EDWARD L. PACK ASSOCIATES. INC.

1975 HAMILTON AVENUE
SUITE 26
SAN JOSE, CA 95125

Acoustical Consultants

TEL: 408-371-1195
FAX: 408-371-1196
www.packassociates.com

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Project No. 46-008-3

Ms. Gloria Ballard
MH Engineering
16075 Vineyard Boulevard
Morgan Hill, CA 95037

Subject: Response to Comments and Supplemental Noise Analysis for the Planned Expansion of the Canh Thai Temple, 2532 Klein Road, Santa Clara County

Dear Ms. Ballard:

This report will provide you with our responses to public comments on the Noise Assessment Study, Edward L. Pack Associates, Inc. Project No. 46-008-2, dated December 9, 2014,. Also included in this report is a supplemental noise analysis addressing the City of San Jose noise standards, per the request of the Santa Clara County Planning Department.

I. Responses to Comments

On May 27, 2015 a series comments made by Mr. Mark Cao was emailed to our office. The first comments are on an email to County Planning dated May 23, 2015. The second set of comments is on an email to County Planning dated May 26, 2015. The following are our responses to his comments:

May 23 email

Comment 1: The noise assessment is extremely difficult for all of us to read, NOT because of its technical nature but rather because of its long list of significant inaccuracies. (1) It does not consider San Jose noise elements and noise ordinances, which are more strict than SC County's, despite the site being less than 100 feet away from San Jose City properties.

Response: An analysis of the project-generated noise levels evaluated against the City of San Jose Noise Element and the City of San Jose Zoning Ordinance is provided later in this report. The Santa Clara County Noise Element and the City of San Jose Noise Element standards are the same. The City of San Jose Zoning Ordinance limit is 55 dBA maximum. None of the noise sources associated with the Temple will exceed 55 dBA L_{max} at the San Jose property boundary.

Comment 2: The assessment is incomplete in its disregard of the criteria of CEQA "permanent noise increases" which we believe is a significant impact that would need to be mitigated.

Response: CEQA criteria are included in the analysis and the resulting evaluation is made on page 18. The project-generated noise exposures will be lower than the ambient noise exposures. Project-generated noise will be less than significant.

Comment 3: The assessment mistakenly reports about the expansion of the *Temple*, as if the Temple already has operated under permit. Consequently the assessment drastically under-reports the project-generated noise.

Response: Regardless of a permit or not, the existing noise environment is what it is. The noise study evaluates the existing and project-generated noise against the applicable standards and against the ambient (no project) conditions. See the bottom of page 18.

Comment 4: The assessment incorrectly models service attendance, again forcing us to take time to do our own modeling. Please note that many people come and go in 15-minute intervals, which means the capacity (100 attendees) could turn over 40 times per day in the worst case of a very popular Temple, or 8,000 generated car trips theoretically possible event in compliance to the facility cap. The consulted engineers simply do not understand how a Pagoda works.

Response: The volumes of attendance were reported by the project sponsor and the number of people in attendance at the Sunday service and at the Chinese New Year event were counted with the results stated in the noise report.

Comment 5: The consultant made serious errors of judgment (such as placing the east-property sound meter too close to chickens and too far from chanters), which is a gross methodological error that we still need time to technically document.

Response: The sound meter at the east property line was stationed at that location to capture the existing noise environment at the most impacted property line. This is standard methodology. The sound meter was not close to the chickens. Rather it was as far as possible without jeopardizing the veracity of the Temple's sound emission data for the east property line. This location describes the lowest ambient noise environment for the easterly property where it is closest to the Temple.

May 27th email

Comment 1: Exclusion of San Jose Noise Element and San Jose Noise Ordinance

Response: Analyses of the project-generated noise in relation to the City of San Jose Noise Element and Zoning (Noise) Ordinance standards is provided herein.

Comment 2: Exclusion of the CEQA/Noise Element Criteria of Substantial Permanent Increase in Ambient Noise Levels

Response: CEQA is addressed in the report. The results of the evaluation are provided on page 18. The project-generated noise exposures are low in relation to the ambient (no project) noise exposures. Thus, the project noise exposure impacts to the surrounding residences will be less-than-significant.

Comment 3: Significantly Misplaced Sound Meters

The only purpose of the three sound meters was to measure traffic-generated noise. (This is because the sound consultant eventually discounts all Temple generated noise, reasoning that it will eventually be all moved indoors anyway.) Given that fact, the placement of the north-property meter was too far in to catch the sound of any cars driving on the paved driveway. The placement of the Murillo Ave meter was too far from the cars turning left into the site.

