Giroux & Associates
Environmental Consultants

COUNCIL FILE
12-0967

June 8, 2011

Los Angeles City Planning Commission
200 North Spring Street
Los Angeles, CA 90012

Subject: **DIR-2009-2065-DB** for
5241 to 5247 Santa Monica Blvd. and 5238 to 5246 Virginia Avenue

Honorable Commission President, William Roschen, and Honorable Members:

On behalf of concerned neighbors near the proposed project, we have been asked to review the construction noise and vibration analyses for technical accuracy and adequacy. As evidenced in the continuing evolution of Condition 34 k., the initial MND conclusions are thoroughly suspect. The noise and vibration analyses contain numerous errors, misinterpretations and omit appropriate thresholds of significance. In the final analysis, construction activity impacts from operations as close as 10 feet to sensitive receiver populations will generate noise and vibration impacts that cannot be fully mitigated to a less-than-significant level. Preparation of a focused EIR is clearly indicated for this project.

The construction noise impact analysis is based upon an equipment average reference noise level of 89 dBA included in EPA recommendations for evaluating construction noise. Use of that value has two caveats. Peak noise levels may be higher than 89 dBA and people are more disturbed by noise spikes than by steady-state conditions. Secondly, and most critically, this level occurs at 50 feet from the equipment noise source. The MND acknowledges that equipment operations may occur as close as 10 feet from the property line. Under typical geometrical spreading loss, the predicted noise level at 10 feet is 14 dBA higher than at 50 feet. That would raise the reference noise level to 103 dBA when operating close to the site boundary. The data in Table 5-7 of the MND referencing an 89 dBA maximum noise level claims to contain a distance adjustment. If the distance adjustment had been correctly applied, residential uses listed as "Adjacent" would in fact experience a 50+ dBA increase rather than the indicated 38.3 dBA. Any conclusions based upon the 89 dBA reference noise level are invalid when equipment operates near the site boundary.

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The latest iteration of Condition 34 k. in the barrier alternative requires a noise level reduction of 15 to 25 dBA across its depth. That's quite an impossible requirement in that Caltrans, in its Technical Noise Supplement (2009), on page 6-7, states that the theoretical limit of barrier noise reduction effectiveness for a noise wall is 20 dBA. That same process of throwing numbers around willy-nilly is reflected in the claim that a 10-foot temporary barrier at the Kingsley Elementary School property line would produce "at least 20 dBA" of noise reduction. As stated by Caltrans, the maximum noise reduction effectiveness of an exceedingly tall barrier (much higher than 10 feet) is 20 dBA. The claim that a 10-foot high barrier will achieve "at least 20 dBA" is nonsensical.

The alternative to install dual-paned windows on units facing the construction site with an ability to reduce noise levels "a minimum of 15 dBA across their depth" would not adequately reduce noise levels to below those that are highly intrusive when equipment operates close to the existing residences. Equipment may operate as close as 20 feet from the nearest residential facades. The maximum reference exterior noise level would be 97 dBA at this set-back. The MND does not identify acceptable interior noise levels, but experience shows that levels of 65 dBA are intrusive into normal conversation. Noise level reductions of 32 dBA or more would be needed to achieve interior levels that are even marginally acceptable, and would still interfere with reading, watching television, taking a nap, etc.

The MND asserts that vibration impacts will be less than significant based upon the methodology in FTA-VA-90-1003-06 (May, 2006). A structural damage threshold of 0.5 inches/second (ips) was selected and a maximum predicted vibration level of 0.35 ips was predicted. Table 12-3 of that document, entitled "Construction Vibration Damage Criteria," states that 0.5 ips is applicable to "Reinforced concrete, steel or timber" structures, but that 0.3 ips applied to "Engineered concrete and masonry" buildings, and that 0.2 ips is the damage threshold for "Non-engineered timber or masonry buildings." While 0.35 ips is the correctly predicted value for a 10-foot set-back, it rises to 1.00 ips if the equipment ever encroaches as close as 5 feet from the property line. Unless a mitigation measure is included that completely restricts equipment operation closer than 10 feet, the MND findings cannot be supported.

