge piers will be installed outside of the wetted channel during the dry season; however, will swales or other water features tributary to the wetted channel (i.e., outside of the wetted channel) be impacted during construction and long-term maintenance and lead to associated impacts within the wetted channel?

Response No. 09-151:

The comment addresses Section 1.4.2 of the Draft AEA and seeks clarification regarding the document's evaluation of Impact 3-1, relating to permanent bridge pier construction. Specifically, the comment inquires whether "swales or other water features tributary to the wetted channel (i.e., outside of the wetted channel) be impacted during construction and long-term maintenance and lead to associated impacts within the wetted channel."

The comment essentially repeats the issues and questions set forth previously in Comment No. 09-146. According, please refer to **Response to Comment No. 09-146**.

Comment No. 09-152:

Impact 3-1 – How exactly did the hydraulic modeling and analysis of expected fish behavior demonstrate that scour depressions around and behind the bridge piers that could result after medium to heavy river flows would not result in stranding of UTS? The UTS are extremely small aquatic organisms and, per Baskin and Bell (1976) the UTS tend to gather in areas of slower- moving or standing water, implying that they would become stranded in scour depressions as flood stages recede.

Response No. 09-152:

The comment addresses Section 1.4.2 of the Draft AEA and seeks clarification regarding the document's evaluation of Impact 3-1, relating to potential impacts on unarmored threespine stickleback following installation of the permanent bridge piers. Specifically, the comment seeks information regarding how the hydraulic modeling and fish behavior analysis were able to determine that "scour depressions around and behind the bridge piers that could result after medium to heavy flows would not result in stranding of unarmored threespine stickleback." The comment states that "unarmored threespine stickleback are extremely small organic organisms and, per Baskin and Bell (1976) the unarmored threespine stickleback tend to gather in areas of slower-moving or standing water, implying that would become stranded in scour depressions as flood stages recede."

The Draft AEA analyzes the potential for pier scour depressions to strand unarmored threespine stickleback at pages 3-27 through 3-30, and concludes that such stranding is unlikely given the hydrology of the river,

the location of the bridge piers, the many and varied scour depressions that occur naturally within the river, and the unarmored threespine stickleback's ability to move in and out of these depressions without difficulty. Specifically, the Draft AEA determined that the larger pier scour depressions would develop behind the piers in the middle of the wetted channel, where flow velocities are highest and would greatly exceed the 2 feet per second (fps) flow rate beyond which stickleback are washed downriver. Thus, unarmored threespine stickleback would not be able to reach or access the pier scour depressions at these locations. On the other hand, the piers located closer to the edges of the wetted channel will experience much lower flow velocities, resulting in much smaller scour depressions. In those areas where the flow rates do not exceed 2 feet per second, unarmored threespine stickleback will be able to reach and access the scour depressions behind the piers, just as they are able to access scour depressions behind natural objects such as rocks or trees that may occur in the slow moving water at the river's edge.

Final AEA Appendices 16 and 17 illustrate the large extent to which shallow depressions develop in the floodplain in the vicinity of the Long Canyon Road and Commerce Center Drive bridges. These figures rely upon the LAR-IAC4[143] 2016 LIDAR survey data, which was post-processed in ARC-GIS to illustrate all areas where terminal basins (depressions) greater than 6 inches in depth were present. As indicated in Final AEA Appendices 16 and 17, scour depressions of such depth occur throughout the floodplain under existing conditions.

To survive the highly-variable flows of the Santa Clara River, the unarmored threespine stickleback has developed adaptations which allow it to locate and move to slow moving water in inundation areas during flood events. These areas are known as "refugia" and often exist in depressions behind objects in the floodplain. These refugia permit the unarmored threespine stickleback to "wait out the storm." When flood waters recede, unarmored threespine stickleback are behaviorally adapted to follow the retreating water back to their usual habitat areas, which have returned to normal flow velocities below 2 fps. This ability to move in and out of refugia, including those that form in scour depressions, is fundamental to unarmored threespine stickleback survival and viability. As explained in the Draft AEA, the scour depressions that would form behind the bridge piers at the edge of the wetted channel would mimic the hundreds of small scour depressions that develop around natural objects in the river. Thus, the addition of 4 to 5 depressions (i.e., those that form behind bridge piers in the slower moving flood waters at the river's edge) would not materially change existing conditions or otherwise represent a significant stranding threat to unarmored threespine stickleback.

Comment No. 09-153:

Mitigation 3-1d – Mitigation measures will "ensure that no equipment, personnel or debris enter or makes contact with the wetted channel of the river"; however, Mitigation 3-2e mentions monitoring activities beyond the wetted channel that may be a "threat to adjacent natural habitats or nearby species and ensure no equipment, personnel or debris enter or makes contact with the wetted channel of the River". This seems to imply there may be swales or other water features tributary to the wetted channel (i.e., outside of the wetted channel) and these water features could be impacted during construction and long-term maintenance and lead to associated impacts within the wetted channel? Has a detailed topographic field survey been conducted to identify potential small-scale drainage features outside of the wetted channel?

Response No. 09-153:

The comment addresses Section 1.4.2 of the Draft AEA and seeks clarification regarding Mitigation Measures 3-1d and 3-2e. Specifically, the comment states that the language of Mitigation Measure 3-2e implies there may be swales and other water features tributary to (i.e., outside) the wetted channel that could be affected by construction activities, leading to associated impact on the wetted channel itself. The comment then asks: "Has a detailed topographic field survey been conducted to identify small-scale drainage features outside the wetted channel?"

143 http://egis3.lacounty.gov/dataportal/wp-content/uploads/2013/07/LARIAC4-Product-Guide-1.pdf.

As an initial point of clarification, Mitigation Measure 3-1d applies to impacts related to construction of the two permanent bridges, while Mitigation Measure 3-2e applies to impacts related to construction of the two temporary haul route bridges.

The comment appears to repeat the issues cbec raised above in Comment No. 09-146. Accordingly, CDFW refers the reader to **Response to Comment No. 09-146**. CDFW would add, however, that it did not perform a "detailed topographic field survey" of the bridge construction areas for purposes of identifying "potential small-scale drainage features outside the wetted channel," as such features are highly variable, change in terms of location and size over time, and are subject to the vagaries of the river's episodic flow regime. In short, whatever small-scale drainages exist at the proposed bridge locations today are likely to shift position or change size by the time bridge construction is commenced. Nevertheless, CDFW is aware of the general concern expressed in the comment, which is that construction of the bridges should not intrude into these small-scale drainage areas, as they may support unarmored threespine stickleback. For this reason, CDFW has imposed conditions on the project which prohibits any contact with such wetted areas, as they are considered part the wetted channel itself. Mitigation Measure 3-1c requires pre-construction surveys of the proposed work locations to confirm that the construction zone is outside the wetted channel of the river. Such surveys would prevent work from taking place where fish may be affected.

Comment No. 09-154:

Mitigation 3-1e – How close to the project sites is the NOAA precipitation gage(s) that will be used to forecast a "clear weather window" and are there any orographic effects on local/regional precipitation patterns between the gage(s) and project sites that may need to be accounted for to provide accurate precipitation forecasts?

Response No. 09-154:

The comment addresses Mitigation Measure 3-1e and seeks information about the proximity of NOAA precipitation gauges to the project site. The precipitation gauges will be used to forecast "clear weather windows" for purposes of conducting construction activities at the bridges and bank stabilization locations. The comment also asks if there "are any orographic effects on local/regional precipitation patterns between the NOAA gauges and the project site that must be accounted for when attempting to make accurate precipitation forecasts.

It is customary for CDFW to require streambed alteration agreements to include monitoring of forecasts issued by The National Weather Service (which is a component NOAA). Appropriate stations are consulted depending on project location. In general, for the Newhall Ranch project, the Del Valle Remote Automatic Weather Station (RAWS) is an appropriate forecast station because it is adjacent to the project (located at Del Valle Fire Station). In some instances, when the Del Valle RAWS is not reporting, the Saugus station (located near Bouquet Canyon Road and overlooks the Santa Clara River) may be consulted as that station is also appropriate and may include more specific precipitation data.

Comment No. 09-155:

Mitigation 3-2d – "A set-back from the edge of the top of bank for a horizontal distance that is twice the bank height (2 horizontal: 1 vertical) shall be maintained to prevent collapsing the bank of the low flow channel"; has this set-back been mapped using detailed field surveyed topographic data or estimated with a computer exercise (CAD or GIS) to assess the significance of the increased spatial footprint?

Response No. 09-155:

The comment addresses Section 1.4.2 of the Draft AEA and seeks clarification regarding Mitigation Measure 3-2d, which protects the river bank during installation of the temporary haul route bridges. Specifically, the comment cites the 2:1 setback requirement and asks whether the set-back has been mapped "using detailed field surveyed topographic data or estimated with a computer exercise (CAD or GIS) to assess the significance of the increased spatial footprint."

The setback required under Mitigation Measure 3-2d does not increase the "spatial footprint" of the project's temporary haul route impacts beyond those addressed in the 2010 Final EIR. Mitigation Measure 3-2b requires surveys prior to vibratory installation of temporary bridge support piles to determine the limit of the wetted channel and to set a 10-foot minimum setback for the pile installations. This survey will determine the minimum spans of the temporary haul route bridge crossing. The intent of Mitigation Measure 3-2d is to provide additional protection of the wetted channel from any bank sloughing during vibratory pile installation. Where a deeply incised channel is encountered, CDFW may require setbacks greater than the 10-foot minimum. The necessity of such an expanded setback will be determined based on the surveys described in Mitigation Measure 3-2b. The temporary haul route crossings are linear features with a set width, and the span of the bridge component of the haul route does not affect the size of the temporary haul route impact area as analyzed in the 2010 Final EIR. Accordingly, there would be no increase in the spatial footprint.

Comment No. 09-156:

Mitigation 3-2e – See Mitigation 3-1d comment above.

Response No. 09-156:

The comment addresses Section 1.4.2 of the Draft AEA and seeks clarification regarding Mitigation Measure 3-2e.

The comment repeats the previous comment regarding Mitigation Measure 3-1d, above. (See Comment No. 09-153.) Accordingly, please refer to **Response to Comment No. 09-153**.

Comment No. 09-157:

Mitigation 3-2 Significance after Mitigation - Mitigation Measure 3-2 would "require that a qualified biologist monitor the installation and demobilization activities to ensure that construction stays outside of the wetted portion of the river and that the temporary pile locations are at least 10 feet away from the edge of the wetted portion of the river"; however, based on Mitigation 3-2d a set-back from the edge of the top of bank is also required and this boundary could be farther than 10 feet away from the edge of the wetted portion of the river. Again, has the Mitigation 3-2d setback boundary been mapped to understand the area necessary to avoid UTS impacts?

Response No. 09-157:

The comment addresses Section 1.4.2 of the Draft AEA and seeks clarification regarding the mitigation measures associated with the installation of the temporary haul route bridges (Mitigation Measures 3-2a through 3-2e). The comment, repeats specific concerns about Mitigation Measure 3-2d and mapping of the setback boundary.

The comment repeats the previous comment regarding Mitigation Measure 3-2d, above (see Comment No. 09-155). Accordingly, please refer to **Response to Comment No. 09-155**.

Comment No. 09-158:

Impact 3-3 – Bank stabilization locations are located within which floodplain, the FEMA 1- percent-annual-chance Special Flood Hazard Area (SFHA), or another designated floodplain?

Response No. 09-158:

The comment addresses Section 1.4.2 of the Draft AEA and seeks information regarding Impact 3-3 (bank stabilization). Specifically, the comment asks whether the bank stabilization locations are within the Federal Emergency Management Agency (FEMA) 1-percent-annual-chance Special Flood Hazard Area (SFHA) or some other designated floodplain.

CDFW analyzed the historic flood flow data compiled by Geosyntec as well as the corresponding maximum flows during the period from May through November, which were then compared to the HEC-RAS modeling of the project site, as included in the 2010 Final EIR (Appendix F4.1-01, Revised Newhall Ranch Resource Management & Development Plan: River & Tributaries Drainage Analysis, Santa Clara River, Pacific Advanced Civil Engineering, Inc., (PACE) June 2010). The PACE report includes model-run outputs for the 0.5 (2-year), 0.2 (5-year), 0.1 (10-year), 0.05 (20-year), 0.02 (50-year), and 0.01 (100-year) annual probability returns and the Los Angeles County defined Qcap flood events for the various alternative bank protection alignments. With regard to the historic flow records for the May to November period, the flows were most similar to the 5-year flood event, and, therefore, the inundation limits for the 5-year flood event were used to determine areas susceptible to inundation during the period between May 1 and November 30. Only the San Jose Flats portion of the Mission Village development site would encroach on such an area. This is illustrated in Figure 3.2-4 on page 3-21 of the Draft AEA.

Comment No. 09-159:

Mitigation 3-3d – Where are the bank stabilization construction locations susceptible to winter flood flows and what defines a "winter flood flow"?

Response No. 09-159:

The comment addresses Section 1.4.2 of the Draft AEA and seeks clarification regarding bank stabilization Mitigation Measure 3-3d. Specifically, the comment asks CDFW to identify those bank stabilization locations that are susceptible to winter flood flows. The comment also asks for a definition of "winter flood flow."

The PACE report described in Response to Comment No. 09-158, above, illustrates those areas of the project bank protection that would be inundated by flood flows at various intervals modeled (2-year, 5-year, 10-year, 20-year, 50-year, 100-year and LA County Qcap). At the 100-year modeled flood event, the western portion of Landmark Village, the entirety of Homestead South Village, the eastern portion of the Water Reclamation Plant (WRP) site, and only limited areas of the Utility Corridor bank protection would be within the inundation zone. It is assumed that such a large event could occur at any time during the period from December 1 through April 30. This is considered the time period where winter flood flow occurs, and is defined in PDF 3-9 on page 3-20 of the Draft AEA.

