



11 October 2013

To: Dennis Malone, Head Royce School

From: Deborah Jue, Wilson Ihrig

Subject: Recent Noise survey, updated results

Following are updated results from the noise survey recently conducted at Head Royce. Figure 1 below shows the locations of two noise loggers, L1 (along Lincoln) and L2 (along Whittle).

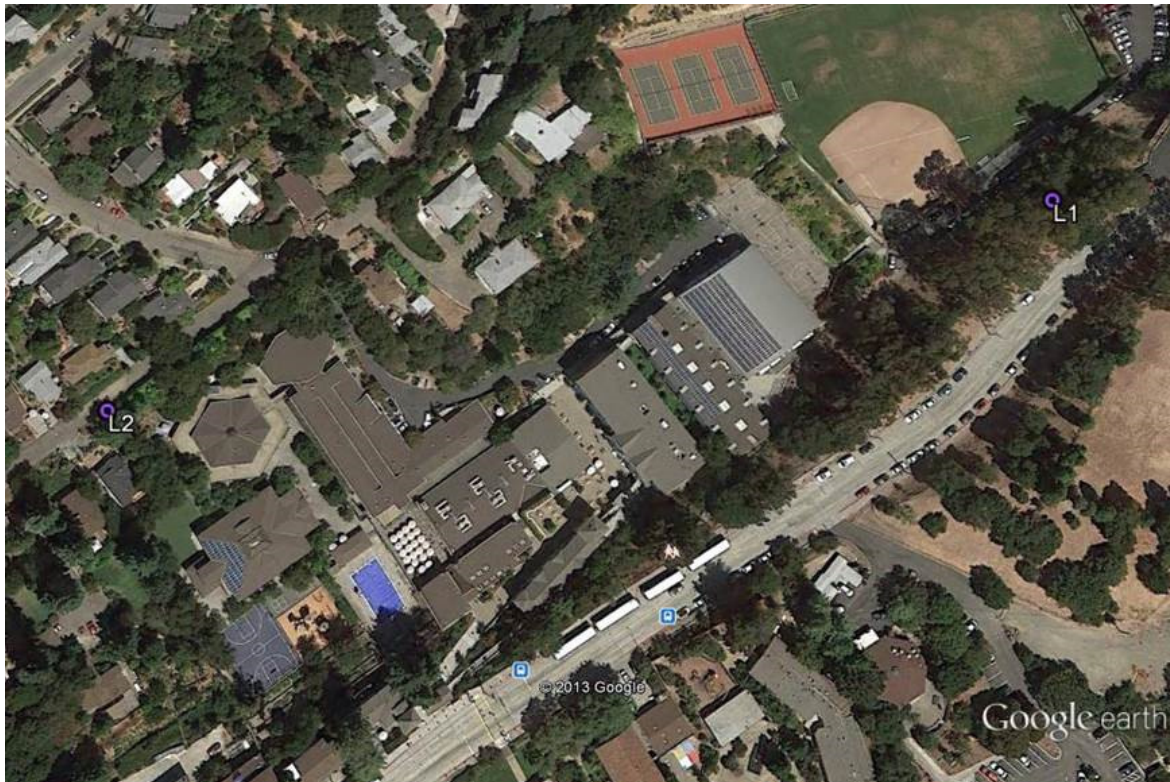


Figure 1 Aerial photo and Noise Measurement Locations

Table 1 below summarizes the City of Oakland noise limits for residential receivers (per Planning Code 17.020.050). The City limits the cumulative number of minutes that a sound can be received at a noise sensitive neighbor, as shown in the left column; the noise limits are shown in the second from left column. The table also indicates the measured results on Saturday near Lincoln Avenue, rounded to the nearest whole number. The walk-a-thon occurred from approximately 11:30 AM to 2:30 PM in the vicinity of the athletic field.

In all cases, the measured noise levels are less than the Oakland requirements. The exceptions were infrequent sounds caused by trucks and motorcycles on Lincoln Avenue, and the high wind. The noise logger made short sound recordings for every sound that exceeded 75 dBA. In some of the samples recorded during the walk-a-thon period, some voices can be heard in the background – but those samples the dominant noise was a car or truck along Lincoln Avenue.

