



October 15, 2023

Christopher Yuen
Community Development Director
City of Essex Junction
2 Lincoln Street
Essex Junction, Vermont 05452

RE: Environmental Sound Monitoring – Demolition Derby

Dear Mr.Yuen;

Vermont Air Testing Services (VATS) was retained by the City of Essex Junction to perform perimeter environmental sound monitoring at the Champlain Valley Exposition (CVE) for selected outdoor events held at the facility throughout the 2023 summer concert and fair season. Sound monitoring was performed using two Quest Technologies Sound Pro DL Type II integrating/logging sound level meters (SLM) setup to collect broadband sound level readings. The two SLMs used for the monitoring were configured to log average sound pressure levels every 5 seconds in the broadband or A-weighted scale. Both meter's microphones were fitted with a windscreens to minimize wind disturbance. Each meter was calibrated to a 114 decibel (dB) tone prior to the monitoring event and the calibration was checked following the sound monitoring event.

Two SLMs were deployed for the Demolition Derby event held in the Grandstand at the CVE facility on August 31, 2023. Both the east and west fence-line boundaries were monitored for sound levels. The east boundary meter was located approximately 50 feet south of the Green Gate along the fence line, adjacent to the Midway fair rides. The second SLM, identified as the West Meter, was placed along the western property boundary on the berm along Weston Way in direct line of sight of the Grandstand sound system tower. The Demolition Derby began at approximately 7 pm with a musical act performing on the Grandstand stage beginning at 6:30 pm. The sound monitoring began with the musical act before the demolition derby, which started at approximately 6:30 pm. The entire event last approximately 3 hours with the sound monitoring occurring throughout the event.

The weather during the event was fair skies with calm winds and temperatures in the mid 60's to the high 50's throughout the show. Sound monitoring along the western boundary began at approximately 7:00 pm with the eastern boundary monitoring beginning approximately 6:45 pm on August 31st. The sound monitoring concluded after the completion of the demolition derby at approximately 9:30 pm along both boundaries. Both meters monitored the sound levels continuously throughout the event from the beginning of the event to its conclusion. The sound monitoring data is presented for both meters in the attached charts and a summary of the monitoring data is provided below.

The maximum allowable hourly average sound level is established at 78 dBA with the maximum 5-minute average sound level set at 83 dBA. The table below presents the SLM east property line hourly average sound data, the maximum measured sound level, and the time duration of sound levels above maximum allowable sound level in minutes.

Table 1: East Property Line Data

	Hour 1	Hour 2	Hour 3
Hourly Average (dBA)	69.4	69.6	71.3
Max Sound Level (dBA)	75.8	76.4	77.5
Time Above Max Level (min)	0.3	0.0	0.0

The data presented above indicates the hourly average sound limits were not exceeded at any time during the concert event. The maximum sound level was not exceeded along the east property boundary throughout the event. The maximum sound limit is defined as a sustained maximum five-minute average in the established sound criteria limits (83 dBA).

The west property line sound monitoring data is presented below in the same manner as the east property line data above.

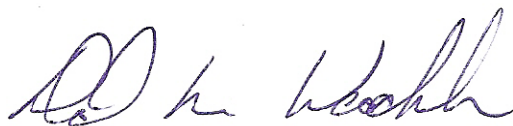
Table 2: West Property Line Data

	Hour 1	Hour 2	Hour 3
Hourly Average (dBA)	59.0	59.1	62.6
Max Sound Level (dBA)	74.7	70.9	78.7
Time Above Max Level (min)	0.0	0.0	0.0

The data listed above indicates the west side property line sound levels were all below the 78 dBA average limit during the concert monitoring event. The maximum sound levels were also maintained below the 83 dBA limit without exception.

The sound level data is presented in attached charts for the SLMs used during the Demolition Derby event held on August 31, 2023. The sound levels measured throughout the event did not exceed the established sound level criteria without exception. The established sound level criteria used for monitoring outdoor events held at the Champlain Valley Exposition are defined in the Noise Indemnification Agreement between the Champlain Valley Exposition and the City of Essex Junction.