Comment No. 09-160:

Mitigation 3-3e – Perimeter BMPs would "deflect minor flows (less than 12 inches deep, and less than 15 fps velocities) from entering bank protection construction work zones". The characteristics of the BMPs are not known; would the BMPs be designed to accommodate both hydraulic criteria and/or the limiting criterion? While flow less than 12 inches deep would likely be capable of being deflected, flow velocities upwards of 15 fps are significant and exceed the permissible velocity for all channel lining materials except for 18 inch D50 rip rap and larger, and gabions and concrete (Fischenich, 2001: Table 2).

Response No. 09-160:

The comment addresses Section 1.4.2 of the Draft AEA and seeks clarification regarding bank stabilization Mitigation Measure 3-3e. Specifically, the comment seeks information regarding the characteristics of the best management practices (BMPs) that will be deployed to protect the perimeter of bank stabilization work areas. The comment asks whether the BMPs would "be designed to accommodate both hydraulic criteria and/or the limiting criterion." The comment also questions whether the BMPs would be able to successfully deflect flow velocities "upwards of 15 fps," which the comment contends are "significant and exceed the permissible velocity for all channel lining materials except for 18 inch D_{50} rip rap and larger, and gabions and concrete (Fischenich, 2001: Table 2)."

As stated in **Response to Comment No. 09-158**, no areas of bank protection are expected to be subject to any flood flows during the restricted construction periods. As an added level of protection, CDFW has imposed a mitigation measure (Mitigation Measure 3-3e in the Draft AEA) that requires deployment of perimeter BMPs along bank protection excavation work zones that would be capable of deflecting flood

flows, regardless of their potential to occur at the work location. The PACE report discussed in **Response to Comment No. 09-158** includes flow velocity distribution for the 5-year event (Figure 5.1-c), which indicates flood flow velocities are from 0 to 8 fps, not 15 fps. Therefore, the "upwards of 15 fps" is an overstatement, and will be corrected in Mitigation Measure 3-3e to match the expected modeled conditions of the flow during the time period that construction is to occur, which is no greater than 8 fps. As shown in Fischenich, 2001, Table 2, many standard BMP materials (fiber mats, coir roll, many bioengineering methods) would be suitable to withstand velocities in this range. In the case of the project bank stabilization, it is typical for construction perimeters to incorporate silt fence (trenched in at least 18 inches) with a supplemental barrier consisting of multiple levels of sandbags to strengthen and support the silt fence barrier. These elements are illustrated for the bridge construction areas in Figure 3.4-1. In this way, storm water runoff from the project footprint is properly controlled while also providing an effective barrier to deflect flows of certain velocities that may occur within the river during the particular construction period established for the bank protection. Please also refer to **Response to Comment Nos. 09-158** and **09-159** for a description of the various bank protection areas and their proximity to the inundation zones and therefore construction seasons.

Comment No. 09-161:

Mitigation 3-3f(3) – "The project applicant or its designee shall assess local stream and groundwater conditions, including flow depths, groundwater elevations, and anticipated dewatering cone of influence (radius of draw down)". The groundwater table is mentioned with respect to the installation of CIDH piles using steel casing (Moffatt & Nichol, 2016b) and the depth to groundwater is indicated to be 0 – 15 feet (during October 2016), in drought conditions and to avoid potential impacts to the streamflow, groundwater pumping activities and streamflow would be monitored where dewatering activities are within 1000 feet of the wetted channel (State of California Department of Fish and Wildlife, 2016b); however, it is not clear if any field observations or modeling have been performed to assess the potential for drawdown of water levels from dewatering and impacts to UTS. The project applicant has performed surface water hydrology investigations at this level of design to guide mitigation measures to avoid UTS impacts; have similar groundwater investigations been performed to obtain data prior to construction? Also, the wetted channel is defined based on surface topographic conditions; it is not clear if hyporheic zone investigations have been made to understand the potential groundwater connections between the wetted channel and the dry riverbed where grading will occur.

Response No. 09-161:

The comment addresses Section 1.4.2 of the Draft AEA and seeks clarification regarding bank stabilization Mitigation Measure 3-3f(3), which imposes restrictions on groundwater pumping associated with bank stabilization construction. The comment asks if "any field observations or modeling have been performed to assess the potential for drawdown of water levels from dewatering and impacts to unarmored threespine stickleback," and whether the project applicant has performed groundwater investigations "to obtain data prior to construction." The comment also seeks clarification as to whether "hyporheic investigations have been made to understand the potential groundwater connections between the wetted channel and the dry riverbed where grading will occur."

Although field observations or modeling have not been performed to assess the drawdown of water levels for each specific bank protection project, development of a project-specific dewatering plan is required by Mitigation Measure 3-3f. The Dewatering Plan requires assessment of groundwater and surface water conditions and presentation of zone of influence of the proposed dewatering system to demonstrate that no impact to the surface flow in the Santa Clara River will occur. As described in **Response to Comment No. 09-148**, the hyporheic zone for the project is understood as a zone contiguous to and below the wetted channel; thus, if present in the vicinity of the dewatering project, hyporheic zones associated with the river would be considered part of, and assessed along with, the wetted channel. The dry riverbed where construction will occur does not represent an area of potential unarmored threespine stickleback presence. Note that a well-studied model of the groundwater-surface water interactions within the Santa Clara River watershed was included in the 2010 Final EIR (Appendix 4.3q, "Regional Groundwater Flow Model for the

Santa Clarita Valley: Model Development and Calibration", CH2MHill, April 2004). This model is useful as a Regional Model of the Santa Clara River watershed to predict areas where the river may be gaining (i.e., alluvial groundwater discharge to surface water, supporting perennial flows) or losing (i.e., stream flow infiltrating into alluvial groundwater). In addition, the model has been calibrated with observed groundwater conditions and can be used to predict ground water and surface water conditions during wet or dry water years. The entirety of Mitigation Measure 3-3f is in response to known conditions of interaction between the local groundwater table that will be encountered during bank stabilization construction dewatering and the wetted channel; accordingly, the mitigation measure reduces the impact to less than significant by requiring all activities to be conducted in a manner that does not affect the wetted channel water levels.

Comment No. 09-162:

Mitigation 3-3f(4) – If dewatering activities result in the violation of measures in the Construction Groundwater Dewatering Plan, and construction is halted by the designated monitor, what occurs next and how will construction be affected?

Response No. 09-162:

The comment addresses Section 1.4.2 of the Draft AEA and seeks clarification regarding bank stabilization Mitigation Measure 3-3f(4), which calls for construction work to cease in the event there is a violation of the measures set forth in the Construction Groundwater Dewatering Plan. The comment seeks information regarding what happens after construction is halted and how will construction be affected.

In the event of an observed effect on the wetted channel that necessitates halting of dewatering operations, the project applicant will be required to consult with CDFW, revise the Construction Groundwater Dewatering Plan as appropriate, and implement whatever additional restrictions may be necessary to preclude impact to the wetted channel (such as limiting the extent of excavation dewatering, implementing other construction methods acceptable to the Los Angeles County Department of Public Works such as launch stone, or suspending construction until such time as regional groundwater conditions are more favorable for the construction to proceed). Mitigation Measure 3-3f (bullet 4) has been revised to include this requirement explicitly. See below (new text is shown in underline format):

The project applicant or its designee shall monitor daily surface water elevations upstream, adjacent to, and downstream of the extraction points, to assess any critical flow regimes susceptible to excessive draw down before, during, and after groundwater dewatering activities. The designated monitor shall have the authority to halt dewatering activities if water levels decrease in the wetted portion of the Santa Clara River where unarmored threespine stickleback are present. In the event the designated monitor observes an effect on the wetted channel that necessitates halting of dewatering operations, the project applicant will be required to consult with CDFW, revise the Construction Groundwater Dewatering Plan as appropriate, and implement whatever additional restrictions may be necessary to preclude impact to the wetted channel (such as limiting the extent of excavation dewatering, implementing other construction methods acceptable to the Los Angeles County Department of Public Works such as launch stone, or suspending construction until such time as regional groundwater conditions are more favorable for the construction to proceed).

Comment No. 09-163:

Santa Clara River Low-Flow Inundation Analysis (PACE, 2016d)

The purpose of this memorandum and associated figures and appendices is to verify the proposed 165- foot pier spacing for the proposed bridges will not be subjected to flooding during the dry season, which for this project area has been defined as the period between June 1 and September 30. The following questions arose during the review of this document:

Response No. 09-163:

The comment summarizes what the commenter believes was the purpose of the "Santa Clara Low-Flow Inundation Analysis" that PACE (2016d) conducted for the Draft AEA. The comment does not raise any issue regarding the adequacy of the Draft AEA or the PACE analysis; and, thus, no further response is required.

Comment No. 09-164:

Inundation areas - Figures 1 and 2 in the PACE memorandum show the inundation areas for the highest estimated dry season flow (500 cfs) and the low flow channel in relation to the proposed bridge pile locations. Were historical river channel patterns assessed to understand the potential for changes in alignment of the dry season flow channel in the future and with respect to proposed bridge pier locations and scour?

Response No. 09-164:

The comment addresses the "inundation areas" shown in Figures 1 and 2 in the PACE memorandum. The comment asks whether PACE assessed "historical river channel patterns to understand the potential changes in alignment of the dry season flow channel in the future and with respect to the proposed bridge pier locations and scour?"

PACE and CDFW did evaluate historical river channel patterns to gain an understanding of how the river's alignment in the vicinity of Commerce Center Drive Bridge and Long Canyon Road Bridge during the dry season changes over time. The results of that analysis are provided in Final AEA Appendices 18 and 19. It is critical to keep in mind, however, that the prevailing "performance standard" for bridge construction is that, regardless of where the wetted channel is located at the time of construction, no work may take place in that wetted channel. Thus, the data regarding historical river channel patterns, while illustrative of the channel's variability, is not determinative as to where bridge piers will actually be placed. That is, historical channel patterns do not dictate where the bridge piers will be installed. They simply provide a general picture of the extent to which the channel has shifted position over a certain period of time – in this case, 15 years.

Comment No. 09-165:

HEC-RAS Modeling and Manning's Roughness Coefficients – The roughness coefficients are described but not shown on a map to understand the spatial extent of this parameter used in the hydraulic modeling. Can the HEC-RAS model input and output files be provided for review?

Response No. 09-165:

The comment seeks information regarding the HEC-RAS modeling and Manning's roughness coefficients that PACE used in its hydraulic analysis. Specifically, the comment asks that the input and output files for the HEC-RAS model be provided for public review.

CDFW may not publicly distribute the HEC-RAS model for the project site, as the model relies on proprietary data that is subject to licensing restrictions (i.e., surface topography). Further, CEQA does not require that the model be publicly distributed. Extensive HEC-RAS modeling of the project site is included in the 2010 Final EIR, specifically at Appendix F4.1-01 (Revised Newhall Ranch Resource Management & Development Plan: River & Tributaries Drainage Analysis, Santa Clara River, Pacific Advanced Civil Engineering, Inc., June 2010). This appendix document includes a full description of the HEC-RAS model input assumptions and parameters (including discussion of Manning's Roughness Coefficient selection), and includes model-run outputs for the 0.5 (2-year), 0.2 (5-year), 0.1 (10-year), 0.05 (20-year), 0.02 (50-year), and 0.01 (100-year) annual probability return and the Los Angeles County defined Qcap flood events. This same model methodology was used to determine the inundation area for the 500 cfs flow event, although updated surface topography and updated Manning's "n" values matching the 2014 aerial photograph were incorporated into the model. The model-run output files and figures for the Commerce Center Drive and Long Canyon Road bridge locations are provided in Final AEA Appendices 20 and 21.

Comment No. 09-166:

Base Topographic Data – The only topographic data referenced is a 2014 LiDAR survey and it is characterized as fine resolution data; however, no information is provided with respect to the accuracy of the data.

Response No. 09-166:

The comment seeks clarification as to the accuracy of the 2014 LIDAR resolution data, and asks whether the LIDAR data was augmented with data from "field topographic surveys to establish detailed cross sections along the proposed bridge pile alignments and topography under water areas."

A field survey was not completed at the bridge cross-sections, but ground-control points were incorporated into the methodology of collecting the LIDAR data to allow for evaluation of data accuracy. The 2014 topography, which is based on LIDAR, pictometry, and photogrammetric methods, was verified to be a fair representation of the river at several cross-sections, some of which were near the bridge locations. This is explained in "Geomorphological Monitoring and Management Program Santa Clara River Baseline Report," prepared by Ramboll/Environ (2015), which will be included in the administrative record.

Comment No. 09-167:

There is also no mention of a field topographic survey conducted to augment the LIDAR data and establish detailed cross sections along the proposed bridge pile alignments and topography under water areas. Was a field survey conducted to establish detailed cross sections along the proposed bridge pier alignments to verify and augment the 2014 LIDAR data used for the modeling? Also, are there any standing water areas captured in the 2014 LIDAR data in the vicinity of the wetted channel that might not accurately show topography in the wetted channel areas?

Response No. 09-167:

The comment asks whether the 2014 LIDAR data captured any standing water areas "in the vicinity of the wetted channel that might show topography in the wetted channel areas."

Please refer to **Response to Comment No. 09-166**, above. LIDAR methods used in the topography do not provide surface elevations for areas under a water surface, however, because the mapping effort included pictometry and photogrammetic methods in addition to the LIDAR data, the boundary of all ponded or flowing stream areas were directly mapped. These areas are represented as level (or flat) in the topography and boundaries determined and included in the topography files.

Comment No. 09-168:

Channel Improvements within the Hydraulic Model – The only improvement mentioned is the bank protection and a note is included stating that the proposed bridge structure was not included in the hydraulic model. Were the bridge piles included in the hydraulic model?

Response No. 09-168:

The comment seeks information regarding which "channel improvements" were included in the hydraulic model. Specifically, the comments ask whether the hydraulic model included proposed bridge piles.

As its title indicates, the PACE 2016d study provides a "Santa Clara Low-Flow Inundation Analysis," which means it was focused on delineating the extent of inundation at the two bridge locations during the summer "low-flow" season, based on historical flow data. The purpose of this analysis was to help CDFW and the project applicant determine whether it would be feasible to implement a No Water Contact bridge construction approach, with pier spans of 165 feet, even during historically heavy summer flows. In other words, the Pace inundation analysis was conducted to assist in developing a pier installation strategy; it was not intended to assess or capture the hydraulic impacts of the piers after they are installed.

