

To: Walnut Creek PROS Commission

From: Eric Benson  
Tony Parisi

Re: Sound Measurements and Play Days at Rudgear Park

**Executive Summary:**

1. Using Pickleball Sound Mitigation, LLC's recommended and calibrated sound meter, decibel readings were recorded at locations around the pickleball courts and tennis courts and throughout the neighborhood and it can be concluded that the sound absorbing acoustical panels remove on average 16 - 20 dbA's from the sound of pickleball play at the source with a decibel reduction range of 10 dbA's to 22 dbA's.
2. The actual measured sound levels with pickleball play differ very little from background park noise levels that were measured on February 26<sup>th</sup> and March 1, 2023 when no pickleball play was in session at the Stewart Ave Tennis Courts.
3. The Pickleball Sound Mitigation LLC Sound Assessment and Recommendations Report prepared by Dale H. Van Scoyk of Pickleball Sound Mitigation LLC of March 3, 2023 is corroborated by this sound measurement study.

**Background:**

On Friday March 31 and Saturday April 1st sound mitigation curtains were hung on the west and south facing fences of the Stewart Avenue Tennis Courts. These Nine foot, by three foot, by one inch thick panels weighed approximately 40 pounds covered the entire two sides of the tennis court fence.

Eight temporary pickleball courts with nets were created on the tennis courts with 4 on the north side of the tennis nets and 4 on the south side of the tennis nets. Courts were oriented side by side beginning 10 feet from the west facing fence. Players staged themselves for next to play outside of the north fence closest to the baseball field where the sign-in board was located. Players entered the courts through the gate nearest the bathroom and exited the courts at the opposite end.

**Number of Players:** Sunday play began at 10:00 am and concluded at 1:00 PM. During this 3 hour window there were 94 players that signed in and played games. There were typically 20 –30 players waiting to play and all eight courts will fully utilized. There were 84 players on Monday over the 5 hours of open play (8:00 am - 1:00 pm). At any given time there were roughly 4-10 players waiting in queue to play. Like Sunday, all 8 courts were in full use throughout the 5 hours.

**Parking:** Players parked in the parking lot and along the park side of the street along Dapplegray Lane and Stewart Avenue. At no time were cars park on the neighbor side of either street. On Sunday the parking lot was full and parking overflowed along Stewart Ave and around the corner onto Dapplegray. On Monday, with slightly less players spread over longer hours of play there were always a few open parking paces in the lot while others parked along the park street side. Art Oller commented during his site visit that the parking lot looked like a normal weekday and both he and Kevin Will thought the parking was tolerable and acceptable and to be expected for a busy park. Art said he played in the men's softball league here often and when they play here, the number of cars in the lot and on the street is similar to what we had during the play days.

### Sound Readings and Measurements:

This report represents a summary of measurements taken on Feb 26th, March 1<sup>st</sup>, April 2nd and April 3rd, 2023 to measure both background park noise as well as sound from pickleball play. The purpose was to record and report the noise effects of pickleball play at various locations around the proposed Stewart Ave tennis courts.

The following equipment and certifications were used.

A SPER sound instrument model 840018C, serial number 098769 as recommended by Bob Unitech of Pickleball Sound Mitigation <https://pickleballsound.com/> was used to take all sound measurements. This instrument was set and used in LaF mode as recommended in such applications <https://www.nti-audio.com/en/support/know-how/what-are-laeg-and-lafmax>

As this instrument is a display only instrument (no substantial memory) an iphone in video mode was used to record the ambient noises, as well as the video of the instrument in real time. The complete video files have been uploaded to a cloud account and are available at the following address: <https://www.icloud.com/sharedalbum/#B0s5Uzl7Vachll>. Every effort has been taken to objectively evaluate the measurements, but it should be disclosed Eric is a member of the WCPC.

On Feb 26<sup>th</sup> and March 1<sup>st</sup>, sound measurements were taken at various locations at street level on Stewart Ave, as well as on the tennis courts, and in the parking lot to determine the ambient sound level without pickleball play. Care was taken to exclude readings (passing cars, loud motorcycle) that might be distorted by unusual, non-standard sources. The meter is designed to update readings twice per second and measure maximum sound pressure with A weighting, simulating the human ear response, also known as dBA.

The following average ambient (background) readings were recorded and reported in the Pickleball Sound Solutions Report to the city dated March 3, 2023.

#### Ambient Sound Readings with no Pickleball Play (and no sound barriers)

	Stewart Ave Street Level	Tennis Courts	Parking Lot
Average dBA	50.4	48.9	51.8
dBA Range	39.1 - 59.3	45.2 - 54.6	46.2 - 59.4

The average ambient dBA range of 48.9 - 51.8 dBA (measured with no pickleball play) measured on Feb 26th at the tennis courts, parking lot and Stewart Ave in front of the tennis courts is extremely consistent with quiet suburban areas throughout the US which typically have noise levels in the range of [40-50 dBA](#), while those along arterial streets are in the 50-60+ dBA range.

