South Coast
Air Quality Management District
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September 4, 2009

Mr. Aaron O. Allen
U.S. Army Corps of Engineers
Ventura Field Office
2151 Alessandro Drive, Suite 110
Ventura, CA 93001

Mr. Dennis Bedford
California Department of Fish and Game
Newhall Ranch EIS/EIR Project Comments
4949 Viewridge Avenue
San Diego, CA 92123

Dear Mr. Allen and Mr. Bedford,

Draft Environmental Impact Statement/Report (Draft EIS/EIR) for the Proposed Newhall Ranch Resource Management and Development Plan (RMDP) and the Spineflower Conservation Plan (SCP)

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated into the Final Environmental Impact Statement/Report.

Pursuant to Public Resources Code Section 21092.5, please provide the AQMD with written responses to all comments contained herein prior to the adoption of the Final Environmental Impact Statement/Report. The SCAQMD staff would be happy to work with the Lead Agency to address these issues and any other questions that may arise. Please contact Gordon Mize, Air Quality Specialist – CEQA Section, at (909) 396-3302, if you have any questions regarding these comments. 1

Sincerely,

Steve Smith

Steve Smith
Program Supervisor – CEQA Section
Planning, Rule Development & Area Sources

Attachment

SS:GM

LAC090428-06
Control Number

Construction Air Quality Analysis

1. The lead agency has determined that construction air quality impacts will exceed the SCAQMD's recommended regional and localized daily significance thresholds for VOC, NOx, CO, PM10 and PM2.5. As a result, the Draft EIS/EIR includes a comprehensive list of measures to mitigate potentially significant adverse air quality impacts. Staff, however, recommends the following modifications to mitigation measure AQ-12: 2

   Recommended change:

   AQ-12 Use construction equipment that complies with the requirements and compliance schedule of the adopted CARB Regulation for In-Use Off-Road Diesel Vehicles in effect at the time of use and use only Tier ~~1~~2 or newer diesel-fueled (or alternative-fueled) construction equipment during all construction activities. Only if Tier 2 or newer equipment is not available can Tier 1 equipment can be used.

Project Length with Construction and Operations Overlapping

2. Tables 4.7-8 through 4.7-12 show estimated direct and indirect construction emissions from the proposed project and project alternatives. Tables 4.7-13 through 4.7-37 show direct and indirect operational emissions from the proposed project and project alternatives. Given the phased nature of the project components (see Table 2.0-1 on page 2.0-58), it appears that construction and operational emissions from the proposed project will overlap in future years. In situations where construction and operation activities overlap, SCAQMD staff recommends that peak daily construction and operation emissions be summed and then compared to the applicable operational significance thresholds to determine significance. Therefore, staff recommends that the lead agency revise the air quality analyses as recommended above in the Final EIS/EIR. 3

Health Risk Assessment

3. Page 9 of the HRA analysis present the placement of receptors. Receptors were placed 500 meters from emission sources based on the concept that heavy construction activity would not occur near occupied residences in any village. A mitigation measure should be added to the Final EIS/EIR prohibiting construction activities within 500 meters of occupied residences, since concentrations were limited by this assumption. 4

4. Health risk calculations are presented in a spreadsheet labeled Newhall Ranch EIS/EIR. With the exception of Homestead South, none of the concentrations used to estimate carcinogenic health risk correspond with the highest concentration reported at a receptor in the output files. For non-carcinogenic chronic health risk, four construction years are modeled (2011 through 2015) and the maximum concentration 5

is only used to estimate chronic health risk for 2012 and 2013. The Final HRA and EIS/EIR should identify (by UTM coordinate) the receptors used. The text should also explain why receptors with exposures to higher concentrations were not considered in the estimation of health risk. 5

Localized Significance Thresholds

5. The localized significance threshold sources were designed and placed similar to the sources treatment in the HRA, which is a single volume source placed near the center of each village or subarea. For the HRA, this source treatment can be used because the emissions are evaluated over an averaging time of one year for 70 years. This type of source treatment is not appropriate for short averaging times (1-hour to 24-hour), which is the basis for LSTs. 6

   The current source treatment (single volume source placed near the center of each village or subarea) underestimates the concentrations at the receptors. The correct source treatment is to place the volume source closest to the nearest downwind receptor, since the areas disturbed by grading and locations of existing and project related receptors should be known or approximated. Depending on the shape of the area disturbed and location of the receptor, an array of volume sources may be more appropriate than a single volume source. 7