This is not to say CDFW did not examine this issue. On the contrary, the PACE 2016 pier scour analysis discussed on pages 3-27 through 3-30 of the Draft AEA expressly evaluated the hydraulic impacts of the proposed bridge piers after installation.

Comment No. 09-169:

PACE September 30, 2016 memo "Pier Scour Analysis - Newhall Ranch RMDP Permanent Bridges"

The purpose of this memorandum is to provide additional context to the issue of bridge pier scour as it relates to the potential for stranding of fish in scour holes that may result from large storm events. The following questions arose during the review of this document:

Response No. 09-169:

The comment describes the PACE memorandum, dated September 30, 2016, titled "Pier Scour Analysis – Newhall Ranch RMDP Permanent Bridges". Because the comment does not raise any issue as to the adequacy of the Draft AEA, no further response is required.

Comment No. 09-170:

Are bridge pier scour countermeasures being considered so that a scour hole would be prevented from forming in the first place?

Response No. 09-170:

The comment asks whether CDFW is considering bridge pier scour measures that would prevent scour depression from forming behind piers.

CDFW, based on the hydrological and biological data discussed in the Draft AEA, determined that impacts from bridge pier scour depressions would be less than significant. Accordingly, there was no reason for CDFW to consider bridge pier scour counter measures or any other mitigation measure. However, CDFW is familiar with such counter measures and they generally do not so much eliminate scour as shift it to a different location within the river's wetted channel. The only way to eliminate local pier scour altogether is to armor the entire river cross-section, which would create a host of significant biological and hydro-geomorphological impacts, including impacts on unarmored threespine stickleback. For this reason, CDFW is not incorporating pier scour counter measures.

Comment No. 09-171:

At what locations were the sediment samples taken for the grain size (D50, D95) data?

Response No. 09-171:

The comment requests that CDFW identify the locations where the sediment samples were taken for purposes of providing the grain size data for the scour analysis.

As requested, the locations where sediment samples were pulled are shown in Final AEA Appendix 22.

Comment No. 09-172:

Was the potential for the accumulation of flood debris at bridge piers considered with respect to an increased obstruction area of a pier and increased dimensions of a scour hole?

Response No. 09-172:

The comment asks whether the PACE pier scour analysis took into account "the potential for the accumulation of flood debris at bridge piers", and for the potential of such debris to increase the dimensions of the scour holes.

Debris accumulation was not included in the HEC-18 scour calculation. This is because only large debris material would add substantially to a scour depression, and large debris would only be moving in the middle of the channel during flood events when the flow velocities are much higher than unarmored threespine stickleback could tolerate. Thus, unarmored threespine stickleback would not be able to reach any scour depression to which debris would contribute in any significant way. In general, scour at the piers central to the high velocity flows, if experiencing debris wracking, would increase from what was estimated in the Draft AEA for piers without debris wracking.

Comment No. 09-173:

Geosyntec, 2016b. Memorandum: Santa Clara River Seasonal Streamflow Analysis

The purpose of this analysis was to estimate likely and extreme streamflows that may be present during potential project construction windows. The following observations and questions arose during the review of this document:

Response No. 09-173:

The comment describes the commenter's understanding of the purpose of the 2016 Geosyntec memorandum titled, "Santa Clara River Seasonal Streamflow Analysis."

Because the comment does not raise issues regarding the adequacy of the Draft AEA, no further response is required.

Comment No. 09-174:

Based on corresponding monthly peak flows obtained from historical stream gage data, PACE (2016d) states that Geosyntec estimated the peak flow that is expected during this window to be approximately 500 cfs. Although it is not explicitly stated in any of the documents reviewed, it is understood that this flow rate is used to establish the "wetted channel" and is the basis of the NWC method.

Response No. 09-174:

The comment states that the dry season flow rate of 500 cfs was "used to establish the "wetted channel" and is the basis of the NWC method."

As explained in **Response to Comment Nos. 09-145, 09-165**, and **09-166**, the 500 cfs flow rate was not used to establish the "wetted channel." Nor does it form the basis of the No Water Contact method. Instead, the 500 cfs flow rate represents the heaviest flows ever recorded in the Santa Clara River (SCR) during the defined summer dry season. It provides a worse case illustration of the wetted channel's width and inundation zone, and thus assists CDFW in determining the feasibility of the No Water Contact construction approach. The actual dimensions of the wetted channel at the time of construction will likely be different, its width substantially less than the historically recorded maximum. It is the wetted channel at the time of construction that will dictate placement of the bridge piers.

Comment No. 09-175:

The wetted channel is based on flows recorded at two USGS stream gages located approximately 3 to 5 miles downstream from the proposed bridge crossings. The drainage areas for the gages are 645 square miles (11109000) and 644 square miles (11108500) while the drainage areas at the locations of the bridges are 418 square miles for the Commerce Center Bridge and 625 square miles for the Long Canyon Bridge (USGS, 2017). Flows from the gage locations do not appear to have been adjusted to the bridge locations to approximate the flows at these locations and this would imply the assumption of larger, more conservative, flows to establish the wetted channel widths at the bridge crossings. Were the resulting USGS stream gage flows adjusted upstream to the bridge crossing locations?

Response No. 09-175:

The comment addresses the flow rate inputs from existing United States Geological Survey (USGS) flow gauges along the Santa Clara River. Specifically, the comment states that the flow from the gauge locations "do not appear to have been adjusted to the bridge locations [so as] to approximate the flows at these locations". According to the comment, this would imply the assumption of larger mere conservative flows to establish the wetted channel widths at the bridge crossings. The comment then asks if the "resulting USGS stream gage flows adjusted upstream to the bridge crossing locations".

The flows were not corrected to the bridge crossing locations, and, therefore, may be somewhat overestimated, as several tributary watersheds contribute to the flow between the bridge locations and the gauge locations, particularly Castaic Creek and all of the project sub-watersheds downstream of the Commerce Center Drive bridge location. The flow values used are conservative.

Comment No. 09-176:

It is noted that the streamflow records at the gages are fair and poor, respectively, and base (low) flow at both gages is affected by pumping from wells for irrigation (USGS, 1995; USGS, 2016). The 500 cfs peak flow rate was derived from a mean daily flow of 92 cfs[1] which is a flow exceeded about 10 percent of the time, so this is assumed to not be a base flow; however, the relatively fair to poor quality of the recorded data itself is noteworthy. Was the poor and fair quality ratings of the stream flow data evaluated at all?

[1] *Approximate instantaneous peak flows were estimated from peak mean daily flows using a regression equation derived by matching annual peak streamflow observations to the mean daily streamflow recorded for the same day.*

Response No. 09-176:

The comment addresses the relative quality of the stream flow records from the USGS gauges used in the Geosyntec analysis, and contends that the gauges were rated "fair" to "poor". The comment asks if CDFW evaluated the fair to poor quality ratings of the stream flow gauges.

According to USGS, the "Accuracy of the Records" is determined as follows: The accuracy of streamflow records depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of measurements of stage and discharge, and interpretation of records. The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record." (https://pubs.usgs.gov/wdr/WDR-CA-01-1/pdf/WDR.CA.01.Vol1.pdf). Because the Santa Clara River stream gauge is located in an unconfined sand bottom riverbed, it is not feasible to accurately define the channel geometry during every flow measurement. This, coupled with a change in the location of the stream gauge, likely accounts for gauge's rating as "fair" to "poor." A quick review of similarly situated natural stream channel systems reveals a similar mix of fair and poor rated gauges. "Good" and "Excellent" rated gauges are typically found in systems with fixed geometry and well controlled sampling points. CDFW is aware of no flow gauge in Los Angeles County, Ventura County, Orange County, or San Diego County that is rated "Excellent", "Excellent/Good", or "Good." And CDFW knows of only gauge in these four counties that is rated "Good/Fair." Put another way, only 2 percent of all flow gauges (1 out of 50) in these four counties have ratings above "Fair." Thus, the stream gauge data obtained for the Draft AEA represents the best available information regarding historic flows downstream of the project and is considered superior to data generated by hydraulic models. Considering the conservatism inherent in the values used, the fact that the data are drawn from gauges rated "fair" or "poor" on the USGS scale articulated above is not critical to the analysis.

Comment No. 09-177:

Figure 2 shows the last 2 years of recorded flow data (black line) for USGS gage 11109000, the June through September dry season construction windows (pink boxes), and the 500 cfs value (red line). The colored areas show long-term statistics of streamflow for each day of the year at that station and the top of

the dark blue area represents the maximum discharge recorded during the period of record for each day of the year. The 500 cfs flow rate appears to be a reasonable flow rate for establishing the wetted channel area.

Response No. 09-177:

The comment describes Figure 2 from the Geosyntec 2016b memorandum, but does not raise any issue as to the adequacy of the Draft AEA. Therefore, no further response is required.

Comment No. 09-178:

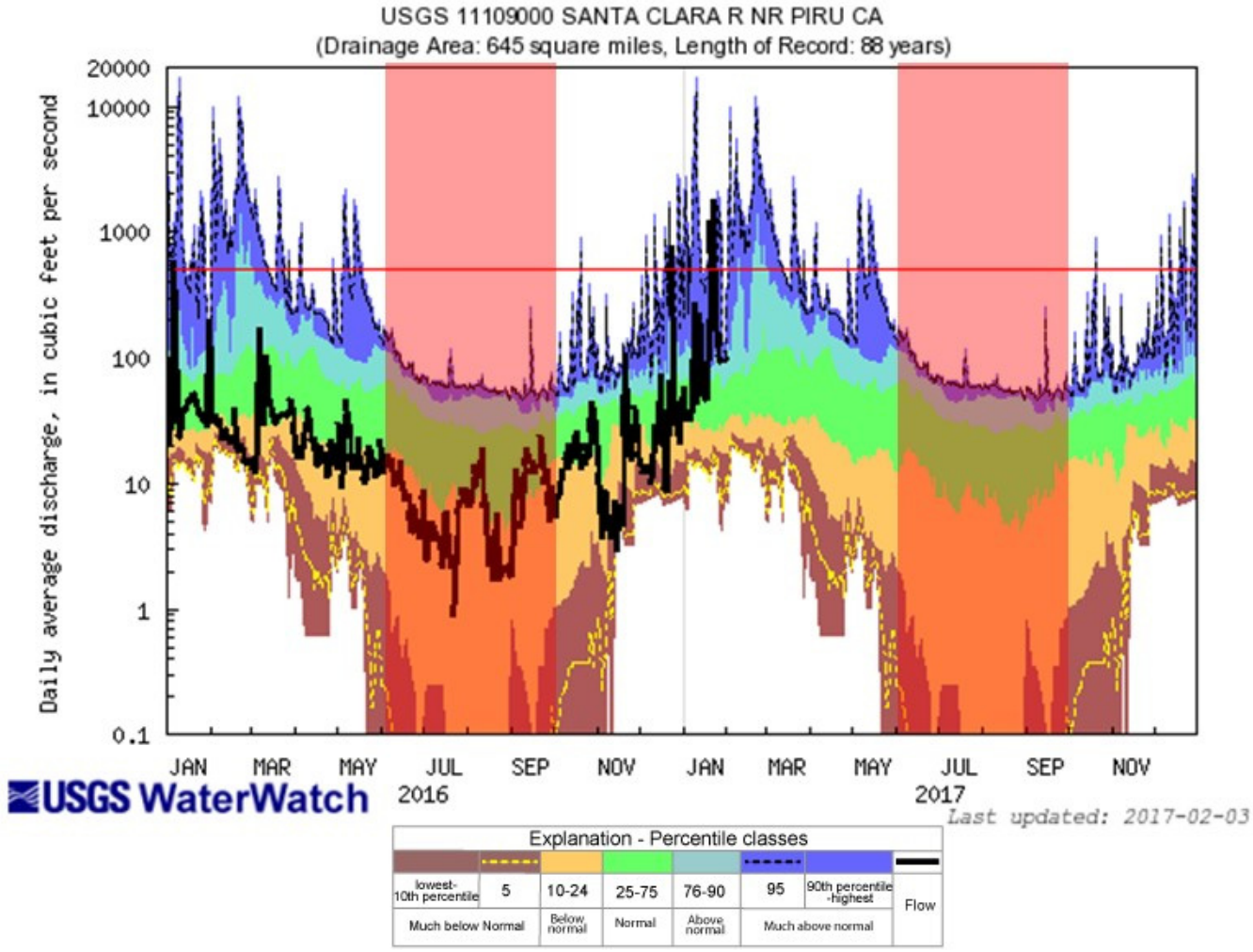

Figure 2. Santa Clara River Streamflow Duration Hydrograph

Response No. 09-178:

The comment provides a graphic of USGS discharge data, but does not address any issue covered in the Draft AEA; therefore, no further response is required.

Comment No. 09-179:

Moffatt & Nichol, 2016c. Memorandum: Implementation of Proposed “No Water Contact” Construction Program

The purpose of this memorandum is to evaluate whether the permanent bridges, as well as the temporary haul route bridges, can be constructed pursuant to a "No Water Contact" construction program. The following questions arose during the review of this document:

Response No. 09-179:

The comment describes the commenter's understanding of the purpose of the 2016 Moffat & Nichol memorandum titled, "Implementation of Purpose 'No Water Contact' Construction Program."

The comment does not raise any issue as to the adequacy of the Draft AEA. Therefore, no further response is required.

Comment No. 09-180:

It is stated that all work will be completed without any construction activity entering the wetted channel of the River or impacting the wetted channel in any way that results in take of unarmored threespine stickleback (page 2).; however, grading of the dry riverbed adjacent to the wetted channel will occur (page 7). Are there groundwater connections between the dry riverbed and the area of the wetted channel and could construction activity disturb groundwater that is eventually discharged into UTS habitat?

Response No. 09-180:

The comment notes that grading activities will take place in the dry riverbed adjacent to the wetted channel, and then asks whether construction activity could "disturb groundwater that is eventually discharged into unarmored threespine stickleback habitat?"