The vibration analysis further fails to consider nuisance effects. Table 8-1 of the FTA Manual identifies a daytime nuisance vibration level of 80 – 83 VdB (vibration decibels based upon the root-mean-square vibration velocity) as intrusive for infrequent events. At 10 feet from the equipment, the vibration velocity is 99 VdB. The failure to include vibration nuisance impacts and only focus on structural damage is a clear flaw in the analysis. Given that there are no practical mitigation measures for vibration nuisance at this distance, the vibration nuisance impact is clearly significant. Impacts that cannot be mitigated to less-than-significant must be addressed in an EIR for CEQA clearance.

Please feel free to contact us with any questions or comments.

Sincerely,

Hans D. Giroux
Senior Analyst
Giroux & Associates

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June 20, 2012

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Los Angeles Department of City Planning:
Attn: Darlene Navarrete
200 North Spring Street
Los Angeles, CA 90012

Los Angeles City Council
200 North Spring Street
Los Angeles, CA 90012

Subject: **ENV-2007-0365-MND/DIR-2009-2065-DB** for
5241 - 5247 Santa Monica Blvd. and 5238 - 5246 Virginia Avenue

Michael Logrande, Director of Planning and Blake Lamb, City Planner

Honorable Council President, Herb Wesson, and Honorable Members:

On behalf of concerned neighbors near the proposed project, we have been asked to review the construction noise mitigation measures contained in the addendum reconsideration of ENV-2007-0365-MND-REC3 dated May 18, 2012. We had previously submitted comments to DIR-2009-2065-DB. Mitigation Measure XII-20 requires either a temporary noise wall with a noise level reduction of 15 to 25 dBA across its depth or the installation of dual-paned windows in all units of 5248 Virginia Avenue with southern or eastern elevations. We previously noted that the construction noise barrier wall cannot achieve the required reduction and is therefore an implausible measure. Caltrans, in its Technical Noise Supplement (2009), on page 6-7, states that the theoretical limit of barrier noise reduction effectiveness for a noise wall is 20 dBA. The noise level reduction of a barrier depends upon the path length difference (D) between the direct sound wave and the diffracted wave. The larger the difference, the greater the barrier attenuation. The scientific formula for this calculation for a sound wave peaking at 550 – 600 cycles per second is as follows when D is expressed in feet:

$$\text{Attenuation} = 20 \times \text{Log}\left((6.28 \times D)^{1/2} / \tanh (6.28 \times D)^{1/2} \right)$$

For a 10-foot high equipment exhaust stack at 10 feet from the property line, the noise attenuation at the nearest residence for first and second story receivers as a function of temporary barrier height is as follows:

Receiver	15' Barrier	20' Barrier	30' Barrier
Ground Floor	14.7 dB	18.6 dB	20.0 dB
Second Story	5.9 dB	14.7 dB	20.0 dB

Even a 20-foot high barrier does not achieve a 15 dB attenuation which is the minimum required in the suggested mitigation measure. None of the barriers can achieve the maximum standard of 25 dB because that exceeds the theoretical limit of barrier diffraction attenuation. The temporary barrier cannot achieve construction noise attenuation that would support a finding of a less-than-significant impact. It cannot support a CEQA finding that would allow the use of an MND as the appropriate CEQA clearance for the proposed project.

The alternative to install dual-paned windows on units facing the construction site with an ability to reduce noise levels "a minimum of 15 dBA across their depth" would not adequately reduce noise levels to below those that are highly intrusive when equipment operates close to the existing residences. Equipment may operate as close as 20 feet from the nearest residential facades. The maximum reference exterior noise level would be 97 dBA at this set-back. The MND does not identify acceptable interior noise levels, but experience shows that levels of 65 dBA are intrusive into normal conversation. Noise level reductions of 32 dBA or more would be needed to achieve interior levels that are even marginally acceptable, and would clearly interfere with reading, watching television, taking a nap, etc. The requirement of a "15 dBA reduction across their depth" would still allow for peak construction activity noise levels in excess of 80 dB. Such a level of noise intrusion is clearly significant. Impacts that cannot be mitigated to less-than-significant must be addressed in an EIR for CEQA clearance.

Our previous comments to DIR-2009-2065-DB relative to both the possible structural damage threshold and to vibration nuisance from heavy equipment operations in close proximity to existing residential structures were obviously ignored in the MND reconsideration. We have attached our previous comments and respectfully request that they be addressed in the EIR for this project that is clearly indicated as necessary in order to meet CEQA requirements for full public disclosure.