6. Pages 8 through 10 of the LST analysis present the placement of receptors. Receptors were placed 500 meters from emission sources based on the concept that heavy construction activity would not occur near occupied residences in any village. As noted in comment #4, a mitigation measure should be added to the Final EIS/EIR prohibiting construction activities within 500 meters of occupied residences, since concentrations were limited by this assumption. 8

7. The emission rate for diesel PM10 exhaust for the Portrero Valley Village is presented as 0.383 gram per second. However, based on the 4.72 pounds per hour diesel PM10 emission rate in Table 3 of the LST Analysis, the emission rate should be 0.594 gram per second ((4.72 pound per hour x 453.59 grams per pound)/(3,600 seconds per hour). Other PM10 emission rates were not verified. The emission rates should be verified and corrected for the Final EIS/EIR and HRA. 9

8. The peak concentrations reported in the ISCST3 output files are not used to estimate the NO2 concentrations from the proposed project. The Final EIS/EIR and HRA should identify the receptor with the highest concentration by UTM coordinate. The text should also explain why higher concentrations reported at other receptors were not used. 10

9. The peak 8-hour CO concentration is reported as 247 micrograms per meter cubed, which matches the highest 8-hour CO concentration reported for 2013. The highest 8-hour CO concentration reported in the output files is 336 micrograms per meter 11

cubed for 2010. The Final EIS/EIR and HRA should correct or explain this difference. 11

144. Letter from Steve Smith, South Coast Air Quality Management District, dated September 4, 2009

Response 1

This comment is an introduction to comments that follow and does not raise any specific issues regarding the analysis provided by the Draft EIS/EIR. Therefore, no additional response is provided.

Response 2

The comment recommends that Mitigation Measure AQ-12 be modified to allow the use of Tier 1 construction equipment, only if Tier 2 or newer equipment is not available. Mitigation Measure AQ-12 has been revised in the Final EIS/EIR in accordance with the above recommendation as follows:

AQ-12 Use construction equipment that complies with the requirements and compliance schedule of the adopted CARB Regulation for In-Use Off-Road Diesel Vehicles in effect at the time of use and use ~~only~~ Tier 1 construction equipment during all construction activities, only if Tier 2 or newer equipment is not available. ~~diesel-fueled (or alternative-fueled) construction equipment during all construction activities.~~

Response 3

The air quality analysis presented in Draft EIS/EIR, **Section 4.7,** Air Quality, provided operational emissions at full Project build-out. However, portions of the proposed Project would be in operation while other portions would be undergoing construction. The following method was used to estimate the emissions during the interim years when portions of the Project would be under construction and portions would be in operation.

As Project development occurs throughout the approximately 30-year development phase, the overall level of construction emissions would gradually decrease while operational emissions gradually increase. In general, construction emissions would comprise the majority of the emissions during the early years and operational emissions would comprise the majority of the emissions during the late years. In order to capture this transition of emissions from construction to operational, the interim years consist of an early-term and a late-term project year.

The data presented below provides an estimate of the maximum daily construction and operational emissions that would occur at the specified interim years when portions of the Project would be built out and in operation. As Project development occurs through the approximately 30-year development phase, the overall level of construction emissions would gradually decrease while operational emissions gradually increase.

Table 1
Indirect and Direct Construction Emissions Plus Indirect Operational Emissions
Alternative 2 (Unmitigated)

	VOC (lbs/day)	NO_x (lbs/day)	CO (lbs/day)	SO_x (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
2016 Winter Emissions						
Construction Total	481	3,195	1,982	6	15,766	3,368
Operational Total	661	574	3,502	5	958	189
Total (lbs/day)	1,142	3,769	5,484	11	16,725	3,556
Thresholds (lbs/day)	55	55	550	150	150	55
Significant?	YES	YES	YES	NO	YES	YES
2016 Summer Emissions						
Construction Total	481	3,195	1,982	6	15,766	3,368
Operational Total	670	466	3,798	6	956	187
Total (lbs/day)	1,151	3,661	5,780	12	16,722	3,554
Thresholds (lbs/day)	55	55	550	150	150	55
Significant?	YES	YES	YES	NO	YES	YES
2025 Winter Emissions						
Construction Total	92	89	381	1	12	7
Operational Total	1,733	1,052	5,580	13	2,399	474
Total (lbs/day)	1,825	1,141	5,961	14	2,411	481
Thresholds (lbs/day)	55	55	550	150	150	55
Significant?	YES	YES	YES	NO	YES	YES
2025 Summer Emissions						
Construction Total	92	89	381	1	12	7
Operational Total	1,789	822	6,239	15	2,390	465
Total (lbs/day)	1,881	911	6,620	16	2,402	472
Thresholds (lbs/day)	55	55	550	150	150	55
Significant?	YES	YES	YES	NO	YES	YES

Note: Totals may not add up exactly due to rounding in the computer model calculations.