The comment raises an issue that is similar to that raised in Comment No. 09-148 — namely, bridge construction activities, including installation of bridge piers, may cause a disturbance of groundwater that could eventually make contact with unarmored threespine stickleback and its habitat. With regard to the limited grading required for the bridge construction, no excavations into the ground water table are required and therefore no disturbance of groundwater will occur.

Comment No. 09-181:

How close to the wetted channel boundary will vegetation be cleared prior to construction?

Response No. 09-181:

The comment seeks clarification as to "[h]ow close to the wetted channel boundary will vegetation be cleared prior to construction" of the bridges and bank stabilization.

Vegetation will be cleared up to the edge of the wetted channel prior to construction to install overhead bridge components without obstruction and to preclude nesting birds from being impacted by bridge construction. The comment does not raise any issue as to the adequacy of the Draft AEA. Therefore, no further response is required.

Comment No. 09-182:

Are there areas where construction access to the riverbed is prohibited due to the proximity or presence of the wetted channel of the river known and delineated?

Response No. 09-182:

The comment asks whether there are areas "where construction access to the riverbed is prohibited due to the proximity or presence of the wetted channel…" The comment also asks whether such areas, if they exist, have been identified and delineated.

The areas of access for the construction of the two river bridges is known, but the precise location of the wetted channel will require delineation/confirmation at the time of the construction sub-notification for each bridge. Please refer to Response to Comment No. 09-166. The overall location of the bridges and associated construction work zone is the same as analyzed in the 2010 Final EIR; however, no access to the wetted channel is allowed under the No Water Contact construction method presented in the Draft AEA.

Comment No. 09-183:

If the temporary haul routes will include a modular bridge deck section that spans the wetted channel of the river, will these modular sections be more than 114-ft long at Commerce Center Drive and 91-ft long at Long Canyon crossings (i.e., the maximum dry season flow widths) with no support piers in the wetted channel?

Response No. 09-183:

The comment asks whether the modular bridge decks for the temporary haul route bridges will be long enough to span the maximum dry season flow widths at Commerce Center Drive and Long Canyon Road without placing "support piers in the wetted channel."

As an initial matter, the width of the inundation area (maximum dry season flow widths based on 500 cfs flows) at Commerce Center Drive and Long Canyon Road were calculated as part of the analysis for the permanent bridges. They are immaterial to the two temporary haul route bridges, both of which will be installed near but not at Long Canyon Road. The following is a summary of the installation of the temporary bridges, and establishes that they can be constructed without contacting the wetted channel:

Grading operations at Landmark Village will determine when and for how long the haul routes are needed. In advance of such grading operations, the support pile locations for the temporary haul route bridges will be surveyed on either side of the wetted channel during the dry season, with a minimum set-back of 10 feet maintained between the piles and the wetted channel edge. The support piles are then rapidly vibrated into place. With an expected low-flow wetted channel of 20 to 40 feet in width, it is anticipated that the modular deck span over the wetted channel will be 40 to 60 feet in length. Supports for two (2) additional modular deck spans will be installed in the dry riverbed, allowing for additional modular deck sections on either side of the central span that crosses the wetted channel. The modular bridge deck sections are then lowered onto the pile supports using overhead crane methods, a travel surface and related roadway protections installed, and the finished temporary haul route bridge placed into operation. In this manner, the finished temporary haul route bridge will provide a 120- to 180-foot long temporary haul route bridge, accommodating re-deployment of the modular bridge decks using overhead cranes if there happen to be any fluctuation in the wetted channel from one season to the next. Note that the temporary haul route modular bridge decks will be installed during the non-storm flow season, as defined in the Draft AEA as May 1 through November 30 (Draft AEA, p. 3-20).

Prior to winter season, the modular decks will be removed from the riverbed, and if necessary for continued grading operations, re-deployed in the spring time. Temporary bridges may be in service between May 1 and November 30, a timeframe that is beyond the work period allowed for the permanent bridges. When no longer needed to support grading operations, the support piles will be extracted using vibratory techniques, again with a restriction that no activities occur in the wetted channel.

Exhibit 3.1-1, set forth below, provides an illustration of the temporary haul route bridge, and shows where the support piers will be located in relation to: (i) the wetted channel and (ii) the modular bridge deck sections.

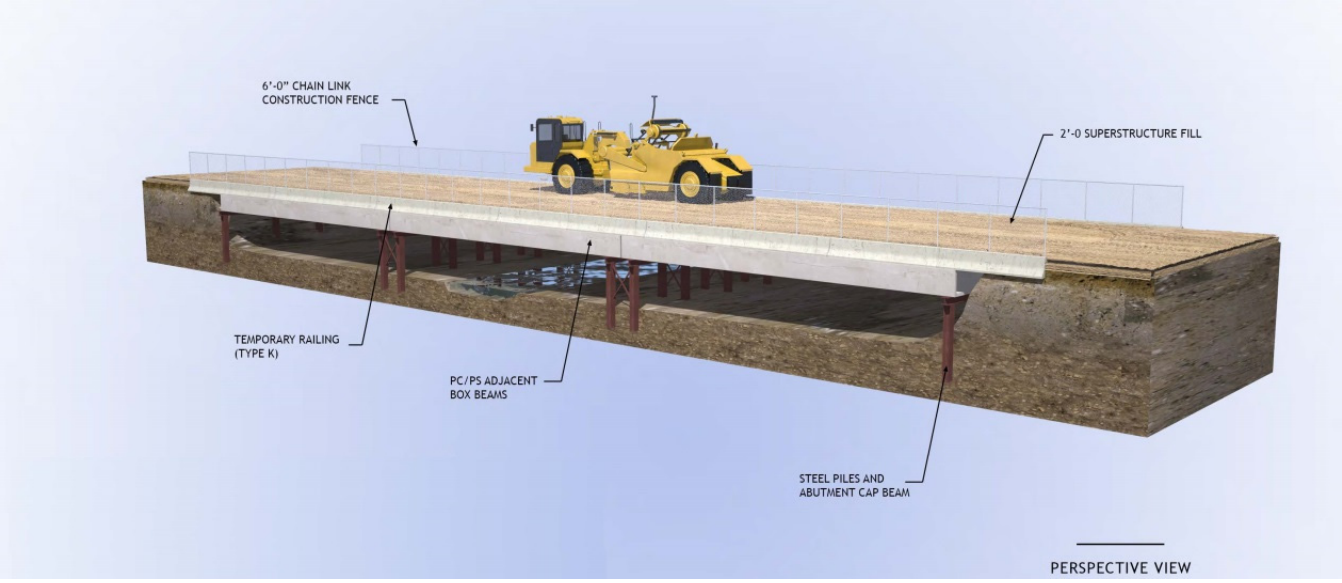

Exhibit 3.1-1 Temporary Haul Route Bridge Illustration

Comment No. 09-184:

What time of year will steel pile vibration occur for construction of the temporary haul route bridges?

Response No. 09-184:

The comment seeks clarification as to what time of year steel pile vibration will occur for construction of the temporary haul route bridges.

Vibratory installation of temporary haul route bridge support piles may occur at any time of year as long as activities are conducted a minimum of 10 feet from the wetted channel and there is a clear weather window (Draft AEA, pp. 3-19 through 3-20).

Comment No. 09-185:

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PACE, 2016c. Technical Memorandum: Pier Scour Analysis – Newhall Ranch RMDP Temporary Haul Route Bridge, October 3.

PACE, 2016d. Technical Memorandum: Santa Clara River Low-Flow Inundation Analysis, October 11. State of California Department of Fish and Wildlife, 2016a. Memorandum: Engineering Review of Take

Avoidance of Unarmored Threespine Stickleback Proposed Bridges and Flood-Control Facilities on the Santa Clara River Newhall Ranch Resource Management and Development Plan/Spineflower Conservation Plan Additional Environmental Analysis, October 19.

State of California Department of Fish and Wildlife, 2016b. Memorandum: Analysis of Impacts to Unarmored Threespine Stickleback for the Draft Additional Environmental Analysis of the Newhall Ranch RMDP/SCP, October 19.

U.S. Fish and Wildlife Service, 1985. Revised Unarmored Threespine Stickleback Recovery Plan, Portland OR, December 26.

Fish and Wildlife Service, 2009. Unarmored Threespine Stickleback (Gasterosteus aculeatus williamsoni) 5-Year Review: Summary and Evaluation, Ventura, California, May 29.

USGS, 1995. Water resources Data California Water Year 1995, Volume 1, report CA-95-1, Page 292. https://pubs.usgs.gov/wdr/1995/ca-95/WRD-1995-vol1.pdf

USGS, 2016. Water Year Summary 2016 for streamgage 11109000 Santa Clara River near Piru, CA https://waterdata.usgs.gov/nwis/wys_rpt/?site_no=11109000&agency_cd=USGS

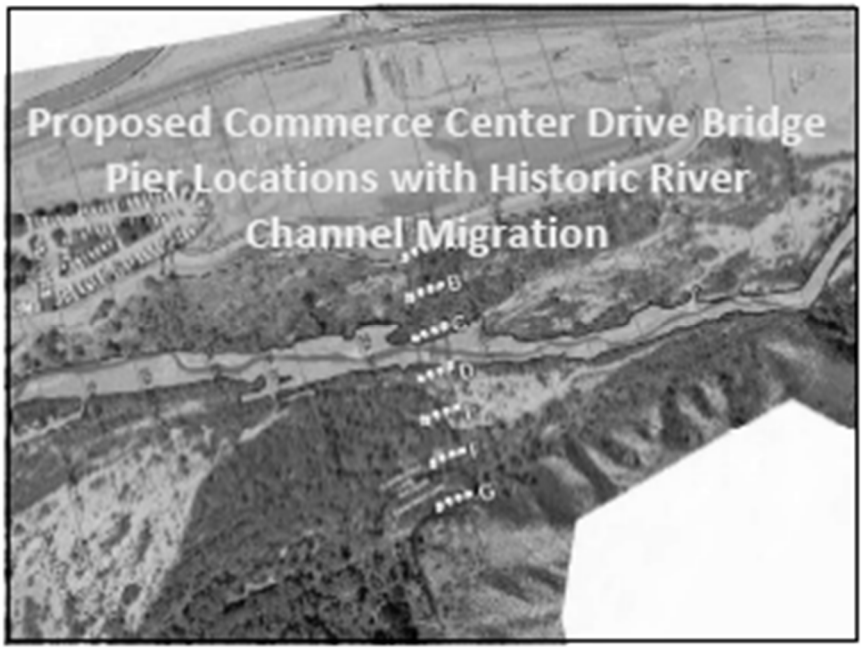
USGS, 2017. StreamStats,California, Version 3. https://water.usgs.gov/osw/streamstats/california.html

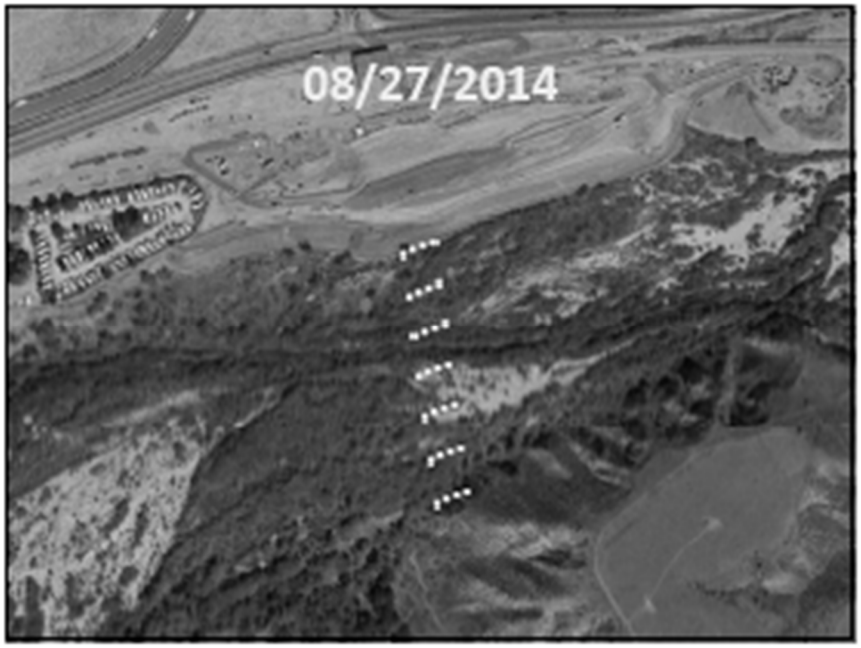
Response No. 09-185:

The comment consists of a list of references that cbec consulted when preparing the technical memorandum. It does not raise any issue as to the adequacy of the Draft AEA; therefore, no substantive response is required. CDFW has reviewed the documents on the list of references to the extent they bear upon the issues addressed in the Draft AEA.