Please feel free to contact us with any questions or comments.

Sincerely,

Hans D. Giroux

Hans D. Giroux
Senior Analyst
Giroux & Associates

HANS D. GIROUX

SUMMARY OF QUALIFICATIONS AND EXPERIENCE

EDUCATION:

Bachelor of Arts in Physics, University of California (Berkeley), 1965.

Bachelor of Science in Meteorology, University of Utah, 1966.

Graduate studies in Meteorology, University of Wisconsin, 1967-68.

Masters of Science in Meteorology, UCLA, 1972.

Candidacy for Doctorate in Meteorology, UCLA, 1974.

PROFESSIONAL EXPERIENCE:

Weather Forecaster, U.S. Air Force, Truax AFB, Madison, WI, 1966-67.

Staff Weather Officer/Chief Forecaster, McChord AFB, WA, 1968-69.

Teaching Assistant, Basic Meteorology/Advanced Dynamics, UCLA, 1969-71.

Research Assistant, California Marine Layer Structure, UCLA, 1971.

Research Assistant, Remote Air Pollution Sensing by Satellites, UCLA, 1972.

Research Assistant, Climate Change - Aircraft Pollution, UCLA, 1973.

Instructor, Basic Meteorology, Cal State Northridge, 1972-74.

Air Pollution Meteorologist, S-Cubed, LaJolla, CA 1973-75.

Senior Meteorologist, Meteorology Research, Inc., Altadena, CA 1975-77.

Instructor, Weather for Flight Aircrews, Orange Coast College, 1976.

Instructor, Basic Meteorology, Golden West Community College, 1976-81.

Instructor, Basic Meteorology, Orange Coast College, 1977-81.

Consultant, Atmospheric Impact Processes, Irvine, CA, 1977-present.

PRINCIPAL PROFESSIONAL RESPONSIBILITIES:

Military: Performed operational weather forecasting for jet aircrews; trained new personnel; responsible for ground safety, security, records administration, quality control, forecasting methodology research, and liaison with other base units; air defense battle staff weather officer; and deputy detachment commander.

University: Conducted laboratory sessions; instructed students in the use of meteorological instrumentation; demonstrated weather analysis techniques; supervised student weather observation programs; gave lectures and tests.

Private:

Air Quality: Prepared air quality impact assessments for coal- and oil-fired, nuclear, solar geothermal and wind energy power generation systems; prepared impact assessments for transportation systems, industrial emissions sources, wastewater treatment plants, landfills, toxic disposal sites, oil processing facilities, mining operations, commercial, residential, institutional and recreational land uses, airports and harbors; conducted atmospheric gas tracer experiments; developed numerical airflow analyses; and conducted numerous meteorological and air quality data acquisition programs with a very strong emphasis in arid environments, geothermal development, odors and nuisance and in regional pollution impacts from Southern California urbanization.

Noise: Developed impact assessments for roadways sources, construction equipment, sand and gravel plants, wineries, industrial equipment, gas recovery plants, railroads, recreational activities and oil refineries; monitored ambient noise levels from above sources, calibrated highway traffic noise model (FHWA-RD-77-108), and calculated sensitive receptor noise exposures; wrote community noise ordinances, purchased monitoring equipment and trained city staff; performed noise mitigation studies including barrier design, location, equipment noise control, and residential building retrofits.

PROFESSIONAL REFERENCES

Mr. Rich Ayala, Senior Planner, City of Ontario, 909-395-2421
Mr. Jerry Backoff, Planning Director, City of San Marcos, 760-744-1050
Mr. Albert Armijo, Planning Director, City of Aliso Viejo, 949-425-2527
Ms Alia Hokuki, Senior Planner, AECOM, Inc., 949-660-8044
Dr. Joyce Hsiao, President, Orion Environmental Associates, 415-951-9503
Ms. Valerie Geier, President, Geier & Geier Consulting, 510-644-2535
Mr. Tom Dodson, President, Tom Dodson & Associates, 909-882-3612
Mr. David Tanner, President, EARSI, 949-646-8958
Ms. Betty Dehoney, Principal Planner, HDR, Inc., 858-712-8400