Table 1 Noise limits and measured levels during walkathon, Saturday, October 5, 2013 at L1

Cumulative minutes per Hour	Noise Limit	Hour of the day							
		9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM
20	60	58	56	56	59	58	57	51	52
10	65	62	61	60	62	61	61	60	60
5	70	65	64	64	64	64	63	64	64
1	75	70	69	68	68	68	67	69	68
0	80	76	83	73	77	80	80	88	89
Gray boxes indicate that the maximum sound events were caused by non-Head Royce sources (e.g., trucks, motorcycles, high wind)									

Table 2 below summarizes similar information at the Whittle Avenue location during the school day on Friday. As with the noise logger at Location 1, noise samples were recorded for events exceeding 75 dBA. In a few cases, during morning recess (around 10:30 AM) and after lunch (12:30-12:50 PM) the sounds of children playing are clearly audible and the source of the maximum noise level shown in Table 2. At other times, delivery trucks and other vehicles on Whittle Avenue caused the recordings to trigger. As with Location 1, the noise levels are all well below the Oakland Noise Ordinance limits.

Table 2 Noise limits and measured levels during school day, Friday, October 4, 2013 at L2

Cumulative minutes per Hour	Noise Limit	Hour of the day							
		9 AM	10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM
20	60	47	52	51	54	46	45	44	42
10	65	51	57	54	58	49	47	47	45
5	70	57	64	60	63	55	63	63	62
1	75	64	68	65	68	63	60	62	60
0	80	79	77	75	76	71*	77	81	75*
Gray boxes indicate that the maximum sound events were caused by non-Head Royce sources (e.g., trucks, motorcycles and other vehicles, high wind)									
* Noise source unverified									

There are periods when the high wind was obviously a dominant part of the noise environment, for instance during the late night and early morning periods when the ambient noise environment is usually well below the daytime noise environment. However, the wind was also a contributor to the noise

environment during the daytime, causing the leaves in the trees to make noise and increase the ambient conditions. Nevertheless, as shown in Figures 2 and 3, except for the maximum noise levels (caused by non-Head Royce sources,) the noise level during daytime hours was well below the City requirements at Location 1.