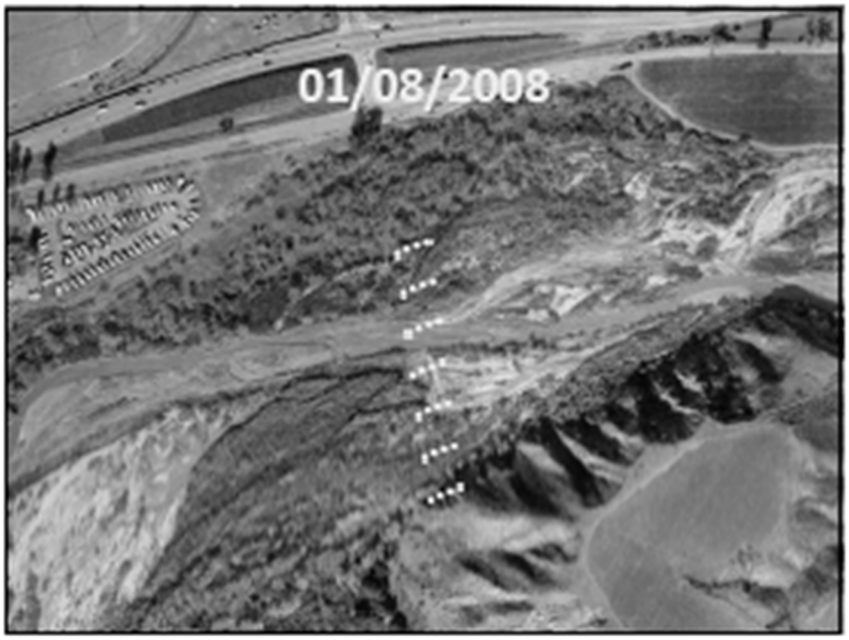
Comment No. 09-186:

ATTACHMENT A





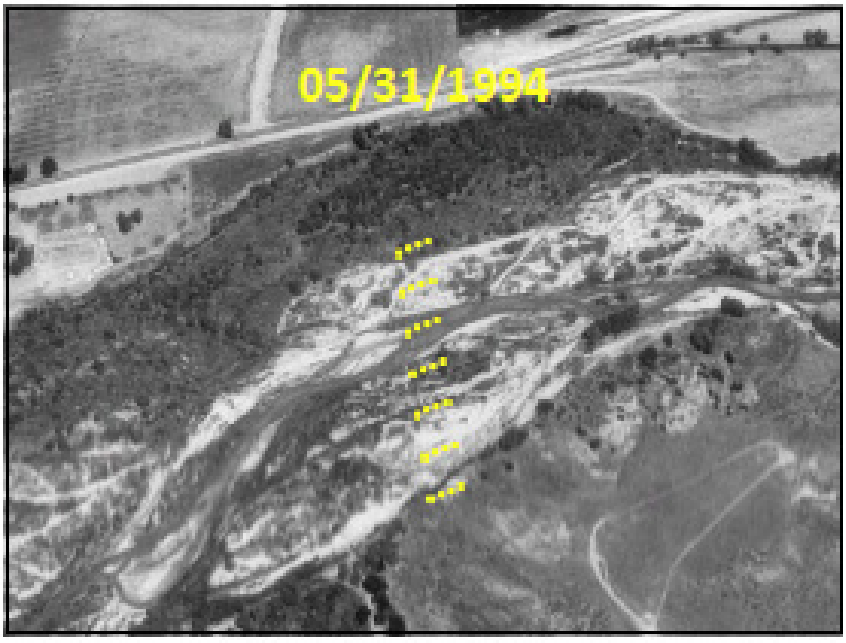

04/26/2011


01/08/2008


03/15/2006


12/31/2004


06/09/2002


05/31/1994


10/02/2016


Proposed Long Canyon Bridge
Pier Locations with Historic River
Channel Migration
A
B
C
D
E
F


04/26/2011


08/26/2012


12/21/2005


01/08/2008


12/31/2004


11/12/2004

Response No. 09-186:

The comment comprises Attachment A to the cbec technical memorandum and consists of a series of aerial photograph graphics showing the Santa Clara River on various dates in the past, with overlays of the project's permanent bridge piers.

The graphics themselves do not raise issues as to the adequacy of the Draft AEA, so no substantive response is required. However, CDFW has reviewed the graphics as they relate to Comment No. 09-147, where cbec cites them in reference to historic changes in the channel alignment and dimension of the Santa Clara River and Comment No 09-164, which asks if historical river channel patterns were analyzed. Please refer to **Response to Comment Nos. 09-147** and **09-164** for a substantive response to this issue.

Comment No. 09-187:

ATTACHMENT B

The excerpts compiled in this attachment were obtained from public information provided by the CBD and are focused on UTS habitat/lifecycle characteristics associated with hydrologic, hydraulic, and geomorphic processes that were used to guide this review.

Page 1 - "The UTS is currently restricted to three areas [including] the upper Santa Clara River and its tributaries in Los Angeles County".

Page 7 - "This location includes a reach of the Santa Clara River below Soledad Canyon where the Los Angeles Aqueduct crosses the river and ending downstream near the Ventura-Los Angeles County line. The distribution of the UTS shifts in this portion of the Santa Clara River due to seasonal changes in water availability (portions of the river go dry during the summer months) and the availability of suitable habitat (adequate vegetation and low flow velocities). Two such areas have continuous flow provided by two different waste water treatment plants. The discharge point for one of the treatment plants is located at the Bouquet Canyon bridge and the other is located immediately downstream of the Interstate 5 freeway bridge".

Page 16 – "Two sewage treatment plants discharge treated effluent within the UTS habitat in the Santa Clara River. When burdened with heavy flows resulting from large storm events, these treatment plants may potentially discharge raw or partially treated sewage into the UTS habitat."

Page 7 - "Numerous individuals, including early-stage juveniles, were recorded in the marshy area north of the main channel at Castaic Junction and the confluence of San Francisquito Creek. Their presence, combined with the occurrence of relatively ideal habitat, suggests these locations may be important breeding and nursery areas". (U.S. Fish and Wildlife Service, 2009).

Page 12 - "Young UTS are typically found at the shallow edges of streams in areas with dense vegetation. The water temperature in these areas tends to be a few degrees higher than the surrounding stream, which may help speed development through the vulnerable early juvenile stages" (U.S. Fish and Wildlife Service, 2009).

Page 1 - The UTS inhabits "slow-moving reaches or quiet-water microhabitats in streams and rivers Favorable habitats are usually shaded by dense and abundant vegetation. In more open reaches, algal mats or barriers (e.g., sand bars, floating vegetation, low-flow road crossings) may provide refuge for the species".

Page 12 - "Baskin and Bell (1976) indicate that the ideal habitat for UTS is a small, clean pond in the stream with a constant flow of water through it. The UTS tend to gather in areas of slower- moving or standing water. In places where water is moving rapidly they tend to be found behind obstructions, or at the edge of the stream, especially under the edge of algal (Cladophora spp.) mats" (U.S. Fish and Wildlife Service, 2009).

Page 1 - "The UTS reproduce throughout the year with less breeding activity occurring from October to January. Reproduction occurs in areas with adequate aquatic vegetation and slow- moving water" (U.S. Fish and Wildlife Service, 2009).

Page 5 - "The nature of breeding habitat is dynamic and may shift in structure and specific location from year to year depending on seasonal rainfall and storm cycles" (U.S. Fish and Wildlife Service, 2009).

Page 5 - "The smallest specimens of the UTS captured outside of a nest are approximately 10 millimeters (mm) (0.40 in) standard length" (U.S. Fish and Wildlife Service, 2009).

Page 2 - The UTS have been extirpated from other areas “as a result of the effects of urbanization (e.g., dewatering of streams, habitat alteration, introduction of exotic predators, and pollution)” (U.S. Fish and Wildlife Service, 2009).

Page 14 – “As part of a residential development, the Newhall Land and Farming Company is proposing to construct approximately 9,096 m (29,843 ft) of bank stabilization along the north and south banks of the Santa Clara River. Approximately 8,928 m (29,293 ft) of buried bank stabilization (i.e., 98 percent of the project total) would be installed in upland areas adjacent to the river. By constructing the majority of the proposed buried bank stabilization in the upland areas, direct impacts to the UTS habitat should be minimized; however, the remaining 168 m (550 ft) of bank stabilization would occur in the UTS habitat.”

Page 19 – “The Metropolitan Water District (MWD) released 100s of acre feet of water into the Santa Clara River in January 2007 in order to inspect and repair its pipelines. Fishery biologists monitoring the discharge of the water observed stranded UTS in temporary pools of water on the upper terraces of the Santa Clara River banks, which were created by the high flows.”

Response No. 09-187:

The comment describes the document excerpts that comprise Attachment B to the cbec technical memorandum. They do not raise any issue as to the adequacy of the Draft AEA; therefore, no substantive response is required.

Comment No. 09-188:

Provided below is the first page of Exhibit HH to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

EXHIBIT HH
PAGE 1 OF 10

Journal of Herpetology, Vol. 45, No. 3, pp. 319–328, 2011

Habitat Use and Movement of the Endangered Arroyo Toad (*Anaxyrus californicus*) in Coastal Southern California

MILAN J. MITROVICH,[1] ELIZABETH A. GALLEGOS,[1,2] LISA M. LYREN,[1] ROBERT E. LOVICH,[3,4] AND ROBERT N. FISHER[1]

[1]*U.S. Geological Survey, Western Ecological Research Center, San Diego Field Station, 4165 Spruance Road, Suite 200, San Diego, California 92101-0812 USA*
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ABSTRACT.—Information on the habitat use and movement patterns of Arroyo Toads (*Anaxyrus californicus*) is limited. The temporal and spatial characteristics of terrestrial habitat use, especially as it relates to upland use in coastal areas of the species' range, are poorly understood. We present analyses of radiotelemetry data from 40 individual adult toads tracked at a single site in coastal southern California from March through November of 2004. We quantify adult Arroyo Toad habitat use and movements and interpret results in the context of their life history. We show concentrated activity by both male and female toads along stream terraces during and after breeding, and, although our fall sample size is low, the continued presence of adult toads in the floodplain through the late fall. Adult toads used open sandy flats with sparse vegetation. Home-range size and movement frequency varied as a function of body mass. Observed spatial patterns of movement and habitat use both during and outside of the breeding period as well as available climatological data suggest that overwintering of toads in floodplain habitats of near-coastal areas of southern California may be more common than previously considered. If adult toads are not migrating out of the floodplain at the close of the breeding season but instead overwinter on stream terraces in near-coastal areas, then current management practices that assume toad absence from floodplain habitats may be leaving adult toads over-wintering on stream terraces vulnerable to human disturbance during a time of year when Arroyo Toad mortality is potentially highest.

The Arroyo Toad (*Anaxyrus californicus*) is a federally endangered amphibian species in both the United States and Mexico (USFWS, 1994; Poder Ejecutivo Federal, 2008). It inhabits cismontane rivers and streams draining to the Pacific Ocean along the west coast of North America, from Monterey County, California (Salinas River) to Northern Baja California, Mexico (Rio Santa Maria; Gergus et al., 1997), as well as transmontane rivers that drain to the Mojave Desert from the north side of the Transverse Ranges (i.e., San Bernardino and San Gabriel Mountains) of southern California (Price and Sullivan, 1988; Grismer, 2002; Mahrdt et al., 2002, 2003; Mahrdt and Lovich, 2004). The toad is associated with low-gradient, intermittent streams and rivers with extensive terrace systems, braided channels, and large areas of fine sediment deposits periodically reworked by flooding (Stebbins, 1951; Cunningham, 1961; Sweet and Sullivan, 2005). Reproduction is dependent upon the availability of shallow and slow moving water typical of flood-disturbed environments from which breeding, egg laying, and larval development occur (Sweet, 1992; Jennings and Hayes, 1994). Arroyo Toads are generally active from the first substantial rains in January to March through August or September, depending on latitude and elevation (Sweet and Sullivan, 2005; Brehme et al., 2010). Adult toads are nocturnally active, remaining underground in sandy stream-sides and stable terraces during the daytime, emerging to engage in foraging and breeding activity at night (Stebbins, 1951). The Arroyo Toad, formerly widespread, has been extirpated from much of its historical range largely because of urban and agricultural development and the channelization and impoundment of streams and rivers (USFWS, 1994). Jennings and Hayes (1994) consider the toads present in 22 river systems, representing 24% of their historical range. Subsequent discoveries of new localities and remnant populations have increased this figure to about 35% (Sweet and Sullivan, 2005).

In addition to occupying washes, arroyos, sandy riverbanks, and other riparian habitats, the use of uplands (areas of low topographical relief outside of the floodplain) is also recognized as a key component of the Arroyo Toad's life history in near-coastal areas of its range (USFWS, 1999, 2009). The temporal and spatial characteristics of terrestrial habitat use of adult toads, especially as it relates to upland use in coastal areas, however, has not been well defined and remains poorly understood (Griffin and Case, 2001; Sweet and Sullivan, 2005). Holland and Sisk (2000, 2001) found evidence of upland dispersal by Arroyo Toads in coastal areas of San Diego County, California. During their multiyear study (1998 through 2001) at the U.S. Marine Corps Base (USMCB) Camp Pendleton, Holland and Sisk (2000, 2001) trapped adult toads (through the use of drift fences and pitfall traps) within floodplain habitats, but also several hundred meters outside of the floodplain in grassland and sage scrub habitats prior to, during, and after the breeding season. Other than the studies by Holland and Sisk (2000, 2001), however, little additional evidence exists on the use of upland habitats by Arroyo Toads. A radiotelemetry study of Arroyo Toads completed at USMCB Camp Pendleton failed to find evidence of upland dispersal at the close of breeding but, instead, described habitat-use patterns (i.e., male and female toad activity concentrated in the stream channel and terrace habitats during and after breeding) known from other areas of the species' range (Griffin, 1999; Griffin and Case, 2001). In their species ecology review, Sweet and Sullivan (2005) substantiate a pattern of observations that suggest Arroyo Toads are present in stream channel and terrace habitat year-round, with the possible exception of near-coastal areas of the species' range, where proximity to the marine environment provide for milder terrestrial conditions in the summer and fall allowing for the possibility of dispersal by Arroyo Toads into upland habitats at the close of breeding.

Uncertainty regarding the movement of adult Arroyo Toads in coastal areas can lead to conflicting conclusions regarding species dispersal patterns and ultimately affect how the species is managed. In southern California, despite a limited amount of supporting evidence, an upland-dependent life-history model has gained wide acceptance for the Arroyo Toad (Atkinson et al., 2003). The life-history model, developed to inform Arroyo Toad management and monitoring efforts throughout the region, suggests adult toads make extensive movements between riparian and upland environments at the close of breeding. This view of a seasonal migration of toads, based largely on the findings by Holland and Sisk (2000, 2001), runs counter to the stream channel and terrace hypothesis described by Sullivan and Sweet (2005), wherein toads remain in the

[2] Corresponding Author. E-mail: egallegos@usgs.gov
[4] Present address: Naval Facilities Engineering Command Southwest, Central Integrated Product Team, San Diego, California 92132 USA.

Response No. 09-188:

The commenter cited this publication to support the statement that arroyo toads have been observed estivating/hibernating "at distances up to 150 meters (492 feet) from surface flow waters in coastal southern California." Please see Response to Comment No. 09-86, above, for relevant information that responds to this issue.

