Directors, Please do not approve the proposal to apply for PB CUP.

November 6, 2023

Provided by Liz & Dave Gates at Board of Directors meeting

Parks and Recreation Committee,

Today, I spoke with Steve Pettyjohn. He was the consultant hired by the CSD to conduct the noise study in the summer of 2022. He gave me permission to share that we discussed the impact of the proposed re-orientation of the Pickleball courts at Cameron Park Lake and the following facts.

He calculated that the proposed layout would reduce the decibels by 6.7 and said it would be a noticeable reduction. Steve referenced page 6 of the study, specifically pointing out Lmax data recorded. He indicated that you can take the 87 Lmax recorded and subtract 6.7 dba. He confirmed the maximum decibels would still exceed 80. This is more than 15 dB above the El Dorado county, maximum noise standard.

Study data inside our property. } 87 dB(A)

Subtract noise reduction as proposed layout of courts 7 dB(A)

80 dB(A) ← EDC max noise allowed is 65 dB(A)

-65

15 dB(A)

ABOVE LEGAL LIMIT

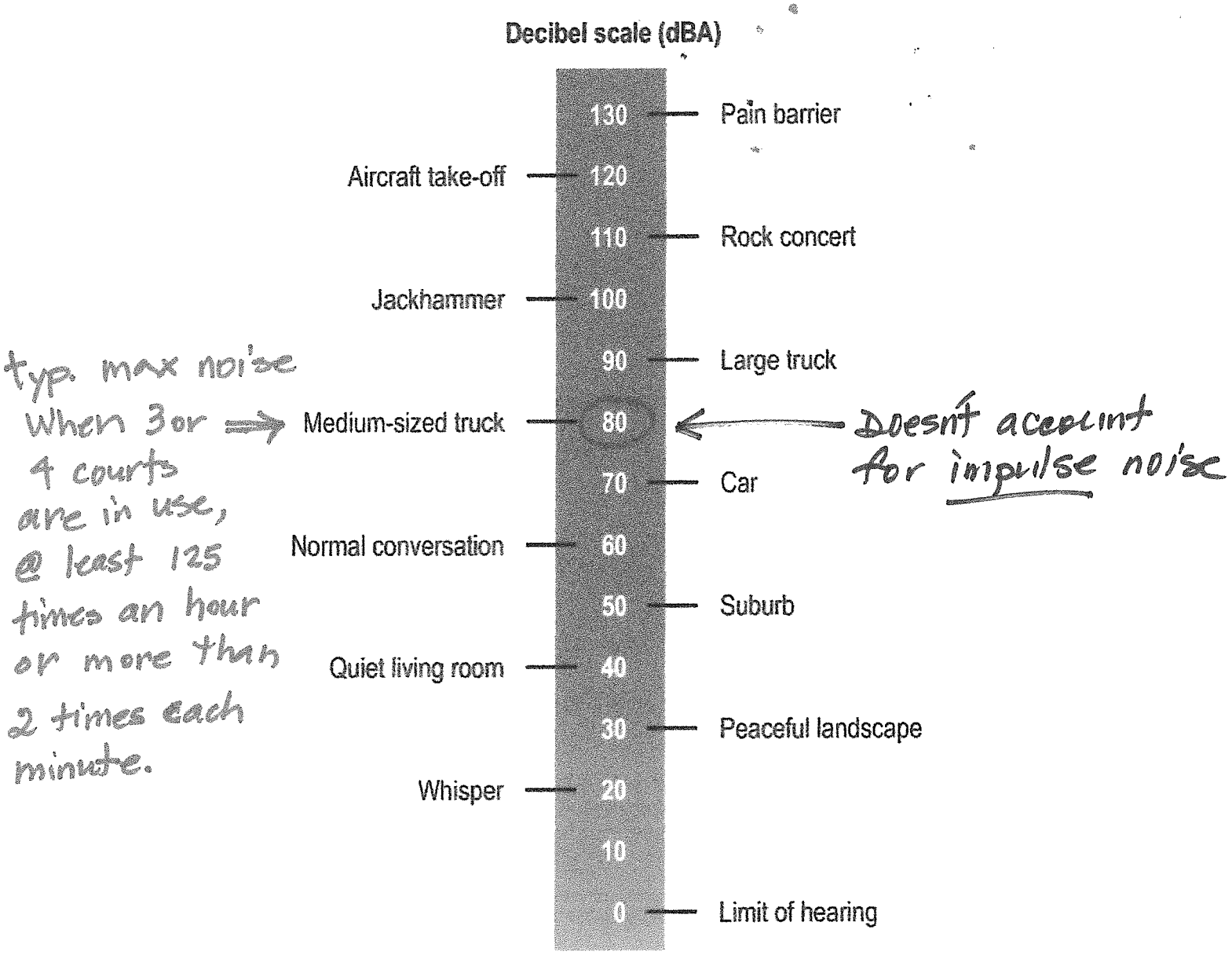


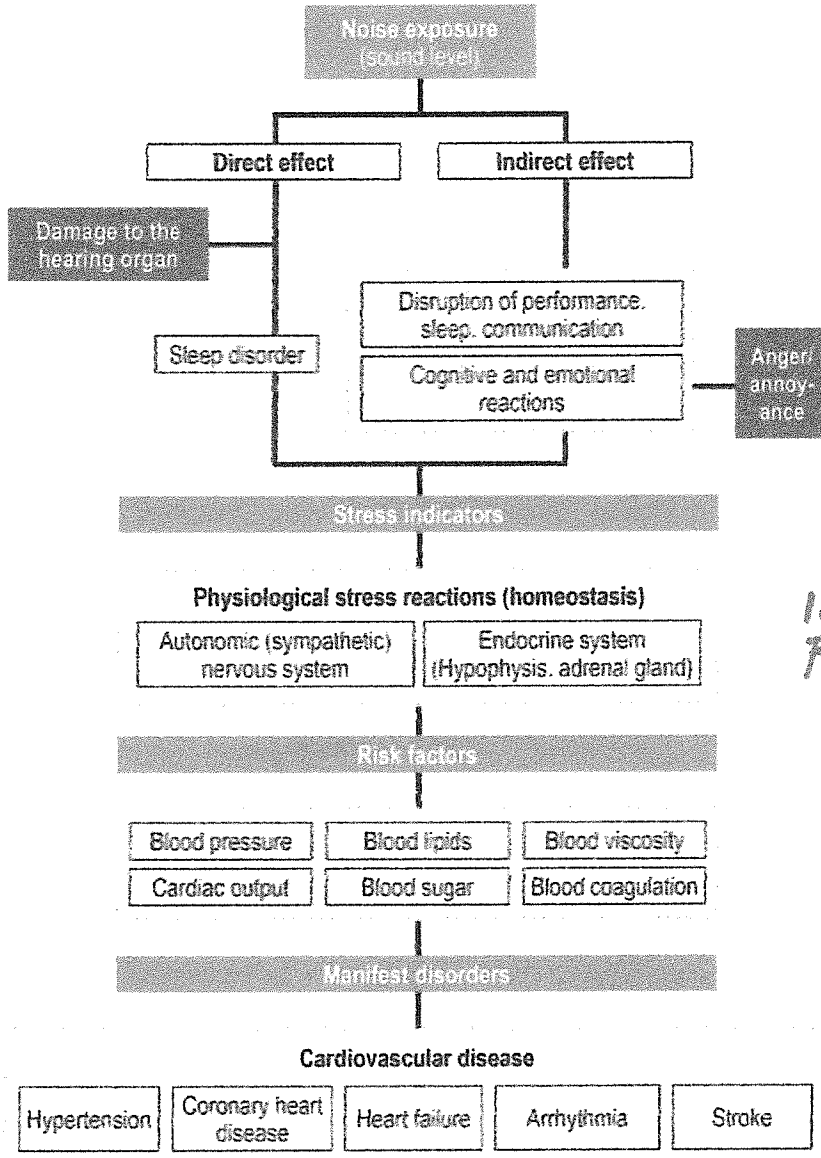
Figure 1

Examples of sound levels from various sources. The dB(A) scale is a logarithmic scale, so that an increase/decrease of 3 dB(A) means doubling/halving of the sound level. An increase/decrease of 10 dB(A) is perceived as doubling/halving of loudness. In circumstances of long-term exposure to over 55 dB(A) weighted day–evening–night levels (L_{den}), with an increment of 5 dB(A) for the evening and 10 dB(A) for the night, the risk of cardiovascular disease rises (13, 20). (Modified from Münzel et al. [39]. Reproduced with the permission of the publisher. Copyright © 2017, Oxford University Press)