	Loc A - Inside Tennis Courts	Loc B - Stewart Ave Street in front of tennis courts	Loc C - Upper Cul-de-Sac	Loc D - 2nd Closest Home to Tennis Courts (159 Feet)	Loc E - Closest Home to Tennis Courts (99 Feet)
dBA Sound - No Pickleball Play	45 - 55	45 - 47	52 - 54	45 - 47	45 - 47

On March 1, 2023 an additionally series of ambient (background) sound measurements with no pickleball play were taken at locations inside the tennis courts and on the sidewalk in front of neighbor homes in and around Kenton Court cul-de-sac as noted in the map below (see locations A,B,C,D, & E). These sound readings are reported in the table below (the video file for these readings are included in the cloud account referenced above).

Location A - Inside Stewart Ave Tennis Courts

Location B - On sidewalk in front of 2117 Kenton Court

Location C - On the sidewalk in-between homes 2213 & 2209 Kenton Court

Location D - On the sidewalk at the 2nd Closest Home to Tennis Court (2201 Kenton Court - 159 Feet away)

Location E - On the street immediately in front of the driveway of the closest Home to Tennis Courts (2182 Stewart Avenue - 99 Feet Away )

It should be noted that the sound readings spiked to 70+ dBA when a car or motorcycle passed by and 55+ dBA if people were talking

Google Maps



On Sunday, April 2nd and Monday April 3rd Eric Benson once again using the sound measurement equipment noted above set to the same measurement specifications recorded the following sound readings while pickleball play occurred. Eight courts were in use and 32 players were playing with anywhere from 4-30 people were waiting to play. The south and west facing fences of the tennis courts were wrapped with sound mitigating panels.

**Result of pickleball play: Pickleball sound measured on April 1st and 2nd during the play days was approximately 2 dBA's louder than ambient sound as measured on Feb 26th and Mar 1st (without any pickleball play)**

**Sound Reading with Pickleball Play With Sound Mitigating Barriers**

	Loc A - Inside Tennis Courts	Loc B - Stewart Ave Street in front of tennis courts	Loc C - Upper Cul-de-Sac	Loc D - 2nd Closest Home to Tennis Courts (159 Feet)	Loc E - Closest Home to Tennis Courts (99 Feet)
dBA Range With Sound Curtains	65 - 68	47 - 49	47 - 52	48 - 50	47 - 49

Location A - Inside the Tennis Courts: Sound readings taken while Pickleball was being played averaged about 65-68 dbA as measured on Apr 2nd & 3rd.

Location B - On sidewalk in front of 2117 Kenton Court Stewart. Sound readings taken while Pickleball was being played measured 47 - 49 dbA on Play Days and 45 - 47 dbA on Feb 26th/Mar 1st. This is ~20dbA lower sound levels than inside the courts.

Location C - On the sidewalk in-between homes 2213 & 2209 Kenton Court. Sound readings taken while Pickleball was being played measured 47 - 52 dBA on Play Days and 52 - 54 dBA on 26th/Mar 1st. This is a reduction of ~16dbA from sound levels inside the courts at location A.

Location D - On the sidewalk at the 2nd Closest Home to Tennis Court (2201 Kenton Court - 159 Feet away): Sound readings taken while Pickleball was being played measured 48 - 50 dBA on Play Days and and 45-47 dBA on 26th/Mar 1st. This is a reduction of ~20dbA from sound levels at location A (This location compares to the "Pink Line" on the PSM report).

Location E - On the street immediately in front of the driveway of the closest Home to Tennis Courts (2182 Stewart Avenue - 99 Feet Away ): Sound readings taken while Pickleball was being played measured 47-49 dBA on Play Days and 45 - 47 dBA on 26th/Mar 1st. This is a reduction of ~19dbA from sound levels inside the courts at Location A. (This Location compares to the "Green Line" on the PSM report)

**General Conclusion:**

It can be concluded the sound absorbing acoustical panels remove on average 16 - 20 dbA's from the sound of pickleball play at the source with a decibel reduction range of 10 dBA's to 22 dBA's. The ambient park background noise was measured at approximately 49-52 dBA. Thirty Two players (32)

utilizing 8 courts generated sound averaging 47 - 52 dBA. The Play Days substantiated the summary and detail findings by Pickleball Sound Solutions, LLC that with sound mitigating panels the predictive sound will result in noise levels that now meet the governmental guidelines. Plus, in their experience, the sound levels are "NOT LIKELY" to create noise complaints from neighbors.

Respectively submitted,

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