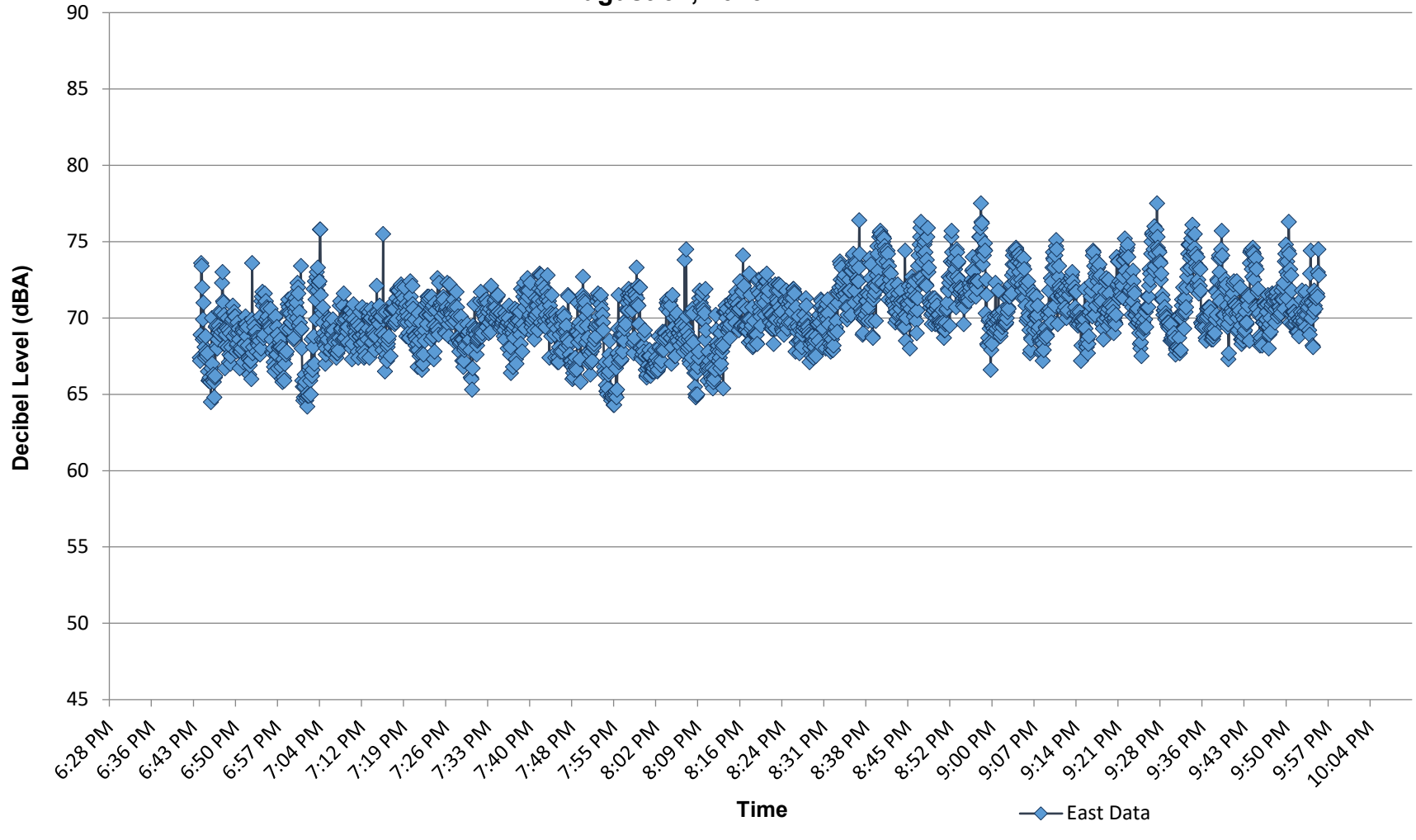
Best regards,



Principal

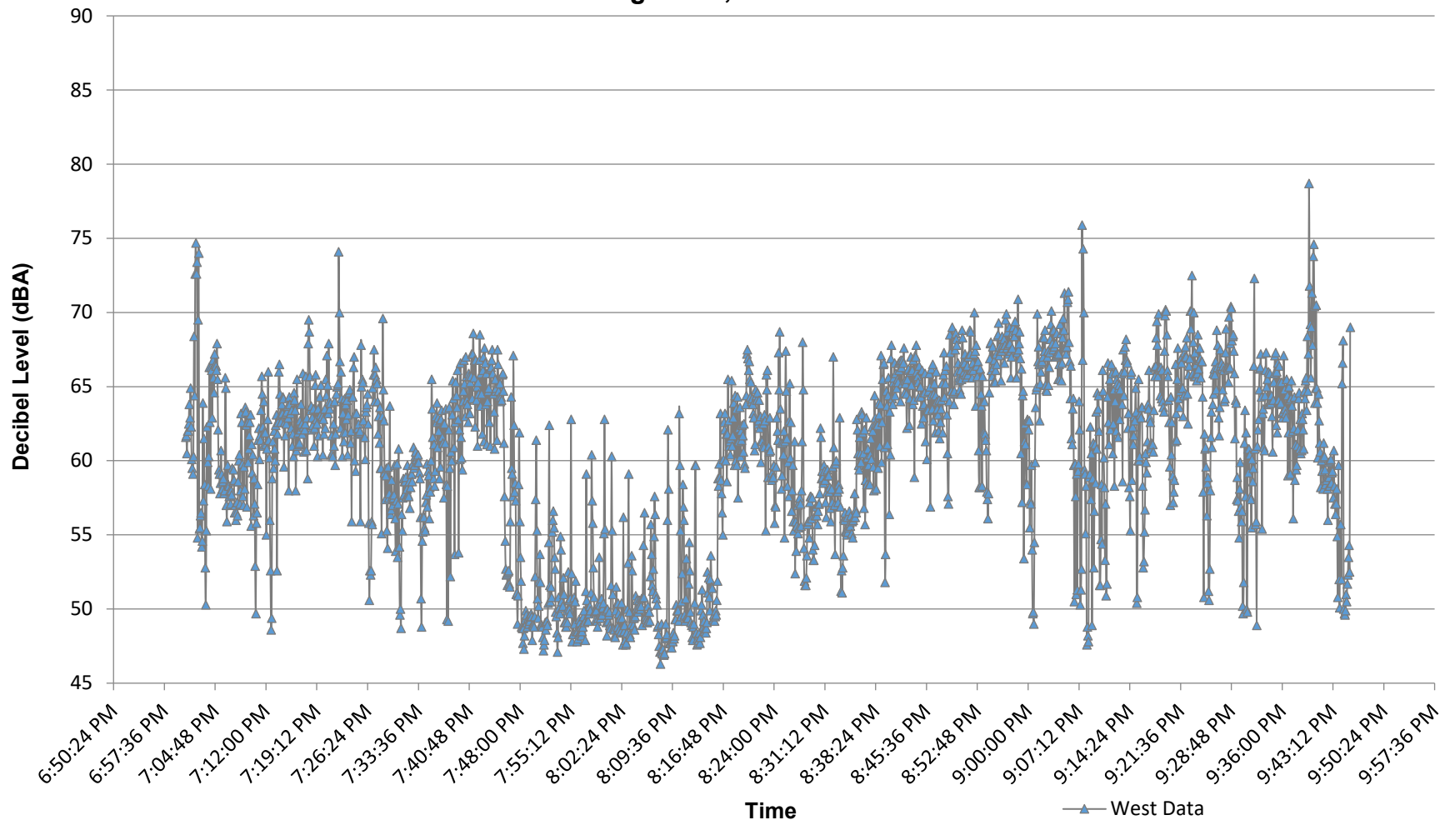
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Champlain Valley Exposition Demolition Derby - East Boundary Noise Monitoring August 31, 2023



	Hour 1	Hour 2	Hour 3
Hourly Avg	69.4	69.6	71.3
Max Levels	75.8	76.4	77.5
Exceeding Limit (min)	0.0	0.0	0.0

Champlain Valley Exposition Demolition Derby - West Boundary Monitoring August 31, 2023



	Hour 1	Hour 2	Hour 3
Hourly Avg	59.0	59.1	62.6
Max Levels	74.7	70.9	78.7
> 83 dBA (sustained time > 83 dB, in minutes)	0.0	0.0	0.0