Source: Impact Sciences (2009).

As shown in the table above, when construction emissions are combined with overlapping operational emissions as suggested by the commentor, no new significant impacts are identified. Emissions of volatile organic compounds (VOC), nitrogen oxides (NOx), and carbon monoxide (CO) show an increase primarily due to motor vehicle emissions from those portions of the Project that would be in operation. Emissions of PM10 and PM2.5 are similar to those reported in the Draft EIS/EIR. The emissions during the late-term year are generally less than the maximum daily operational emissions reported in the Draft EIS/EIR in **Section 4.7**, Air Quality, **Table 4.7-17**. This is due to the fact that construction activity during the later years is much less intense, thus generating substantially fewer emissions compared to the early years when earthmoving is the predominant construction activity.

The table above represents emissions for Alternative 2 as analyzed in the Draft EIS/EIR. Alternatives 3 through 7 would result in proportionately similar changes in emissions during early-term and late-term interim years when adding construction and operational emissions. As demonstrated in the table above, no new significant impacts would be expected for any alternative. Please also see revised **Section 4.7** of the Final EIS/EIR.

Response 4

The comment notes that the health risk assessment assumed that heavy construction activity utilizing diesel-fueled equipment would not operate less than 500 meters from sensitive receptors. The comment recommends that an additional mitigation measure be included that prohibits heavy construction activity within 500 meters of an occupied residence. The health risk assessment provided an analysis of potential health impacts over a lifetime associated with just over 30 years of construction activity. Because the location and intensity of construction activity could vary drastically over the course of 30 years, the health risk assessment was modeled based on an average scenario, as is standard practice when conducting health risk assessments. (See Draft EIS/EIR, **Subsection 4.7.8**; **Appendix 4.7**.) The SCAQMD acknowledged that it agrees with this approach. Defining an average scenario involves estimating the average distance between emission sources and receptors. Given the overall size of the proposed Project, a distance of 500 meters was used as a conservative approach. This distance does not imply that construction activity would never take place within 500 meters from a receptor. Rather this distance indicates the average distance between construction activity and a receptor over the course of 30 years. During a large portion of this 30 year time period, it is likely that construction activity would be located much greater than 500 meters from an occupied residence, thus the analysis in the Draft EIS/EIR was conservative by design. The commentor does not identify any new significant impacts because the average exposure distance over the 30 year construction period is actually greater than the 500 meter distance used in the Draft EIS/EIR, consistent with SCAQMD standard practice and recommendations. However, to further reduce impacts related to construction emissions, the air quality analysis has been revised to incorporate the following construction mitigation measure in the Final EIS/EIR:

Construction Mitigation Measure:

AQ-12a Construction shall be planned in such a way as to minimize heavy construction activity involving the use of diesel-fueled construction equipment within 500 meters of an occupied residence to the extent practical. Heavy construction activity that occurs within 500 meters of an occupied residence that involves the use of diesel-fueled construction equipment shall prohibit non-essential idling and shall utilize equipment certified to the Tier 2 or newer emission standard. Equipment shall be routed in such a way as to minimize travel within 500 meters of an occupied residence to the extent practical.

Response 5

The comment states that the health risk assessment, with the exception of Homestead South, did not use the maximum concentrations measured in the output files to estimate carcinogenic health risk. Additionally, the comment states that the chronic health risk was based on modeling data for 4 years, but only 2 years were estimated. Lastly, the commentor states that the location of the receptors (by UTM coordinate) with the maximum impacts should be stated.

The output files contain modeled concentrations for all receptor points modeled. The model used in the analysis was the Industrial Source Complex Short Term model (ISCST3). The Lakes-Environmental software was used as the graphical interface for the ISCST3 model. The Lakes-Environmental software automatically inserts receptors at points where two boundary segments join. However, the points at which two boundary segments join would not necessarily correspond to the location of a sensitive receptor. As discussed in **Section 4.7**, Air Quality, of the Draft EIS/EIR, the health risk assessment assumed that sensitive receptors would be located 500 meters or more from heavy construction activity. Therefore, discrete receptor points were included within the Project site boundary 500 meters and greater from the emission sources. In certain cases, the Project boundary was less than 500 meters from the emission sources; therefore, the points at which two boundary segments join were not considered as sensitive receptors in the analysis.

