Shiner Acoustics, LLC
Acoustical Engineers
225 W Washington St. Suite 1625, Chicago, Illinois 60606
Phone 312 849-3340 Fax 312 849-3344 www.shineracoustics.com

New Trier High School
385 Winnetka Avenue
Winnetka, IL 60093

November 18, 2019

Attn: Mr. Steve Linke

Re: Measurement of Dust Collector Noise

Dear Steve:

On the early morning of Friday, November 15, 2019, we returned to the school to conduct additional acoustical testing. The purpose of this testing was to document any change in property line sound levels due to installation of a barrier wall on the south side of the dust collector and associated ductwork. Previous dust collector readings were conducted on July 12, 2019, July 25, 2015 and May 31, 2018. Comparative photos from July 25, 2018 (without the barrier) and November15, 2019 (after barrier construction) taken from Woodland Avenue looking northeast into the loading dock are presented as Figures 1 and 2 on the following page, respectively:

Acoustical Measurements

We again conducted sound level readings at the west edge of the public sidewalk at the north property line of 124 Woodland Ave. on Friday, November 15, 2019 between 5:42 a.m. and 5:53 a.m. This time was chosen to be a period when car traffic would be at a minimum.

We used the following instrumentation for these measurements:

- Norsonic 140 integrating sound level meter/real time analyzer
- Norr 1225 1/2 inch condenser microphone
- Norr 1209 preamplifier
- Nor 1251 Sound Calibrator
- Windscreen

The meter and measurement microphone were hand held at an approximate height of 4-1/2 ft above ground level. Pavement was icy but dry, the temperature was 23° F and the wind was WSW calm to 3 mph.

Because of previous interference due to transportation noise in the area, 15 second readings were taken with the dust collector operating and with it off. We corrected data with the dust collector operating for ambient conditions. Although Illinois requires a measurement duration of one hour, the dust collector noise is steady state and does not vary with time.

When compared to the Illinois Pollution Control Board daytime property line noise standards (Illinois Administrative Code, Title 35, Subtitle H, Chapter I, Sections 901.102(a)), Figure 3 and Table 1 below show that compliance is met at all frequency bands.

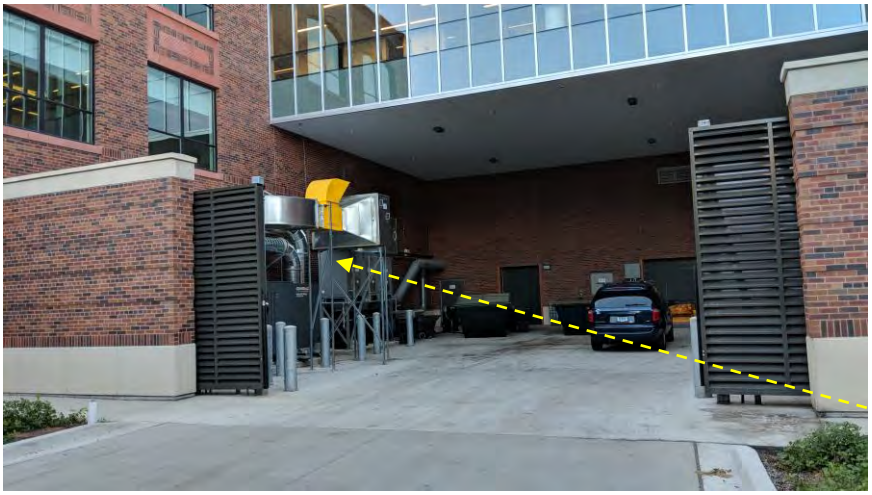


Figure 1. Dust Collector Prior to Construction of Acoustic Barrier – July 25, 2018

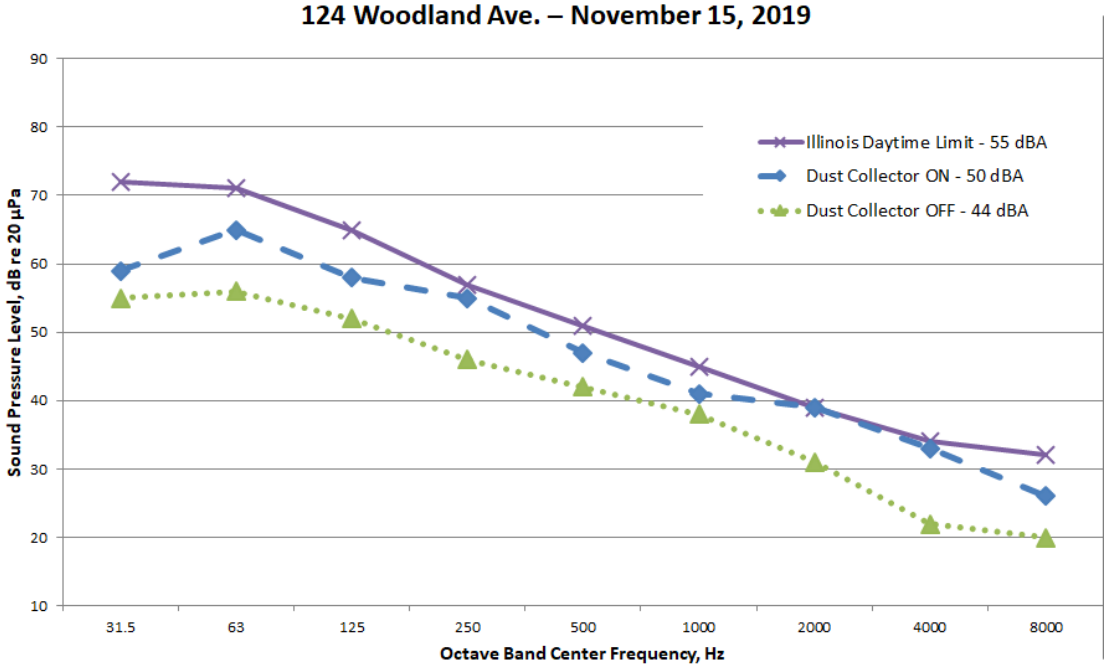
Figure 2. Dust Collector (Hidden) After Construction of Barrier – November 15, 2019

Table 1. Results of Study – New Trier High School New Building – Dust Collector
124 Woodland Ave. – Previous Measurements

Octave Band Sound Pressure Level, dB re 20 µPa

	31.5	63	125	250	500	1000	2000	4000	8000	Awt
5/31/18 Dust Collector	68	70	65	62	51	44	44	43	41	57
7/25/18 Dust Collector	57	68	62	57	50	44	44	41	36	54
7/12/19 Dust Collector	60	73	63	59	49	43	43	39	34	56
11/15/19 Dust Collector	**59**	**65**	**58**	**55**	**47**	**41**	**39**	**33**	**26**	**50**
Illinois Daytime Limit	72	71	65	57	51	45	39	34	32	55

Figure 3. New Trier High School Dust Collector Operation
124 Woodland Ave. – November 15, 2019



Conclusion

The most recent November 15, 2019 measurements show that the installation of the barrier wall resulted in reduction of mid and higher frequency sound levels. Operation of the dust collector now complies with Illinois daytime limits in all frequency bands. No further mitigation is required for continuous operation of the dust collector between 7:00 a.m. and 10:00 p.m.

If you have questions concerning this report, please do not hesitate to contact us.

Respectfully submitted,

Shiner Acoustics, LLC

Brian L. Homans

BLH/mt/13