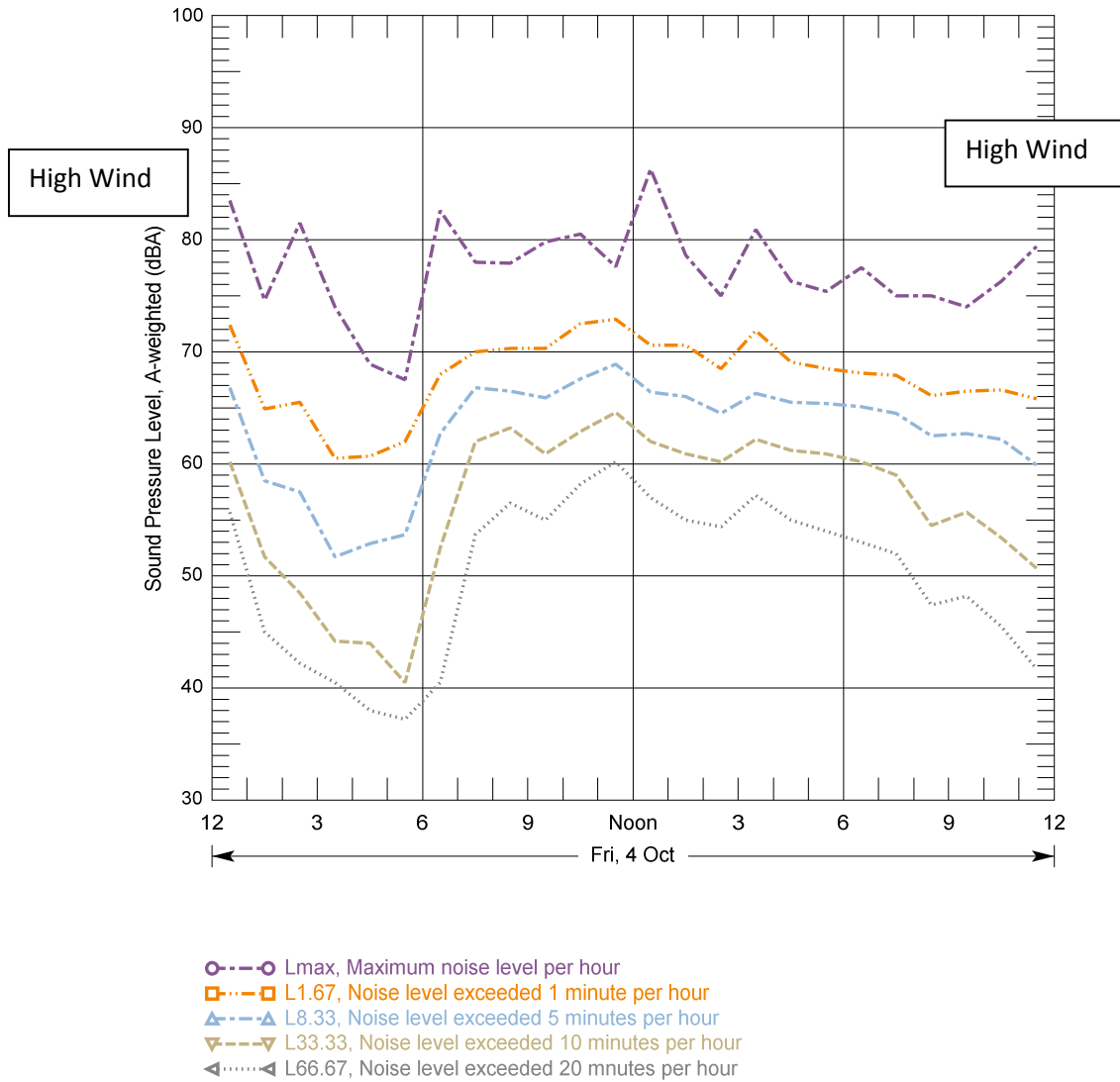


Figure 2 24-hour Summary of Hourly Noise Levels, Friday October 4 at L1

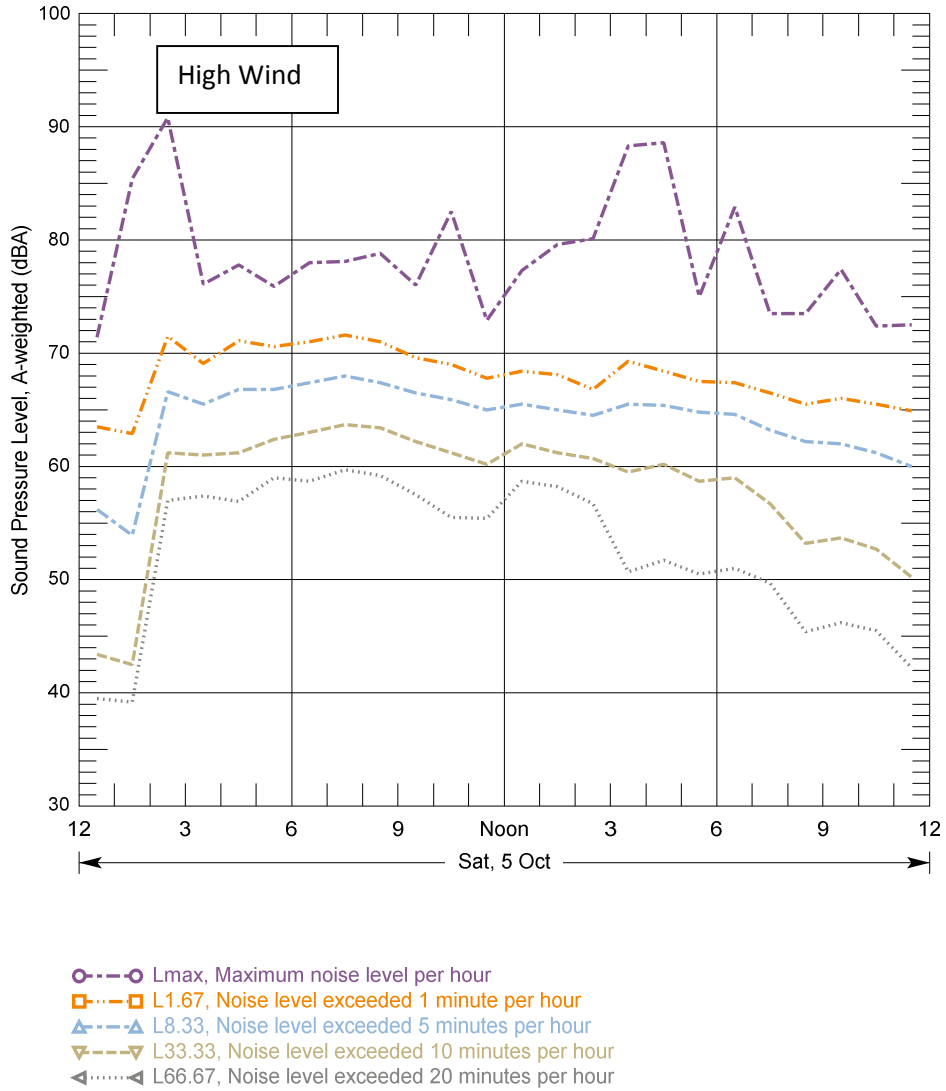


Figure 3 24-hour Summary of Hourly Noise Levels, Saturday October 5 at L1

Figures 3 and 4 show similar results along Whittle Avenue at Location 2.