Response: The commenter misunderstands the purpose of the noise monitoring. The sound meters were placed at the most impacted residential property lines to capture the total noise environment over a 12 hour period during the New Year's event and over a 4 hour period during a Sunday service in addition to the Temple's operational/activity noise during these periods. The meters' purposes were not just to capture traffic noise.

The north property line meter (Location 1) was placed where it was to measure the Temple's outdoor noise with as little street traffic influence as possible.

The Location 3 meter along Murillo Avenue was placed in a tree at the residential property line just above the soundwall. This was done to minimize sound reflections off of the wall and for security of the meter. Again, the sound meters were placed at the most impacted residential property lines to determine the noise levels at the property lines.

Comment 4: Incredibly Low Projected Sound Levels
To appreciate the fact that the consultant is strictly modeling, and not basing his numbers on anything real that was actually measures, let's look at his Table IV on p. 16.

Response: On the contrary. Noise measurements of Temple activity were made during each of the two monitored events. The noise levels shown in Table IV are based on noise measurements with adjustments to account for moving the activities indoors, per the project description, and the paving of the parking lot.

Comment 5: Mind you, all these values (commenter is referring to the data in Table IV) are *short-term maximum* sound levels.

Response: Only the sound levels under the L_{max} column are maximum levels. The remaining values are the levels of noise that are exceeded for the given percentage of the time. Thus, those values are not maximum sound levels.

Comment 6: When you consider that a single-event car rolling by on a paved road, 5 feet away, traveling less than 10 MPH would cause Lmax = 74 dBA, and that 44 dBA is the sound of traffic at 100 feet away, the consultant's numbers would cause any other acoustical engineer's jaw to drop.

Response: As stated in the email by the commenter, noise diminishes at a rate of 6 dB per doubling of the distance. Mathematically, $20\log_{10}(r_1/r_2)$. So, $20\log_{10}(5/100)$ = -26 dB. An additional 4 dB was included to account for paving of the parking lot. Note that the reference level of 74 dBA was on the dirt surface. Thus, a 30 dB reduction is expected (74 -30 = 44) for a distance of 100 ft. Further analysis of the northerly driveway is included in the supplemental analysis herein.

Comment 7: Please note that we look to Lmax only for a quick sanity check. Also worth a look are the L25 numbers, which typically are comparable to the L_{eq}(hour) [hourly averaged] numbers. His L25 = 33 dBA cannot be believed for a project this size, given that 33 dBA is comparable to a human whisper.

Response: The commenter does not understand the "L exceedance" values. These are statistical values. An L_{25} of 33 dBA means that 33 dBA will be exceed for 25% of the time, or for 15 minutes out of the hour.

Comment 8: More Study Flaws a the North Property Line
The main unrealistic aspect of the study with respect to the north property line is that cars rarely drove past the sound meter. In contrast, after the project in realized, cars will routinely drive 100 feet along the north property line.

Response: Additional analyses regarding the driveway and impacts to the residence to the north are included herein.

Comment 9: The single greatest project-generated sound will be the cars driving closely parallel to the north property line. Yet, the noise consultant though it was fine that his noise meter, placed deep into the right-of-way, was rarely driven past due to the free structure of the parking lot.

Response: The sound meter along the north property line was not in the right-of-way. It was chained to the property line fence and as far from the travel lane as possible to minimize the effect of the neighbor's vehicle passbys and for obvious safety reasons. Edward L. Pack Associates, Inc. has never placed equipment in a right-of-way.

Comment 10: Large Capacity Assumed Impossible
The noise consultant used the assumption provided to him: 100 people for special events. Unfortunately for his analysis, those assumptions are not realistic. What's realistic is that the room capacity is 100, and people come for 15-minute individual prayers, and that there are usually one or two people per car, and that there are ten hours of operation. Therefore, the theoretical maximum of cars per day is, ….4,000 car trips/day.

Response: The noise assessment did not report traffic volumes. The noise analysis utilized the data that were provided by others. The traffic volume used in the analysis was 25 vehicles per hour entering then exiting the site. This would occur twice for Sunday Service and 6 times per day for special events.

Comment 11: Unrealistic Noise Modeling
The noise analysis featured many unrealistic assumptions. Here are the top unrealistic assumptions.

- Children will not play outside once the Temple is built. Nobody humane would write that into the use-permit conditions. Therefore, children will continue to play outdoors. As mentioned by the consultant, children were the single greatest source of temple-generated noise.

- There will be a maximum of 100 car trips generated per day.

- Indoor temple activities will not generate noise. In fact, the windows and doors are quite large (see elevation diagrams), and they are likely to remain open due to the need to air out the incense and the resulting carbon monoxide smoke.