Comment No. 09-189:

Provided below is the first page of Exhibit II to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

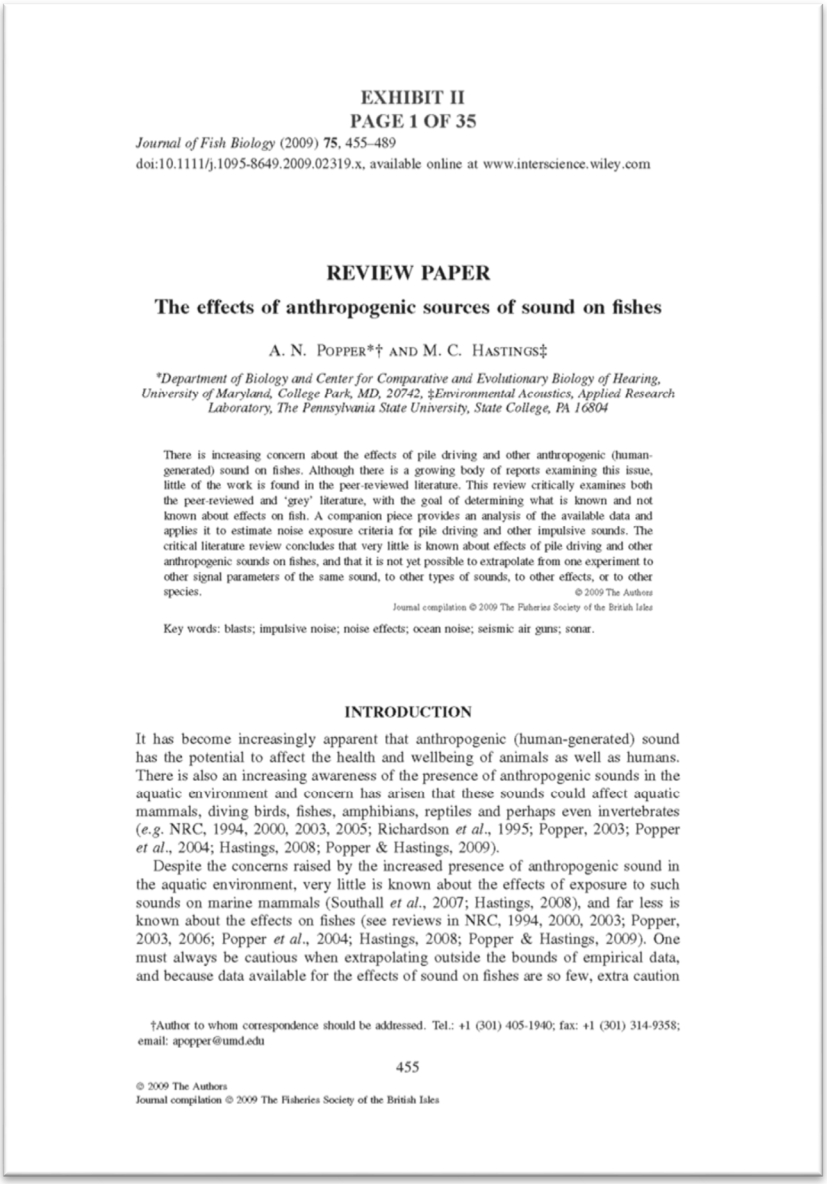

EXHIBIT II
PAGE 1 OF 35

Journal of Fish Biology (2009) **75**, 455–489
doi:10.1111/j.1095-8649.2009.02319.x, available online at www.interscience.wiley.com

REVIEW PAPER

The effects of anthropogenic sources of sound on fishes

A. N. POPPER*† AND M. C. HASTINGS‡

Department of Biology and Center for Comparative and Evolutionary Biology of Hearing, University of Maryland, College Park, MD, 20742, ‡Environmental Acoustics, Applied Research Laboratory, The Pennsylvania State University, State College, PA 16804

There is increasing concern about the effects of pile driving and other anthropogenic (human-generated) sound on fishes. Although there is a growing body of reports examining this issue, little of the work is found in the peer-reviewed literature. This review critically examines both the peer-reviewed and 'grey' literature, with the goal of determining what is known and not known about effects on fish. A companion piece provides an analysis of the available data and applies it to estimate noise exposure criteria for pile driving and other impulsive sounds. The critical literature review concludes that very little is known about effects of pile driving and other anthropogenic sounds on fishes, and that it is not yet possible to extrapolate from one experiment to other signal parameters of the same sound, to other types of sounds, to other effects, or to other species.

Key words: blasts; impulsive noise; noise effects; ocean noise; seismic air guns; sonar.

INTRODUCTION

It has become increasingly apparent that anthropogenic (human-generated) sound has the potential to affect the health and wellbeing of animals as well as humans. There is also an increasing awareness of the presence of anthropogenic sounds in the aquatic environment and concern has arisen that these sounds could affect aquatic mammals, diving birds, fishes, amphibians, reptiles and perhaps even invertebrates (*e.g.* NRC, 1994, 2000, 2003, 2005; Richardson *et al.*, 1995; Popper, 2003; Popper *et al.*, 2004; Hastings, 2008; Popper & Hastings, 2009).

Despite the concerns raised by the increased presence of anthropogenic sound in the aquatic environment, very little is known about the effects of exposure to such sounds on marine mammals (Southall *et al.*, 2007; Hastings, 2008), and far less is known about the effects on fishes (see reviews in NRC, 1994, 2000, 2003; Popper, 2003, 2006; Popper *et al.*, 2004; Hastings, 2008; Popper & Hastings, 2009). One must always be cautious when extrapolating outside the bounds of empirical data, and because data available for the effects of sound on fishes are so few, extra caution

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Response No. 09-189:

The commenter cited this publication to support the statement that fish can sustain severe impacts, including possible mortality, from sound pressure caused by pile driving. Please **see Response to Comment No. 09-73**, above, for relevant information that responds to this issue.

Comment No. 09-190:

Provided below is the first page of Exhibit JJ to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

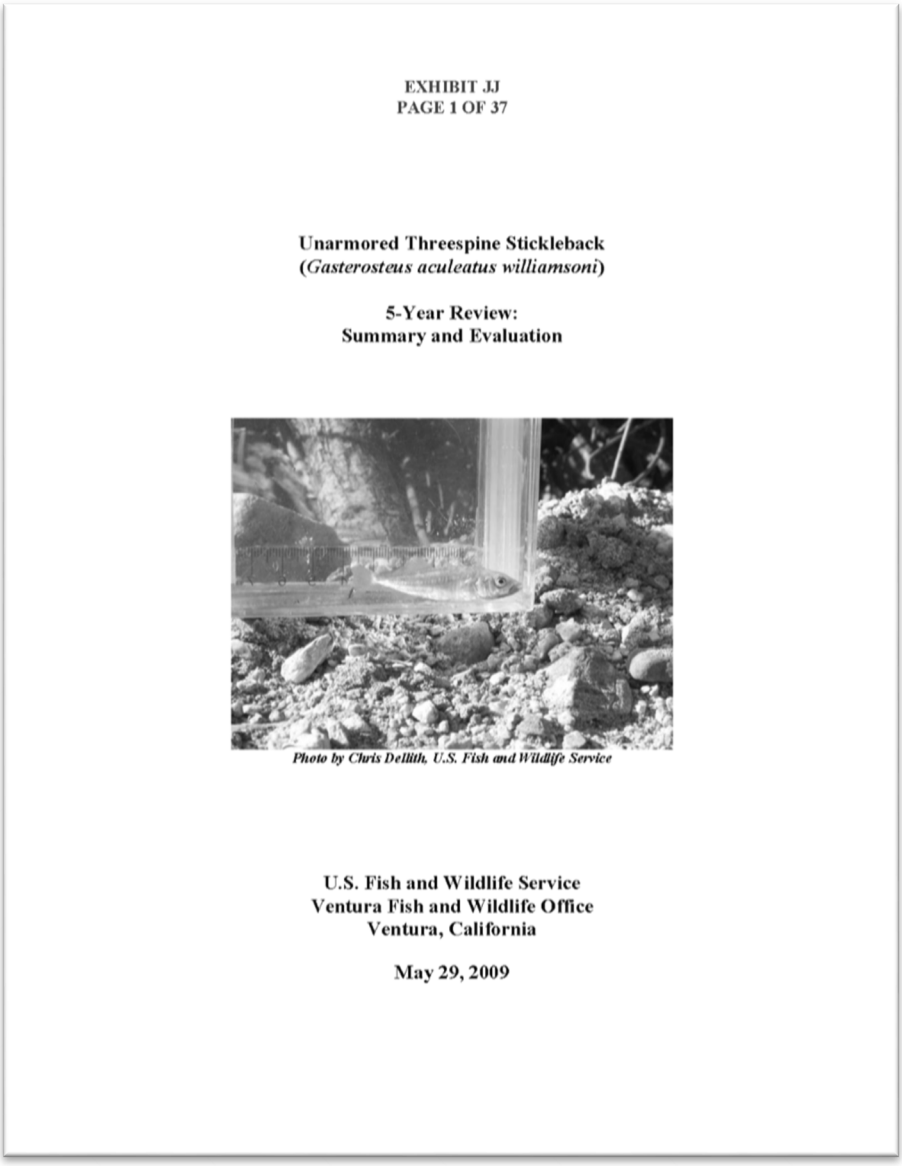


EXHIBIT JJ
PAGE 1 OF 37

Unarmored Threespine Stickleback
(*Gasterosteus aculeatus williamsoni*)

5-Year Review:
Summary and Evaluation

Photo by Chris Dellith, U.S. Fish and Wildlife Service

U.S. Fish and Wildlife Service
Ventura Fish and Wildlife Office
Ventura, California

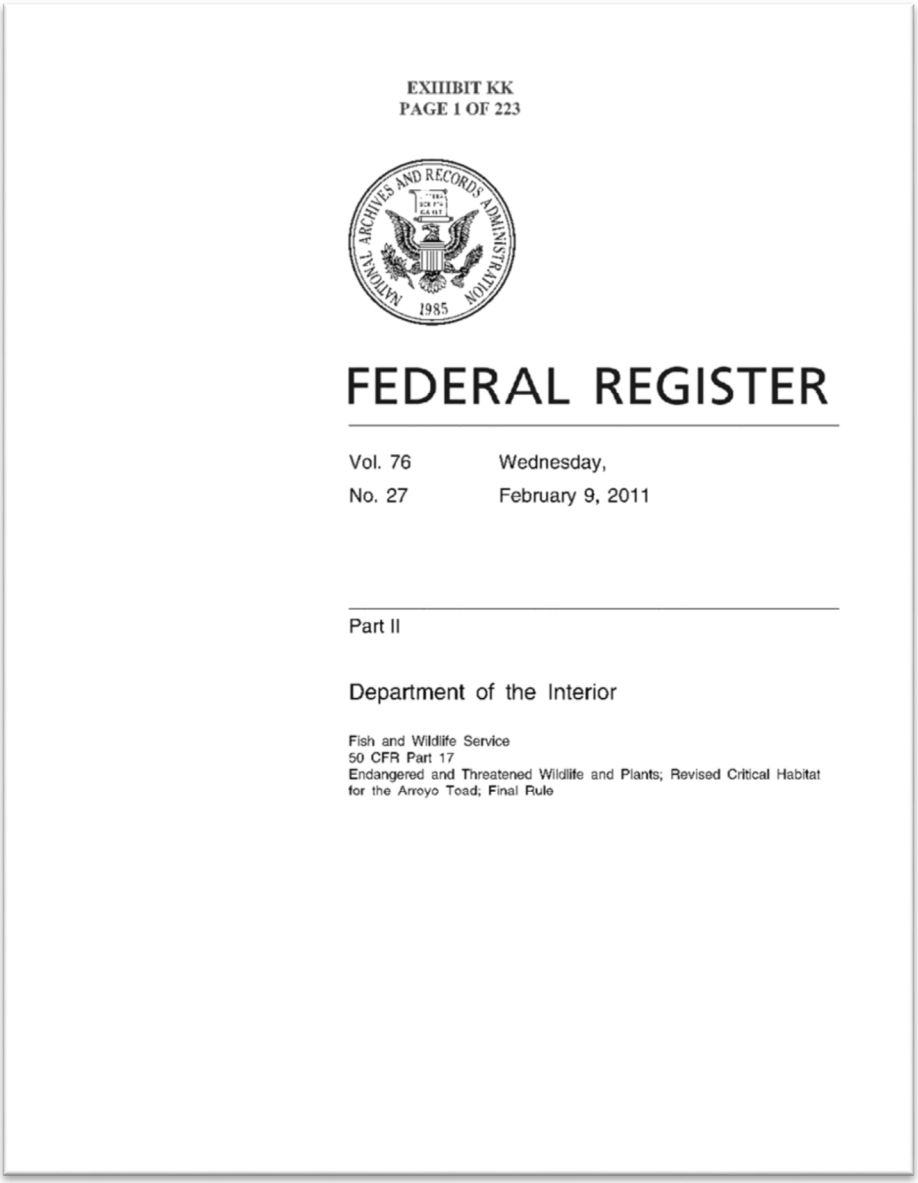
May 29, 2009

Response No. 09-190:

The commenter cited this publication to support the statement that the breeding/nesting season for the unarmored threespine stickleback "is recognized as occurring year round, with less breeding activity occurring from October to January." Please see **Response to Comment No. 09-72**, above, for relevant information that responds to this issue.

Comment No. 09-191:

Provided below is the first page of Exhibit KK to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.



EXIIIBIT KK
PAGE 1 OF 223

NATIONAL ARCHIVES AND RECORDS ADMINISTRATION 1985

FEDERAL REGISTER

Vol. 76 Wednesday,
No. 27 February 9, 2011

Part II

Department of the Interior

Fish and Wildlife Service
50 CFR Part 17
Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Arroyo Toad; Final Rule

Response No. 09-191:

The commenter cited this publication in support of the statement that the USFWS, on February 9, 2011, issued a final rule designating critical habitat for the federally-listed arroyo toad. Please see **Response to Comment No. 09-86**, above, for relevant information that responds to that issue.