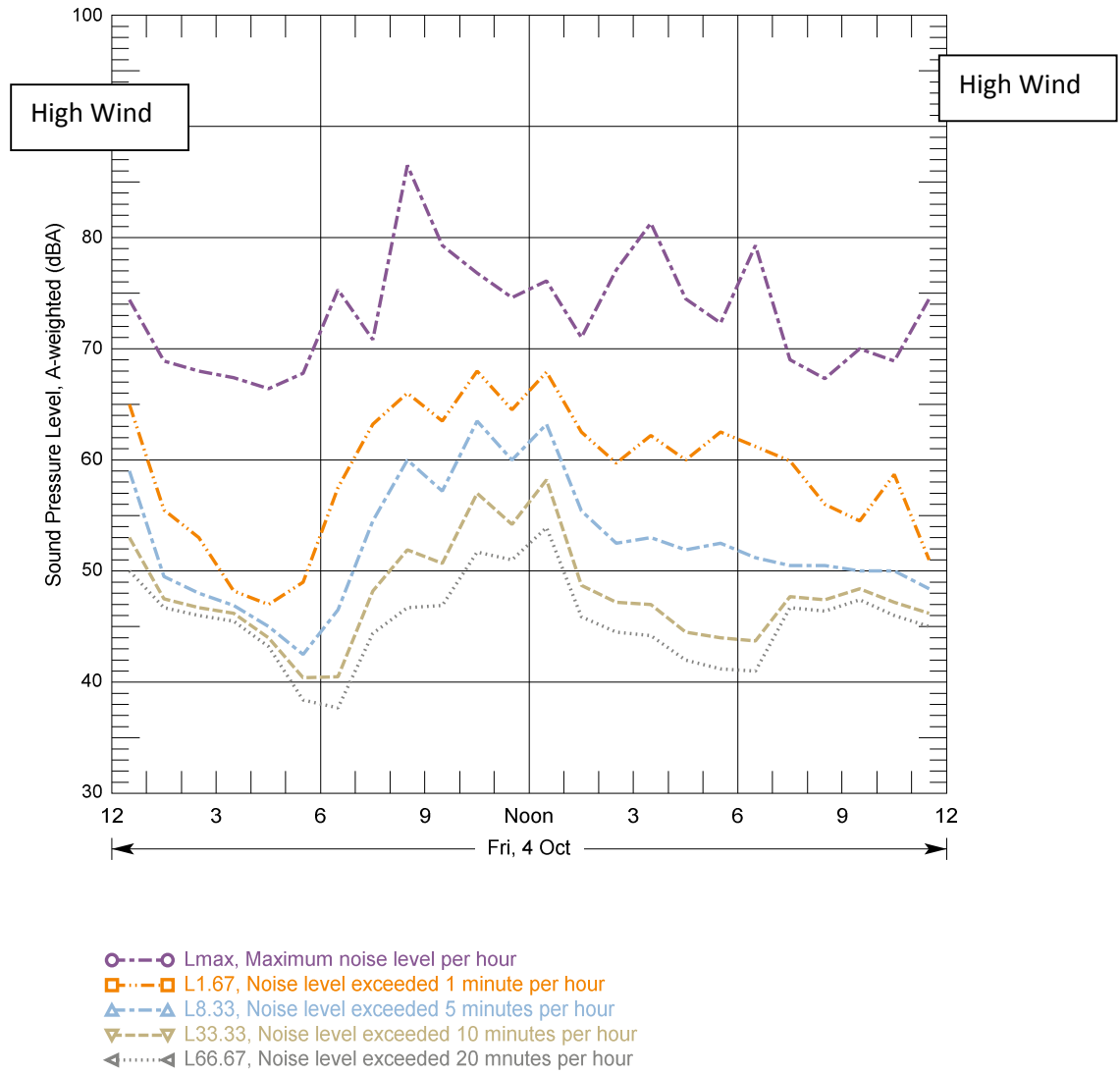


Figure 4 24-hour Summary of Hourly Noise Levels, Friday October 4 at L2