Response: The noise study did not state that children will not play outside. The report states that much of the outdoor activity will be moved indoors. The children playing did indeed generate the highest levels of noise, which were within the limits of the Santa Clara County Noise Ordinance.

Traffic volumes were not reported in the noise study. The volume of 100 vehicles (25 in/25 out each for two hours) was used for the Sunday service of 100 attendees and a volume of 300 vehicles (25 in/25 out per hour for six hours) was used for special events with 300 attendees.

There was no mention in the noise study that indoor activities will not generate noise. The study reported that the noise levels will reduce when being moved from outdoors to indoors. Additional information regarding noise from the temple interior is provided herein.

II. Supplemental Noise Analysis

A. Noise Impacts to the City of San Jose Residences

This section provides an analysis of the project-generated noise levels and noise exposures at the residential property line across Murillo Avenue from the site corresponding the measurement Location 3. The analysis calculates the noise levels on the residential side of the property line noise barrier.

The City of San Jose Noise Element of the General Plan utilizes the Day-Night Level (DNL) noise descriptor to define community noise impacts. Similar to the Santa Clara County Noise Element, the noise limit from non-transportation related noise sources, including vehicles in a parking lot, in San Jose is 55 dB DNL. For traffic noise, the noise limit is 60 dB DNL.

The Title 20 of the City of San Jose Municipal Code, Zoning Ordinance Performance Standards specifies a limit of 55 dBA maximum at residential land uses.

The Zoning Ordinance is not applicable to traffic on public thoroughfares.

Parking Lot Noise

The average hourly traffic volume for Sunday Service and special events is 25 vehicles entering and exiting the site within a 1 hour period. This is expected twice per day.

The parking lot rows are 110 ft., 150 ft., 175 ft. and 215 ft. from the residential property line to the west. Using the standard vehicle passby sound level of 70 dBA @ 5 ft. (on a paved surface), the sound levels of one car are:

43 dBA @ 110 ft.	x 6 cars/hr.	= 51 dBA
40 dBA @ 150 ft.	x 6 cars/hr.	= 48 dBA
39 dBA @ 175 ft.	x 6 cars/hr.	= 47 dBA
37 dBA @215 ft.	x 6 cars/hr.	= 45 dBA
TOTAL =		54 dBA

The maximum noise level from vehicular movements in the parking lot will be up to 51 dBA at the residential property line to the west. The property line soundwall will provide an additional 6 decibels of noise reduction. Thus, the maximum noise level in the residential rear yard was calculated to be 46 dBA L_{max}. Thus, the noise levels will be within the 55 dBA maximum limit of the City of San Jose Zoning Ordinance.

The average parking operational duration is 11 seconds. The hourly average noise level ($L_{eq(h)}$) was calculated to be 29 dBA. Vehicles exiting a parking lot are slightly louder due to engines starting. The typical exiting operation is 6 dB higher or 35 dBA $L_{eq(h)}$.

For Sunday Service, the parking lot filling and emptying would occur twice, resulting in a noise exposure at the westerly residential property line to 25 dB DNL. With a 6 dB noise reduction factor for the property line soundwall, the noise exposure in the residential rear yard was calculated to be 19 dB DNL. The noise exposure will be within the 55 dB DNL limit of the City of San Jose Noise Element.

For special events, the parking lot is expected of fill and empty six times over the course of the day. The DNL at the most impacted westerly residential property line was calculated to be 30 dB DNL. With a 6 dB noise reduction factor for the property line soundwall, the noise exposure in the residential rear yard was calculated to be 24 dB DNL. The noise exposure will be within the 55 dB DNL limit of the City of San Jose Noise Element

B. Temple Interior Noise Levels

Precise sound levels of people chanting or other vocal activities emanating from the interior of the temple are unknown as the activities inside the temple at the time of the noise study were benign and were not significant. No chanting or other significant levels of noise were produced during the site visit. If chanting or other louder noises were generated, the noise level are included in the noise measurement data.

For the purposes of this study, we are using a sound level of 55 dBA @ 3 ft. as the "chanting" or other vocal sounds, including speaking, as the source level of one person. With 104 people inside an approximate 40 ft. x 40 ft. room, the group could be organized by rows of 13 people in each of 8 columns. Assuming one row is approximately 3 ft. from the wall and the remaining columns are spaced 4 ft. apart, the total sound level inside the temple at the east wall was calculated to be 74 dBA. This sound level includes a 6 dB increase due to sound buildup within the room.

The proposed building with the windows open will reduce noise by approximately 10 decibels. With standard, dual-pane thermal insulating window that are closed, the building will reduce noise by approximately 25 dB.