Comment No. 09-192:

Provided below is the first page of Exhibit LL to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

EXHIBIT LL
PAGE 1 OF 38

EFFECTS OF 'BOOM AND BUST' DEMOGRAPHY AND GEOGRAPHIC ISOLATION ON THE POPULATION GENETICS OF THE SANTA ANA SUCKER (*CATOSTOMUS SANTAANAE*) IN SOUTHERN CALIFORNIA

Jonathan Q. Richmond[1], Adam R. Backlin, and Robert N. Fisher

U.S. Geological Survey, Western Ecological Research Center
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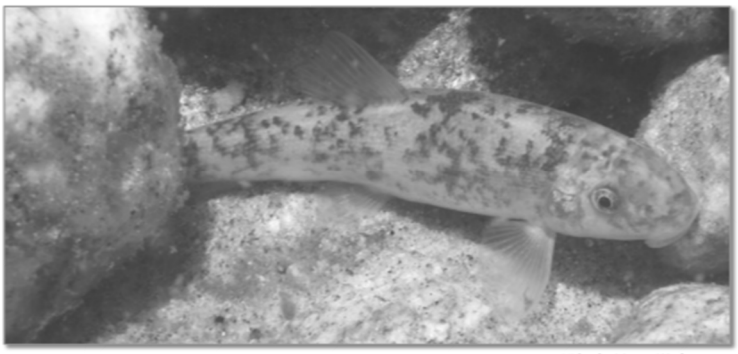
[1]jrichmond@usgs.gov



Video by Manna Warburton

Response No. 09-192:

The commenter cited this publication to support the statement that the USFWS's basis for not listing the Santa Ana Sucker as threatened in the Santa Clara River above the Piru "dry gap" is in error. Please see **Response to Comment No. 09-87**, above, for relevant information that responds to this issue.

Comment No. 09-193:

Provided below is the first page of Exhibit MM to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

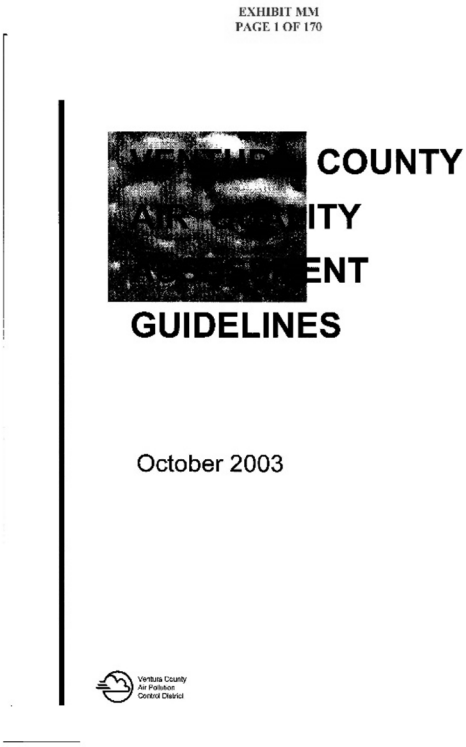


EXHIBIT MM
PAGE 1 OF 170

COUNTY
ITY
ENT
GUIDELINES

October 2003

Ventura County
Air Pollution
Control District

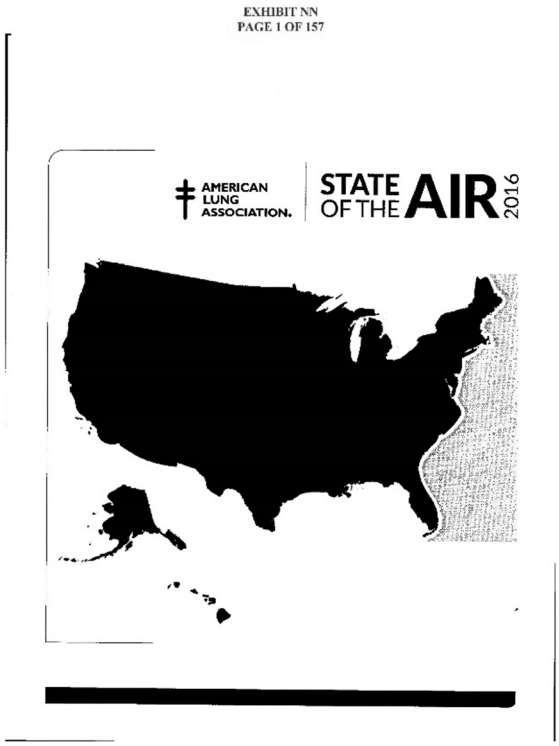
VCAPCD. Ventura County Air Quality Assessment Guidelines. October 2003.

Response No. 09-193:

This publication was cited by the commenter as a relevant source document to support the statement that air quality is a significant environmental and public health concern. Please see **Response to Comment No. 09-101** above for relevant information that is responsive to the commenter's inclusion of this attachment. It also is noted that the Ventura County Air Pollution Control District does not have jurisdiction over the project site.

Comment No. 09-194:

Provided below is the first page of Exhibit NN to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.



American Lung Association. State of Air 2016.

Response No. 09-194:

This publication was cited by the commenter as a relevant source document to support the statement that air quality is a significant environmental and public health concern. Please see **Response to Comment No. 09-101** above for relevant information that is responsive to the commenter's inclusion of this attachment.

Comment No. 09-195:

Provided below is the first page of Exhibit OO to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

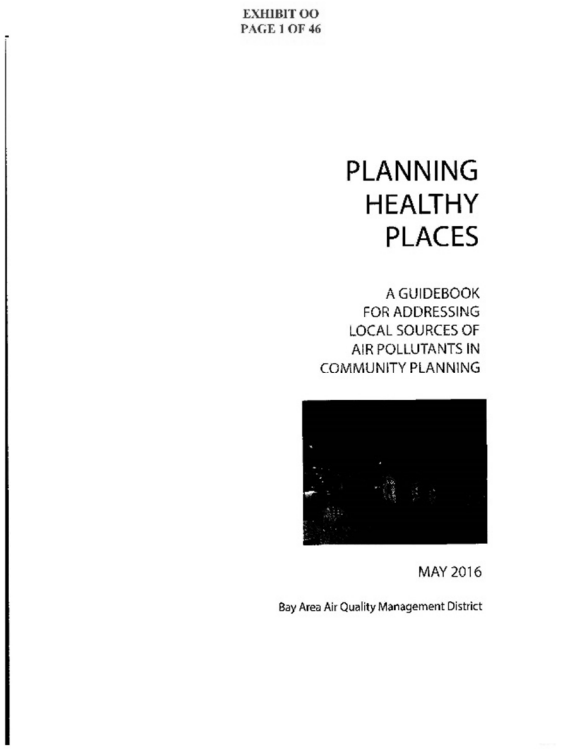


EXHIBIT OO
PAGE 1 OF 46

PLANNING
HEALTHY
PLACES

A GUIDEBOOK
FOR ADDRESSING
LOCAL SOURCES OF
AIR POLLUTANTS IN
COMMUNITY PLANNING

MAY 2016

Bay Area Air Quality Management District

BAAQMD. Planning Healthy Places: A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning. May 2016.

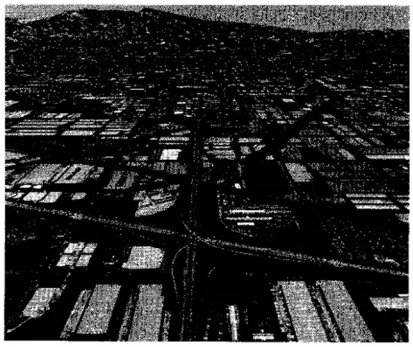
Response No. 09-195:

This publication was cited by the commenter as a relevant source document to support the statement that air quality is a significant environmental and public health concern. Please see **Response to Comment No. 09-101** above for relevant information that is responsive to the commenter's inclusion of this attachment. It also is noted that the Bay Area Air Quality Management District does not have jurisdiction over the project site.

Comment No. 09-196:

Provided below is the first page of Exhibit PP to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

EXHIBIT PP
PAGE 1 OF 27



Inland Ports of Southern California –
Warehouses, Distribution Centers, Intermodal
Facilities
Impacts, Costs and Trends

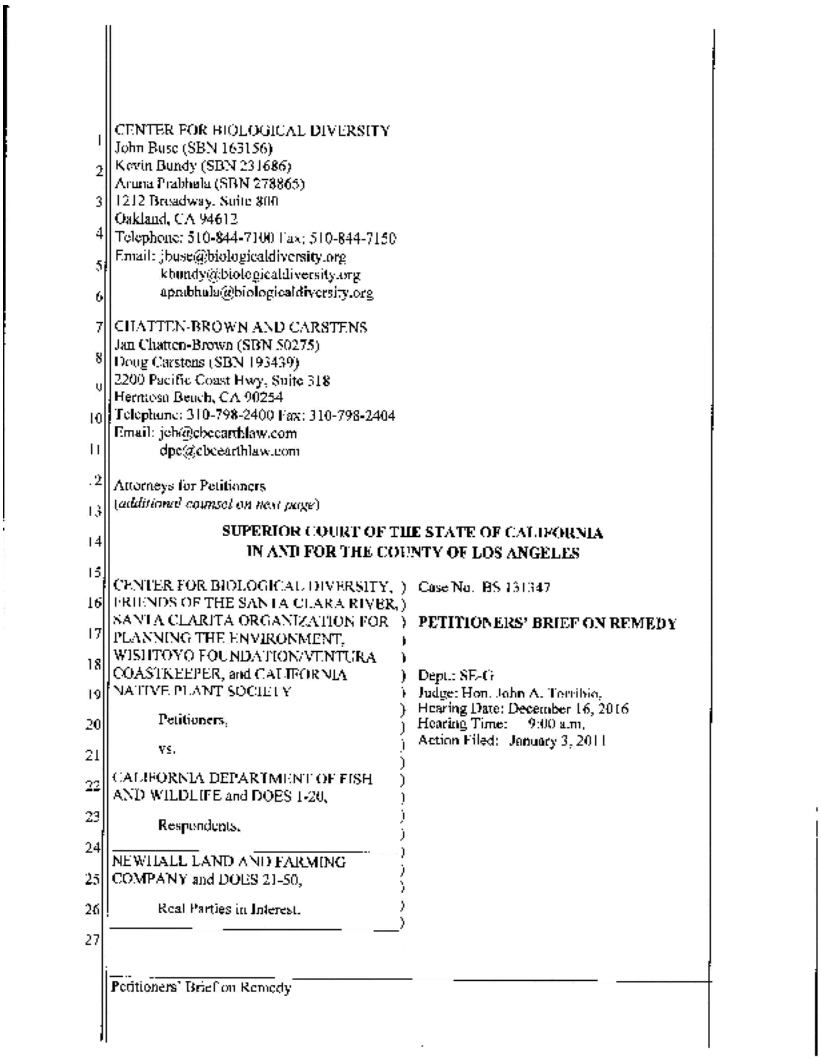
Center for Community Action and Environmental Justice
www.ccaej.org
951.360.8451
Penny Newman
penny.n@ccaej.org

Center for Community Action and Environmental Justice. Inland Ports of Southern California - Warehouse, Distribution Center, Intermodal Facilities Impact, Costs and Trends.

Response No. 09-196:

This publication was cited by the commenter as a relevant source document to support the statement that air quality is a significant environmental and public health concern. Please see **Response to Comment No. 09-101** above for relevant information that is responsive to the commenter's inclusion of this attachment. It also is noted that the project does not propose to establish an inland port, as that term is defined for purposes of the cited publication.

Comment No. 09-197



CENTER FOR BIOLOGICAL DIVERSITY
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dpc@cbcearthlaw.com

Attorneys for Petitioners
(additional counsel on next page)

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF LOS ANGELES

CENTER FOR BIOLOGICAL DIVERSITY, FRIENDS OF THE SANTA CLARA RIVER, SANTA CLARITA ORGANIZATION FOR PLANNING THE ENVIRONMENT, WISHTOYO FOUNDATION/VENTURA COASTKEEPER, and CALIFORNIA NATIVE PLANT SOCIETY

Petitioners,

vs.

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE and DOES 1-20,

Respondents.

NEWHALL LAND AND FARMING COMPANY and DOES 21-50,

Real Parties in Interest.

Case No. BS 131347

PETITIONERS' BRIEF ON REMEDY

Dept.: SE-G
Judge: Hon. John A. Torribio
Hearing Date: December 16, 2016
Hearing Time: 9:00 a.m.
Action Filed: January 3, 2011

Petitioners' Brief on Remedy

Response 09-197

This document is a brief filed by the commenter with the Los Angeles County Superior Court regarding remedy issues associated with the RMDP/SCP project's CEQA litigation proceedings. Please see Response to Comment No. 09-89 for relevant information that is responsive to the commenter's inclusion of this attachment. As the document does not contain comments or concerns regarding the environmental analysis that is presented in the Draft AEA, but rather addresses CDFW's legal obligations under CEQA's corrective action standards, no further response is required at this time. Instead, as provided in **Response to Comment No. 09-89**, the commenter's legal arguments will be included in the record and presented to CDFW prior to a final decision on the project.