Citation: Abstract from the National Library of Medicine

ncbi.nlm.nih.gov
journal List Dtsch Arztebl Int v.116(14);2019 Apr PMC651745

Hahad O, Kröller-Schön S, Daiber A, Münzel T. The Cardiovascular Effects of Noise. Dtsch Arztebl Int. 2019 Apr 5;116(14):245-250. doi: 10.3238/arztebl.2019.0245. PMID: 31092312; PMCID: PMC6541745.



INVOLUNTARY RESPONSE

Figure 2

The noise effect model of Babisch et al. (9) adjusted according to Münzel et al. (4). Both persistent and acute exposure to noise leads to increased development of cardiovascular risk factors (raised blood pressure, increases in blood lipids and blood sugar, greater cardiac output, increased blood viscosity, and activation of blood coagulation), mediated by mental and physiological stress reactions. In the long term, this leads in turn to the clinical manifestation of cardiovascular diseases such as hypertension, coronary heart disease, heart failure, arrhythmia, and stroke. (Modified from Münzel et al. [4]. Reproduced with the permission of the publisher. Copyright © 2014, Oxford University Press)

Epidemiological evidence of the association between noise and cardiovascular disease

sented in Table III. The maximum, L_{MAX}, sound levels were 87, 81, and 85 dB(A) for the three time periods while the peak levels were 113, 111 and 113 dB. When sound is generated by impulses, the normal L_{eq} or L_{MAX} sound levels can not correctly identify the sound level. Figure 2 compares the L_n statistical sound level measured at Position 2 with both the "hard" and the "soft" Pickleball. A comparison is given in Figure 3 of these statistical sound levels with the unweighted peak sound Level, L_{ZPk}.

TABLE II. Summary of Sound Levels Measured Positions #1, #2, and #3 with a Slow Response and Position #4 with a Fast Response During Pickleball Activity with the Normal Hard Pickleball Compared with a Soft Pickleball at Cameron Lake Park Courts.

		Measured Sound Level, dB(A), Slow Response							
Position	Time, a.m.	L_{eq}	L_{MAX}	L_{ZPk}	$L_{1.7}$	$L_{8.3}$	L_{25}	L_{50}	L_{90}
#1, No PB	07:52-08:00	49	69	106	56	50	47	46	43
#1, Hard PB	08:00-09:00	53	68	92	60	57	54	51	45
Soft then Hard	09:00-10:00	54	66	91	61	58	55	52	47
#1, Hard PB	09:10-10:00	54	66	91	61	58	55	52	47
#1, Hard PB	10:00-10:28	55	66	91	62	59	56	54	48
#1, Hard PB	08:50-09:00	55	68	89	62	58	55	53	47
#1, Soft PB	09:00-09:10	53	63	88	60	56	53	50	46
Total Time	07:52-10:28	54	69	106	61	58	55	52	46
#2, Hard PB	08:33-09:00	68	87	113	77	70	66	62	56
Soft then Hard	09:00-10:00	66	82	111	76	70	66	62	56
#2, Hard PB	09:10-10:00	67	81	111	76	70	66	63	56
#2, Hard PB	10:00-10:54	67	85	113	76	70	66	63	56
#2, Hard PB	08:50-09:00	68	87	113	77	70	66	62	56
#2, Soft PB	09:00-09:10	65	82	106	73	68	64	61	55
Total Time	08:33-10:54	67	87	113	76	70	66	63	56
#3, Hard PB	08:34-09:00	67	77	112	73	70	68	65	60
Soft then Hard	09:00-10:00	66	75	111	73	69	67	64	59
#3, Hard PB	09:10-10:00	66	75	111	73	69	67	65	59
#3, Hard PB	10:00-10:53	67	78	114	74	71	67	64	60
#3, Hard PB	08:50-09:00	67	74	112	74	72	69	65	60
#3, Soft PB	09:00-09:10	63	69	109	69	67	64	61	58
Total Time	08:34-10:53	66	78	114	73	70	67	64	59
#4, Hard, Fast	08:49-08:53	67	93	109	76	65	59	55	49