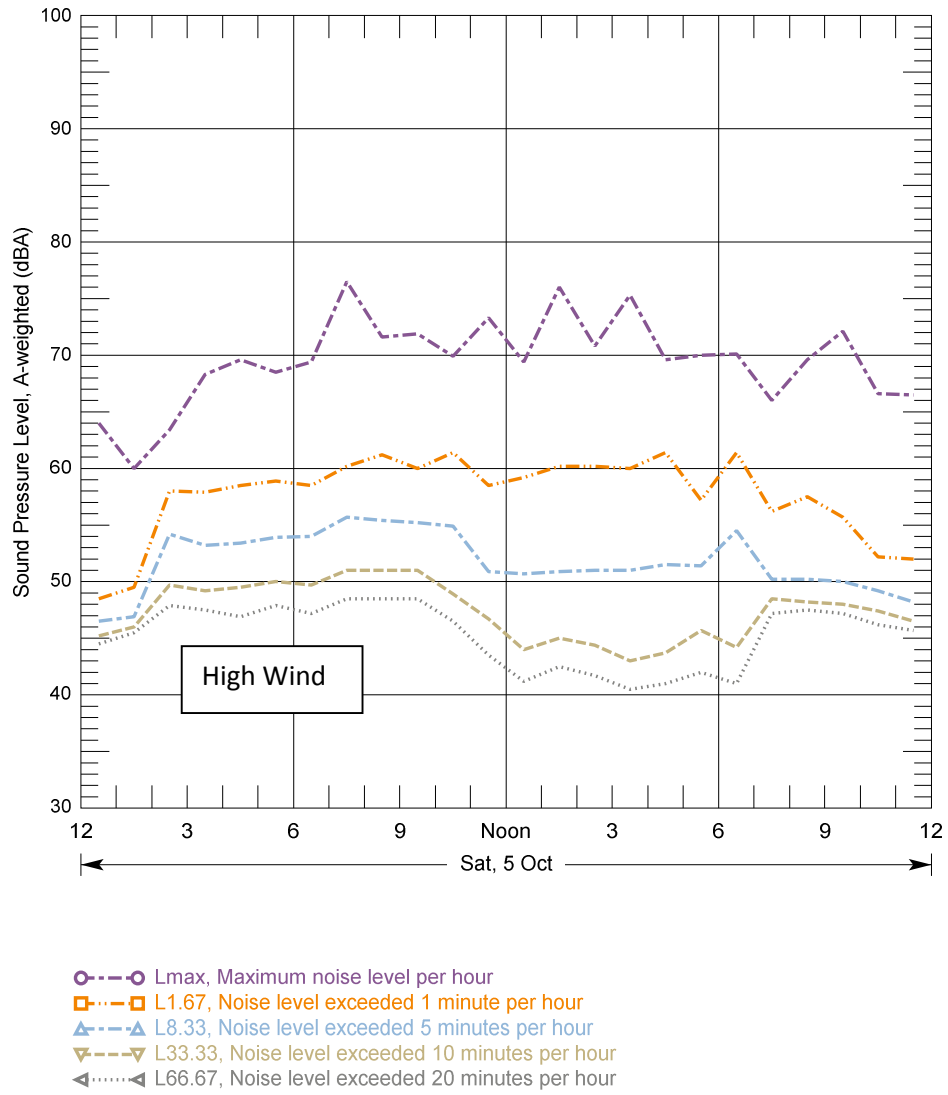


Figure 5 24-hour Summary of Hourly Noise Levels, Saturday October 5 at L2