The analysis in Table I provides the maximum noise levels and the noise exposures at the north, east, south and west property lines with the windows opened and closed and assuming that the source noise level of 74 dBA is constant for five hours. The Murillo Avenue soundwall will provide 5 dB of noise reduction of temple generated noise.

TABLE I					
Temple Interior Sound Level Analysis					
		Window Open		Windows Closed	
Location	Dist., ft.	Maximum dBA	DNL	Maximum, dBA	DNL
North PL	57	38	31	23	16
East PL	103	33	26	18	11
South PL	112	33	26	18	11
West PL (residence)	240	21	14	6	0

C. North Property Line Noise Analysis Due to the Driveway

Additional review of the configuration of the driveway to the parking lot reveals that an incorrect distance model was incorporated into the original calculations.

The revised model uses a reference vehicle passby level of 70 dBA @ 5 ft. on a paved surface and 80 dBA for a bus passby @ 5 ft. on a paved surface. The vehicle speed is estimated to be 10 mph.

The driveway distances to the north property line are 8 ft. for outbound traffic and 20 ft. for inbound traffic. For the assumed hourly volume of 25 cars in and 25 cars out in an hour, with 3 buses in and out, we expect 12 cars to use the westerly parking slots and 13 cars to use the easterly parking slots. The distances from the entrance to the parking areas are 80 ft. to the westerly lot and 140 ft. to the easterly lot.

Table II on page 11 provides the car and bus noise levels and noise exposures. Noise excesses are shown in **Bold**.

TABLE II					
Driveway Project-Generated Noise Levels, dBA					
Source	L_{max}	L_2	L_8	L_{25}	L_{50}
Noise Limit=	75	70	65	60	55
Cars	67	67	65	60	**57**
Buses	**76**	**72**	**69**	60	**57**
People	46	46	43	38	65
TOTAL	**76**	**73**	**70**	**63**	**60**
Special Event DNL =	49 dB				
Sunday Service DNL =	43 dB				

As shown above, noise level excesses up to 5 dB will occur at the north property line. Noise mitigation measures will be required. The recommended measures are described below. There are two alternatives to achieve compliance with the Santa Clara County Noise Ordinance.

Alternative 1

- Construct a 6 ft. high acoustically-effective barrier along the north property line extending from the front (Murillo Avenue) property line to the easterly side of the parking lot for a distance of approximately 170 ft. The barrier height is in reference to the nearest center of driveway grade. Please see Figure 1 for the location of the recommended noise control barriers.

To achieve an acoustically-effective barrier, it must be constructed air-tight, i.e., without cracks, gaps or other openings, and must provide for long-term durability. Barriers and fences can be constructed of masonry, wood, stucco, metal or a combination thereof and must have a minimum surface weight of 2.5 lbs. per sq. ft. If wood construction is used, homogeneous sheet materials are preferable to conventional wood fencing, as the latter has a tendency to warp and form openings with age. However, high quality air-tight tongue-and-groove, board and batten or shiplap construction can be used. All connections with posts or pilasters must be sealed air-tight. No openings are permitted between the upper barrier components and the ground.