At Position #3, Table II shows L_{eq} sound levels of 67, 66 and 67 dB(A) from 8:34 to 9:10 a.m., 9:00 to 10:00 a.m. and 10:00 to 10:53 a.m. with a hard Pickleball. The L_{MAX} sound level was 77, 75 and 78 dB(A) for the three time intervals. The L_{ZPk} sound level was 112, 111 and 114 dB, while the

within 0.5 dB of each other and this is well within the accuracy of any model to predict the sound. Excluding or including only certain sources is possible. When some sources are excluded from the analysis, it is called the Background L_{dn} sound level.

b. Non-transportation Sound Sources

The Performance Protection Standards contains the second noise limits from the ***General Plan***. They focus on sound from non-transportation sources as they influence residential property and other noise sensitive land uses. Sound limits are given based on the type of source, the duration of the sound, the time of day of occurrence and the tonal content of the sound. A penalty is applied for certain sounds as noted in Table I. This table summarizes the limits and the applicable hours.

The limits in Table I apply to activity and equipment at the project site that influence noise-sensitive receptors. Schools are listed as noise sensitive spaces for transportation sound sources on the exterior of the building. Exterior noise has a negative impact on a student's ability to learn or to even understand what is said. This is particularly true for grades Kindergarten through at least th 6th grade. This would suggest that the sound from any source, transportation or non-transportation, that exceeded the hourly L_{eq} sound level of 40 dB(A) would be unacceptable. Transportation sound sources while on private property such as commercial and retail space are considered non-transportation sound sources because they are not exempted by Federal standard. The question remains as to whether these criteria apply to school interiors or exteriors. It should apply to any area where teaching and learning occurs.

TABLE I. Noise Element Performance Protection Standard Limits for El Dorado County for Noise Sensitive Land Uses Affected by Non-Transportation Sound Sources.

Noise Level Descriptor	Daytime 7 a.m. - 7 p.m.		Evening 7 p.m. - 10 p.m.		Night 10 p.m. - 7 a.m.	
	Community	Rural	Community	Rural	Community	Rural
Hourly L_{eq}, dB	55 50	50	50	45	45	40
Maximum level, dB	70 65	60	60	55	55	50
Penalty☜	-5	-5	-5	-5	-5	-5

☜ - The penalty applies to simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

2.2 Zoning Ordinance; Noise Standards

The Noise Standards given in the Zoning Ordinance [3, 5] are a codification of the transportation and non-transportation standards given in the Noise section of the Health & Safety Element of the ***General Plan***. However, the Noise Standards in the Zoning Ordinance clearly state that schools are noise sensitive land uses. What is not clear is where on the school grounds the noise standards apply. An assumption was made that the noise limits would apply mainly to classrooms and that formal teaching would not occur outdoors. This might not apply to physical education and athletic training where the participants could be outdoors.

EDC GENERAL PLAN

Sec. 130.52.021 - Conditional Use Permits.

A. Applicability.

1. Conditional Use Permit. A Conditional Use Permit is a process for reviewing uses and activities that may be appropriate in the applicable zone but the potential for effects on the site and surroundings cannot be determined without a site specific review.

B. Review Authority and CEQA.

1. Conditional Use Permit. The Zoning Administrator or the Commission shall have review authority of original jurisdiction for Conditional Use Permit applications. The determination of the review authority shall be made by the Director based on the nature of the application, and the policy issues raised by the project. The approval of a Conditional Use Permit is a discretionary project and is subject to the requirements and procedures of CEQA.

C. Specific Findings for Conditional Use Permits. In addition to findings of consistency with the requirements and standards of this Title, the review authority shall make the following findings before approving a Conditional Use Permit application:

1. The proposed use is consistent with the General Plan; and
2. The proposed use would not be detrimental to the public health, safety and welfare, or injurious to the neighborhood; and
3. The proposed use is specifically allowed by a conditional use permit pursuant to this Title.

D. If there is any single use that triggers the need for a Conditional Use Permit, the Conditional Use Permit will include and address, as long as it remains active, all existing and subsequent uses allowed by discretionary permit.