Comment No. 09-198

Provided below is the first page of Exhibit RR to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

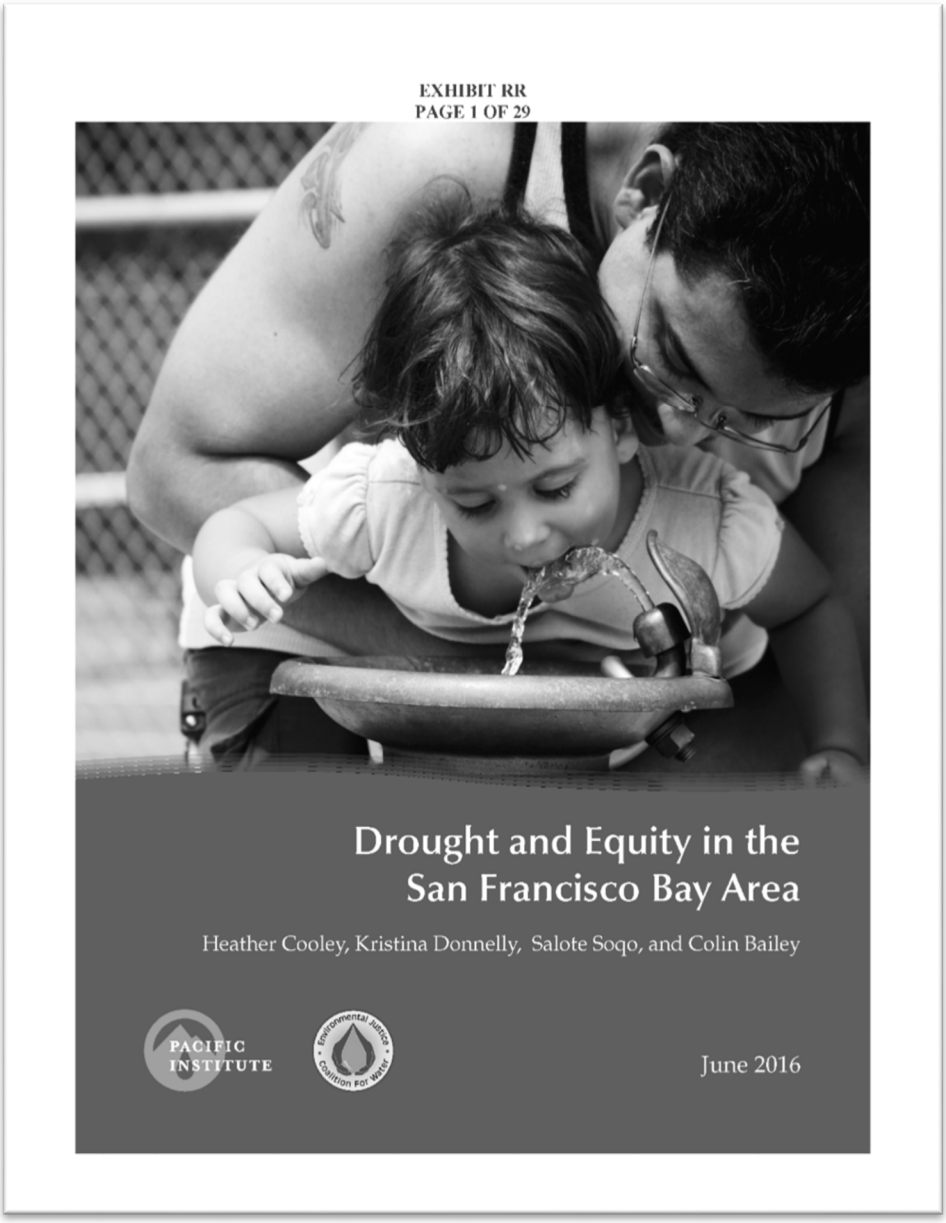
EXHIBIT RR
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Drought and Equity in the San Francisco Bay Area

Heather Cooley, Kristina Donnelly, Salote Soqo, and Colin Bailey

PACIFIC INSTITUTE

Environmental Justice Coalition For Water

June 2016

Response No. 09-198:

This publication was cited by the commenter as a relevant source document to support the position that aquifer depletion and land subsidence are becoming a serious concern as warmer climate results in less snowpack, less rain, and more evaporation. Please see **Response to Comment No. 09-100**, above for information responsive to the commentator's inclusion of this attachment. For information purposes, it should be noted that in terms of drought conditions, as of April 7, 2017, Governor Edmund G. Brown, Jr. ended the drought state of emergency in most of California, and state agencies released a long-term plan to better prepare the state for future droughts and make conservation a way of life. Recognizing the long-term risks associated with severe droughts, the state's plan seeks to move California from the temporary, emergency conservation measures in effect during a drought to a more durable approach that would improve water use efficiency and extend water supplies for all communities. For further information

regarding the end of drought conditions in California and the latest "water action plan," please see http://www.water.ca.gov/news/newsreleases/2017/040717-2_conservation.pdf (last accessed April 7, 2017). In addition, for more information on the development of the "water action plan" and related information, please see http://www.water.ca.gov/wateruseefficiency/conservation/ and http://resources.ca.gov/california_water_action_plan/ (last accessed April 7, 2017). Furthermore, the attachment (Cooley 2016) is not viewed as applicable to the Santa Clarita Valley in north Los Angeles County because the study engaged community-based organizations and resident leaders to examine the impacts of the drought on low-income households in the San Francisco Bay area. The report identified strategies for minimizing drought impacts on San Francisco Bay area low income households, which were described as tools for "water managers and community members everywhere" to use for the climate of the future. These types of regional water-related issues are best addressed, if applicable to the Santa Clarita Valley, through the Valley's wholesale water agency – the Castaic Lake Water Agency – and the retail water purveyors in the Valley.

Comment No. 09-199:

Provided below is the first page of Exhibit SS to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.

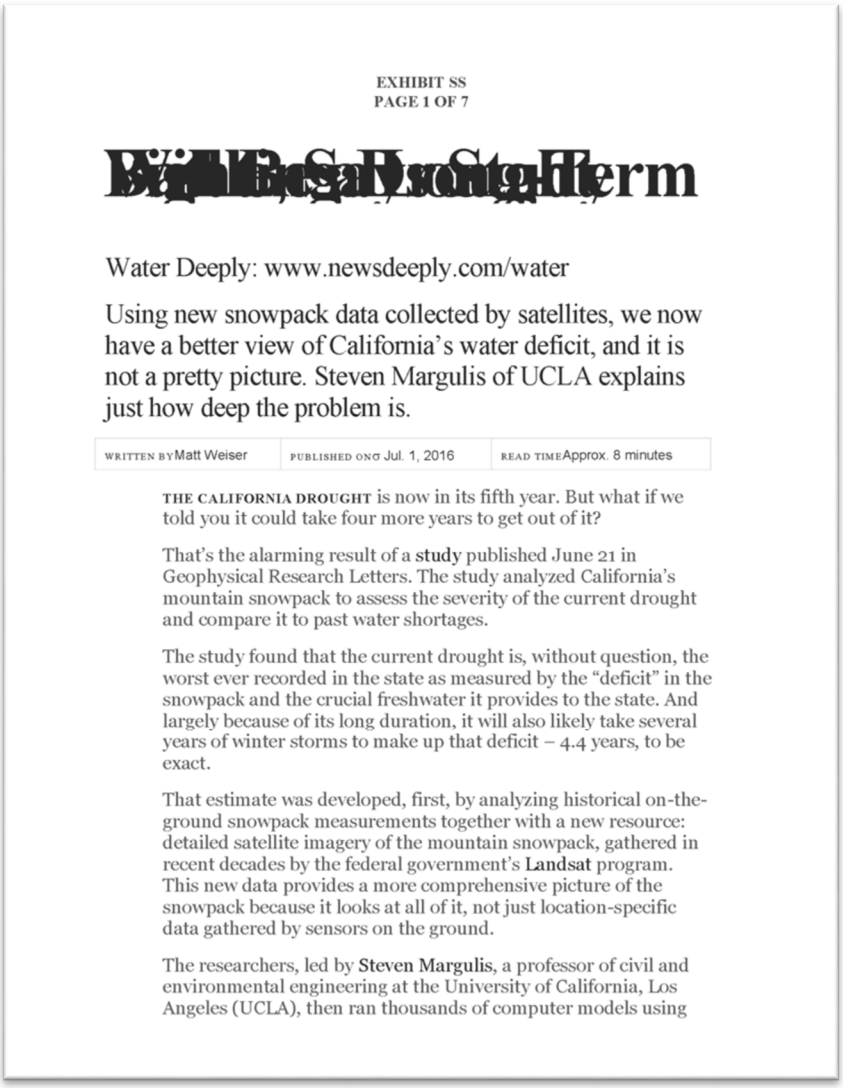

EXHIBIT SS
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Water Deeply: www.newsdeeply.com/water

Using new snowpack data collected by satellites, we now have a better view of California's water deficit, and it is not a pretty picture. Steven Margulis of UCLA explains just how deep the problem is.

WRITTEN BY Matt Weiser | PUBLISHED ON Jul. 1, 2016 | READ TIME Approx. 8 minutes

THE CALIFORNIA DROUGHT is now in its fifth year. But what if we told you it could take four more years to get out of it?

That's the alarming result of a **study** published June 21 in Geophysical Research Letters. The study analyzed California's mountain snowpack to assess the severity of the current drought and compare it to past water shortages.

The study found that the current drought is, without question, the worst ever recorded in the state as measured by the "deficit" in the snowpack and the crucial freshwater it provides to the state. And largely because of its long duration, it will also likely take several years of winter storms to make up that deficit – 4.4 years, to be exact.

That estimate was developed, first, by analyzing historical on-the-ground snowpack measurements together with a new resource: detailed satellite imagery of the mountain snowpack, gathered in recent decades by the federal government's **Landsat** program. This new data provides a more comprehensive picture of the snowpack because it looks at all of it, not just location-specific data gathered by sensors on the ground.

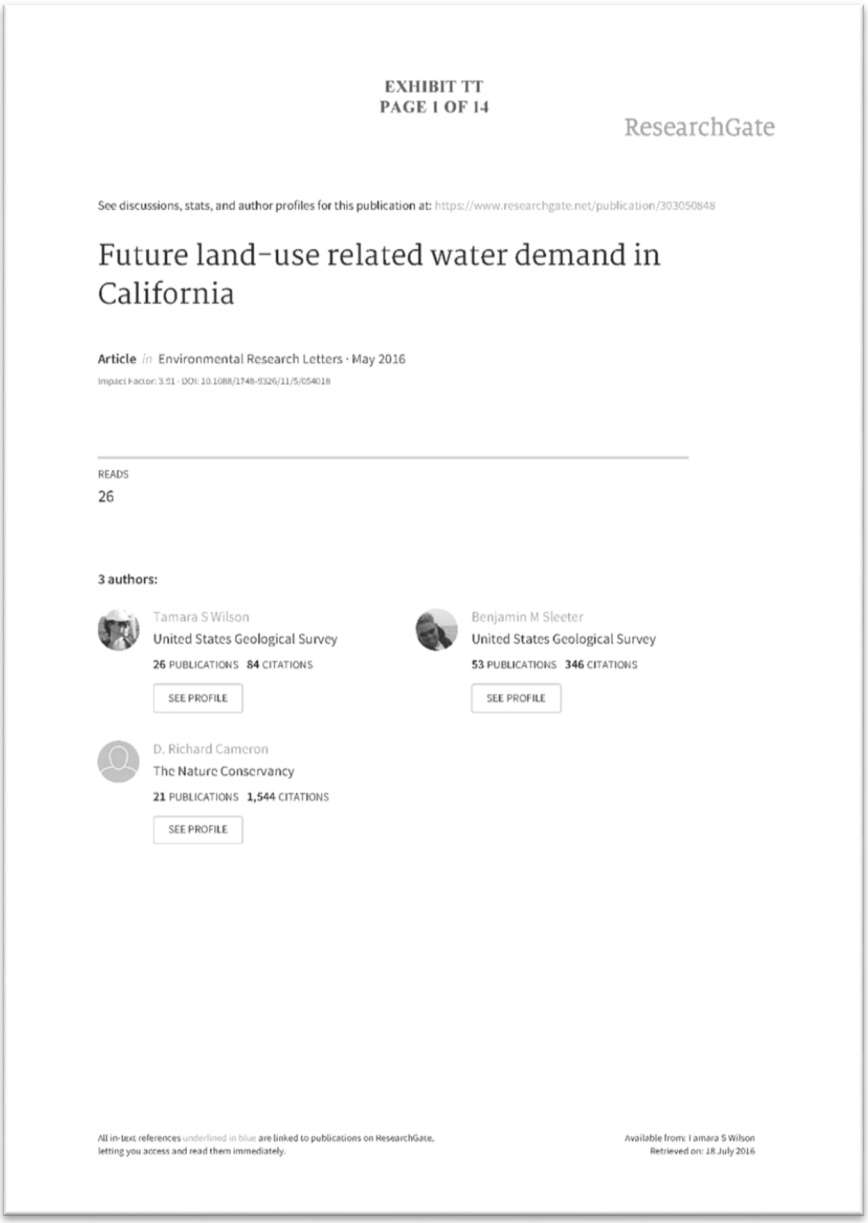
The researchers, led by **Steven Margulis**, a professor of civil and environmental engineering at the University of California, Los Angeles (UCLA), then ran thousands of computer models using

Response No. 09-199:

This publication was cited by the commenter as a relevant source document to support the position that California's water supply relies heavily on snowpack in the Sierra Nevada Mountains – a fact addressed in the 2010 Final EIR, Section 4.3, Water Resources, pp. 4.3-28 and 4.3-39. Please see Response to Comment 09-100, above, for information responsive to the commenter's inclusion of this attachment. In addition, please refer to **Response to Comment No. 09-198** for information responsive to current drought conditions and the state's long-term plan for addressing drought issues.

Comment No. 09-200:

Provided below is the first page of Exhibit TT to Letter No. 09. A full copy of the attachment is available on the CD that accompanies the Final AEA.



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ResearchGate

See discussions, stats, and author profiles for this publication at: https://www.researchgate.net/publication/303050848

Future land-use related water demand in California

Article *in* Environmental Research Letters · May 2016

Impact Factor: 3.91 · DOI: 10.1088/1748-9326/11/5/054018

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All in-text references underlined in blue are linked to publications on ResearchGate, letting you access and read them immediately.

Available from: Tamara S Wilson
Retrieved on: 18 July 2016

Response No. 09-200:

This publication was cited by the commenter as a relevant source document to support the position that climate change will continue to widen the gap between water supply and demand. Please see **Response to Comment No. 09-100**, above, for information responsive to the commenter's inclusion of this attachment. In addition, please refer to **Response to Comment No. 09-198** for information responsive to current drought conditions and the state's long-term plan for addressing drought issues. Further, the attachment noted that future climate variability can have positive and/or negative impacts on water use and feedback as to future land use and that while the data used included two drought episodes, land use decisions based on long-term water shortages were not fully captured in the study. The attachment noted that these are "important considerations which were outside the scope of [the] study, yet need to be recognized as important limitations and uncertainties which should be incorporated into future work." Nonetheless, the attachment – along with all other attachments – will be made part of the record and available for review by the decision makers prior to a decision on the project.