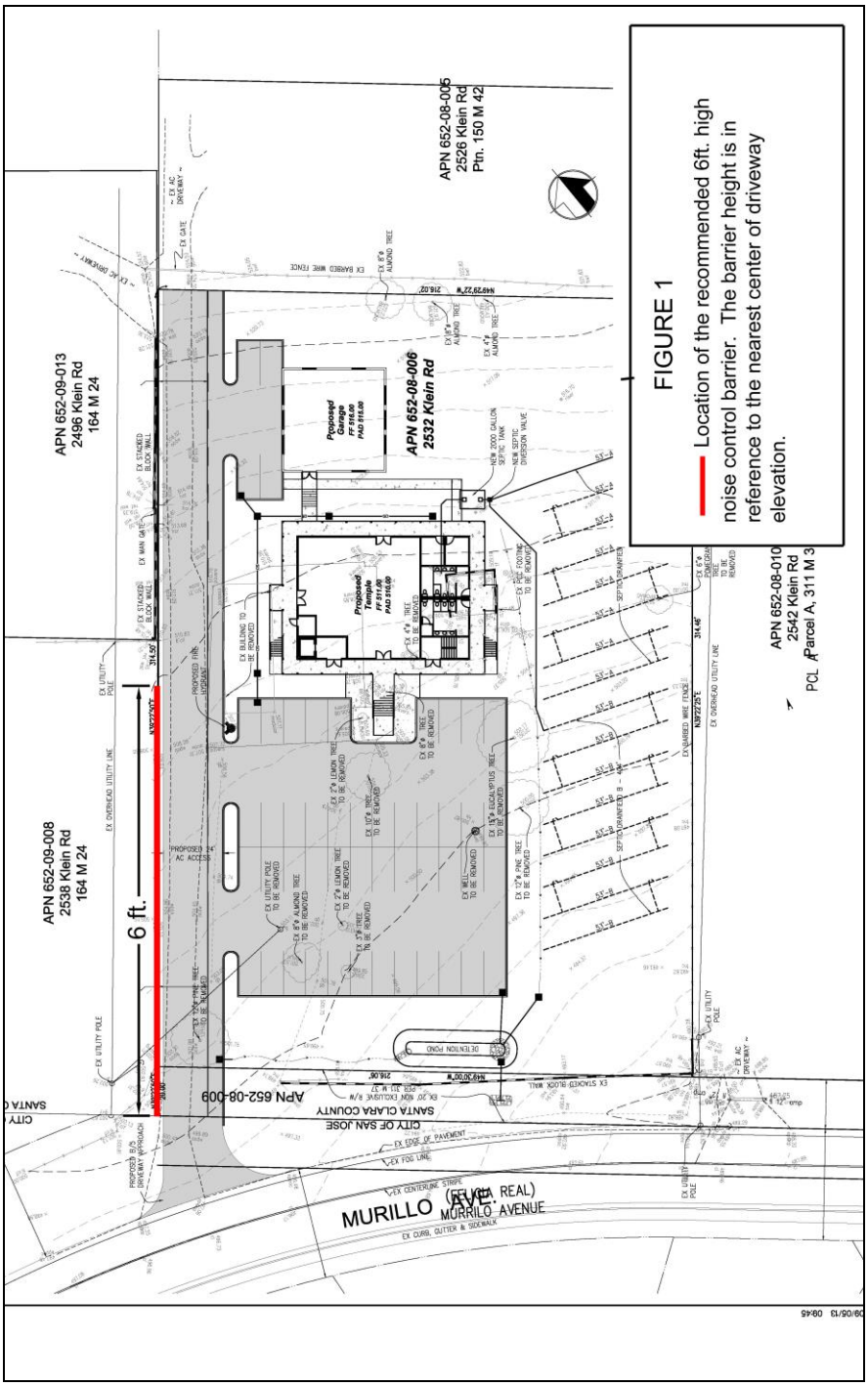
FIGURE 1
Location of the recommended 6ft. high noise control barrier. The barrier height is in reference to the nearest center of driveway elevation.
6 ft.
APN 652-09-013
2496 Klein Rd
164 M 24
APN 652-09-008
2538 Klein Rd
164 M 24
APN 652-08-006
2526 Klein Rd
Ptn. 150 M 42
APN 652-08-006
2532 Klein Rd
APN 652-08-010
2542 Klein Rd
Parcel A, 311 M 3
Proposed Garage
Proposed Temple
MURILLO AVENUE
(FELICIA REAL)
CITY OF SAN JOSE
SANTA CLARA COUNTY
APN 652-08-009

Alternative 2

- Relocate the driveway 5 ft. farther to the south resulting in a move from the current centerline of 11 ft. from the property line to 16 ft. from the property line. The portion of the driveway to be relocated would be the section from the front property line to the easterly side of the parking lot, corresponding to the location of the fence termination described for Alternative 1.

Project-Generated Noise Versus Ambient

As the noise levels generated by the temple during the noise measurement period did not add to the background sound levels, the measured noise levels at each location represents the noise environment both with and without the temple.

Table III provides the ambient and the project-generated noise exposures at each of the four property line locations. The project-generated noise exposures shown are a combination of all temple related sources, including gas buses, under the worst-case special event scenario with the temple windows open.

	TABLE III			
	Project Noise vs. Ambient Levels (CEQA)			
Location	Ambient	Project-Generated	Combined	Δ dB
North PL	49	49	52	+3
East PL	47	35	47	0
South PL	52	36	52	0
West PL (residence)	54	39	54	0

As shown above, the project-generated noise levels and noise exposures will be within the limits of the City of San Jose Noise Element and Zoning Ordinance standards at the residences across Murillo Avenue to the west of the site.

Noise from the temple interior will be within the limits of the standards with the windows open or with the windows closed.

The project will add up to 3 dB to the existing ambient noise environments in the project vicinity. This is a less than significant impact as the County of Santa Clara defines a significant noise impact as increasing the ambient level by 5 dB if the combined noise exposure remains below 55 dB DNL.

If you have any questions or would like additional information, please contact me.

Sincerely,

EDWARD L. PACK ASSOC., INC.

Jeffrey K. Pack
President