Section 4.7 also contained a summary of the methodology and calculations used in the health risk assessment, including the evaluation of non-cancer chronic health risk. Chronic health risk is based on a one-year exposure period. As a conservative measure, the chronic health risk was evaluated for the four project years that would result in the maximum diesel particulate matter emissions. As shown in **Table 4.7-48**, the non-carcinogenic chronic health risk was evaluated for years 2011, 2012, 2013, and 2015. As shown, the chronic hazard indices for all four years are well under the established SCAQMD significance threshold.

Lastly, as requested by the SCAQMD, the location of the sensitive receptor points (by UTM coordinate) that resulted in the maximum concentrations are included in **Table 4.7-47** and Table **4.7-48** of the Final EIS/EIR. Please also see revised **Section 4.7** of the Final EIS/EIR.

Responses 6 and 7

The comment states that for the localized significance threshold (LST) analysis, the emission sources should be placed closest to the nearest downwind receptor instead of in the center of the village or subarea. Additionally, the comment claims that placing the emission sources in the center could potentially underestimate the impacts for short-term exposures assessed in the localized significance threshold analysis.

The LST methodology used in the Draft EIS/EIR was appropriate, and is further reinforced by the application of Mitigation Measure AQ-12a, requiring heavy construction activity to be at least 500 meters away from occupied residences, to the extent practical. Nonetheless, per the SCAQMD comment, the LST analysis was amplified to include emission sources closest to representative downwind receptors. The analysis in the Draft EIS/EIR assumed receptors would be located a maximum of 500 meters from construction activity, which accurately represents project conditions. The information provided in Table 2, below, was modeled based on placing emission sources at the boundaries for each village, which results in potential receptors that are closer than 500 meters. The closer exposure distances result in an extreme worst-case scenario of pollutant concentration and does not accurately reflect the distance actually expected for Project construction (see **Responses 5** and **7**). It should be noted that emission sources were not located in areas that are zoned as natural open space. The additional modeling was performed using the same methodology described in the Draft EIS/EIR. While not required by the California Environmental Quality Act (CEQA) or the National Environmental Policy Act (NEPA), this analysis utilized reasonable worst-case assumptions; therefore, the impacts identified below are representative of worst-case conditions and should not be interpreted as being representative of typical

day-to-day impacts. Actual impacts during construction would vary depending on the actual level of construction activity, the distance between emission sources and receptors, and meteorological conditions. The results of the amplified analysis are provided in **Appendix F4.7** of the Final EIS/EIR. A summary of the results are provided in Table 2 below:

Table 2
Amplified Localized Significance Threshold Analysis

Pollutant	Draft EIS/EIR Concentrations		Worst-Case Concentrations		Threshold ($\mu g/m^3$)	Worst Case Significant?	Different Conclusion than Draft EIS/EIR?
	$\mu g/m^3$	ppm	$\mu g/m^3$	Ppm			
CO (1- hour)	1,280	1.12	2,331	2.04	17,165	NO	NO
CO (8-hour)	247	0.22	456	0.40	6,065	NO	NO
NO_2 (1-hour)	936	0.50	997	0.53	169	YES	NO
PM10 (24-hour)	1,107	–	1,311	–	10.4	YES	NO
PM2.5 (24-hour)	290	–	339	–	10.4	YES	NO

Source: Impact Sciences (2009).

As shown, the largest increase was from carbon monoxide. However, carbon monoxide remains well under the thresholds of significance for both the 1-hour and 8-hour exposure periods. Concentrations for the other pollutants indicate moderate increases as compared to the approach in the Draft EIS/EIR. These three pollutants (NO_2, PM10, and PM2.5) were identified as having potentially significant impacts in the Draft EIR. No new significant or substantially increased impacts were identified as a result of the revised analysis.

Response 8

The comment notes that the LST analysis, as was the case for the health risk assessment addressed in **Response 4**, above, assumed that heavy construction activity utilizing diesel-fueled equipment would not operate less than 500 meters from sensitive receptors. The comment recommends that an additional mitigation measure be included that prohibits heavy construction activity within 500 meters of an occupied residence. As described in **Response 4**, above, because the location and intensity of construction activity could vary drastically over the course of 30 years, the LST analysis was modeled based on an average scenario, as is standard practice. Defining an average scenario involves estimating the average distance between emission sources and receptors. Given the overall size of the project, a distance of 500 meters was used as a conservative approach. This distance does not imply that construction activity would never take place within 500 meters from a receptor. Rather this distance indicates the average distance between construction activity and a receptor over the course of 30 years. During a large portion of this 30-year time period, it is likely that construction activity would be located much greater than 500 meters from an occupied residence. The comment does not identify any new significant impacts because the average exposure distance over the 30-year construction period is actually greater than the 500 meter distance used in the EIS/EIR, consistent with SCAQMD standard practice and recommendations. However, to further reduce impacts related to construction emissions, the air quality analysis has been revised to incorporate the following construction mitigation measure in the Final EIS/EIR, revised **Section 4.7**:

Construction Mitigation Measure:

AQ-12a Construction shall be planned in such a way as to minimize heavy construction activity involving the use of diesel-fueled construction equipment within 500 meters of an occupied residence to the extent practical. Heavy construction activity that occurs within 500 meters of an occupied residence that involves the use of diesel-fueled construction equipment shall prohibit non-essential idling and shall utilize equipment certified to the Tier 2 or newer emission standard. Equipment shall be routed in such a way as to minimize travel within 500 meters of an occupied residence to the extent practical.

Response 9

The comment notes that the LST analysis for year 2012 contained an incorrect emission rate for PM10 exhaust for Potrero Valley Village. The comment states that the emissions of 4.72 pounds per hour were incorrectly converted to 0.383 grams per second. However, upon reviewing the modeling files, the emissions of 4.72 pounds per hour were converted correctly to 0.5947 grams per second in the dispersion modeling analysis. A review of the Draft EIS/EIR and supporting air quality documentation and calculations, as well as relevant dispersion modeling input and output files, did not yield any reference to an emission rate of 0.383 grams per second. The comment does not state the specific origin of the 0.383 grams per second value; therefore, it is unknown to which data the commentor could be referring. Because the emission rate used for Potrero Valley Village in year 2012 (0.5947 grams per second) corresponds to emissions of 4.72 pounds per hour, the analysis does not require revisions related to this comment.

Response 10

The comment states that the LST analysis did not use the maximum concentrations measured in the output files for NOx to estimate the localized NO_2 impacts. The comment also states that the location of the receptors (by UTM coordinate) with the maximum impacts should be stated.

The output files contain modeled concentrations for all receptor points modeled. The model used in the analysis was the ISCST3 model. The Lakes-Environmental software was used as the graphical interface for the ISCST3 model. The Lakes-Environmental software automatically inserts receptors at points where two boundary segments join. However, the points at which two boundary segments join would not necessarily correspond to the location of a sensitive receptor. As discussed in **Section 4.7**, Air Quality, of the Draft EIS/EIR, the localized significance threshold analysis assumed that sensitive receptors would be located 500 meters or more from heavy construction activity. Therefore, discrete receptor points were included within the Project site boundary 500 meters and greater from the emission sources. In certain cases, the Project boundary was less than 500 meters from the emission sources; therefore, the points at which two boundary segment join were not considered as sensitive receptors in the analysis. As requested by the SCAQMD, the location of the sensitive receptor points (by UTM coordinate) that resulted in the maximum concentrations have been included in the Final EIS/EIR.

Response 11

The comment states that the LST analysis did not use the maximum concentrations measured in the output files for CO to estimate the localized CO impacts.

The output files contain modeled concentrations for all receptor points modeled. The model used in the analysis was the ISCST3 model. The Lakes-Environmental software was used as the graphical interface for the ISCST3 model. The Lakes-Environmental software automatically inserts receptors at points where two boundary segments join. However, the points at which two boundary segments join would not necessarily correspond to the location of a sensitive receptor. As discussed in **Section 4.7**, Air Quality, of the Draft EIS/EIR, the LST analysis assumed that sensitive receptors would be located 500 meters or more from heavy construction activity. Therefore, discrete receptor points were included within the Project site boundary 500 meters and greater from the emission sources. In certain cases, the Project boundary was less than 500 meters from the emission sources; therefore, the points at which two boundary segment join were not considered as sensitive receptors in the analysis. In addition, the model includes field receptors, which do not correspond to existing or future planned receptors. These are provided in the model output files in **Appendix 4.7** of the Draft EIS/EIR.