



August 25, 2021

Robin Pierce  
Development Director  
Village of Essex Junction  
2 Lincoln Street  
Essex Junction, Vermont 05452

RE: Environmental Sound Monitoring – Twiddle Concerts

Dear Mr. Pierce;

Vermont Air Testing Services (VATS) was retained by the Village 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 2021 summer concert 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 windscreen 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 both nights of the Twiddle Concert events held in the Midway area at the CVE facility on August 6 and August 7, 2021. Both the east and west fence-line boundaries were monitored for sound levels. The east boundary meter was located approximately 200 feet south of the Green Gate along the fence line, behind the Midway stage. The west boundary meter was located along the fence-line behind the Blue Ribbon Pavilion building. The Friday, August 6<sup>th</sup> concert was a 3-plus hour event beginning at 7:00 pm on the Midway stage and the Saturday, August 7<sup>th</sup> concert was a 2-plus hour event beginning at 8 pm. The Midway stage was oriented to the western property line. Both SLMs began collecting sound data prior to the beginning of the show until its conclusion.

The August 6<sup>th</sup> weather for the concert was fair skies with light winds out of the south up to 8 mph with temperatures ranging from the low 80's at the beginning to mid 70's by the conclusion of the show. Sound monitoring along the eastern boundary began at 6:30 pm with the western boundary monitoring beginning approximately 6:50 pm. The Saturday, August 7<sup>th</sup> weather for the concert was partly to mostly cloudy skies with the winds out of the east up to 6 mph and the temperatures were in the low 70's throughout the event. The sound monitoring began around 8 pm for the Saturday concert event and concluded after the show at approximately 10:30 pm. Both meters monitored the sound levels continuously throughout the events from the beginning of each concert to their conclusion. The sound monitoring data is presented for both meters and both nights 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 levels and the time duration of sound levels above maximum allowable sound level in minutes.

Table 1: East Property Line Data – August 6th

	Hour 1	Hour 2	Hour 3	Hour 4
Hourly Average (dBA)	57.7	61.9	63.3	66.6
Max Sound Level (dBA)	69.9	76.7	74.9	73.3
Time Above Max Level (min)	0.0	0.0	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 – August 6th

	Hour 1	Hour 2	Hour 3	Hour 4
Hourly Average (dBA)	56.1	61.6	58.1	56.6
Max Sound Level (dBA)	67.9	76.2	73.6	67.7
Time Above Max Level (min)	0.0	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.

Table 3: East Property Line Data – August 7th

	Hour 1	Hour 2	Hour 3
Hourly Average (dBA)	61.6	63.5	65.6
Max Sound Level (dBA)	72.3	74.6	75.2
Time Above Max Level (min)	0.0	0.0	0.0

Again, the data presented in Table 3 indicates the hourly average sound limits were not exceeded at any time during the concert event. The maximum sound level was also 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 in Table 4 below shows similar results as the east property line data above.

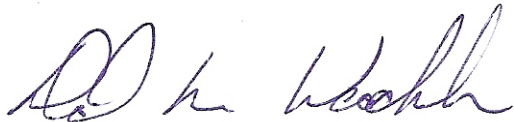
Table 4: West Property Line Data – August 7th

	Hour 1	Hour 2	Hour 3
Hourly Average (dBA)	56.1	61.6	58.1
Max Sound Level (dBA)	67.9	76.2	73.6
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 Twiddle Concert events held on August 6 and August 7, 2021. 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 Village of Essex Junction.

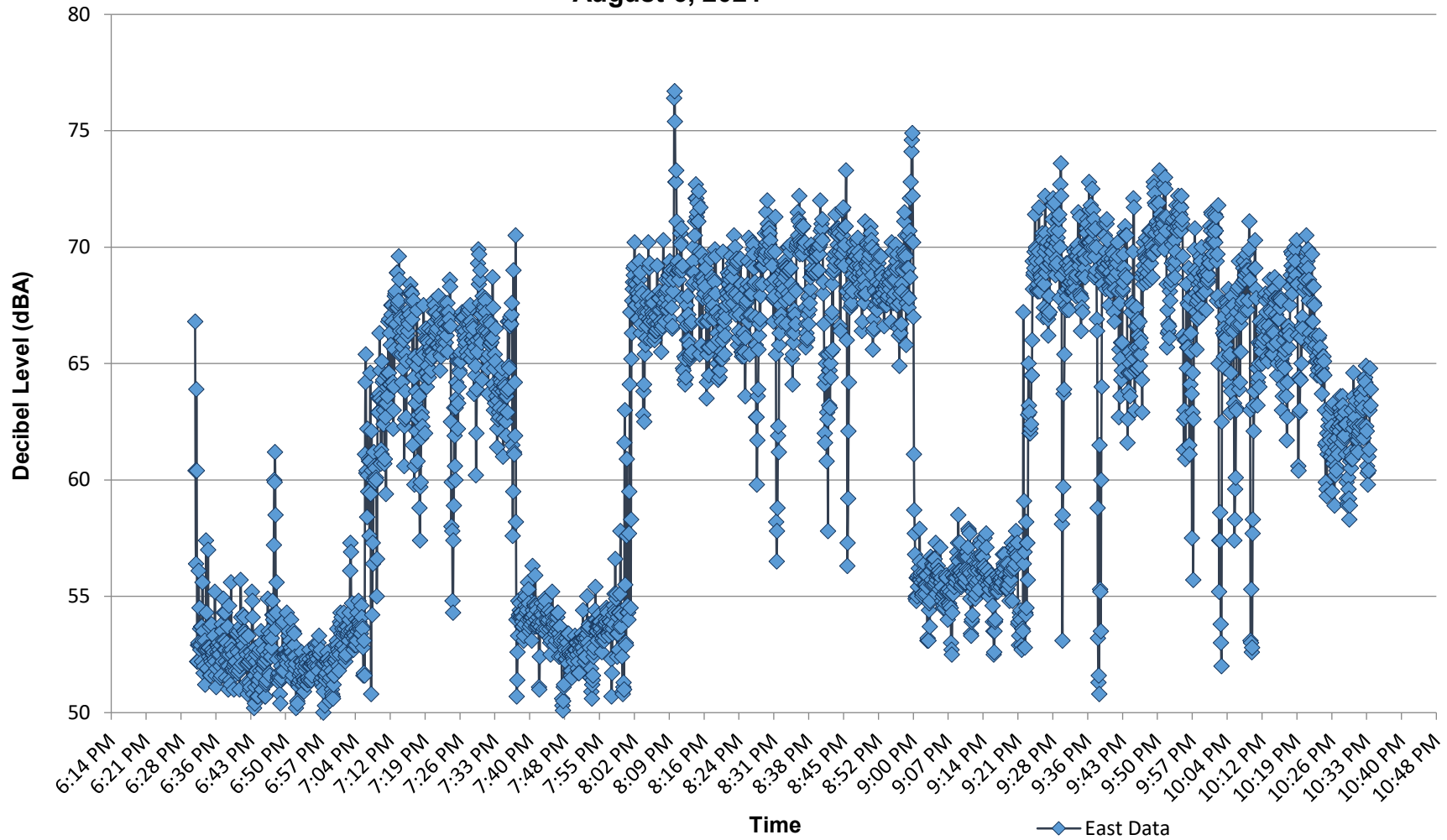
Best regards,



Principal

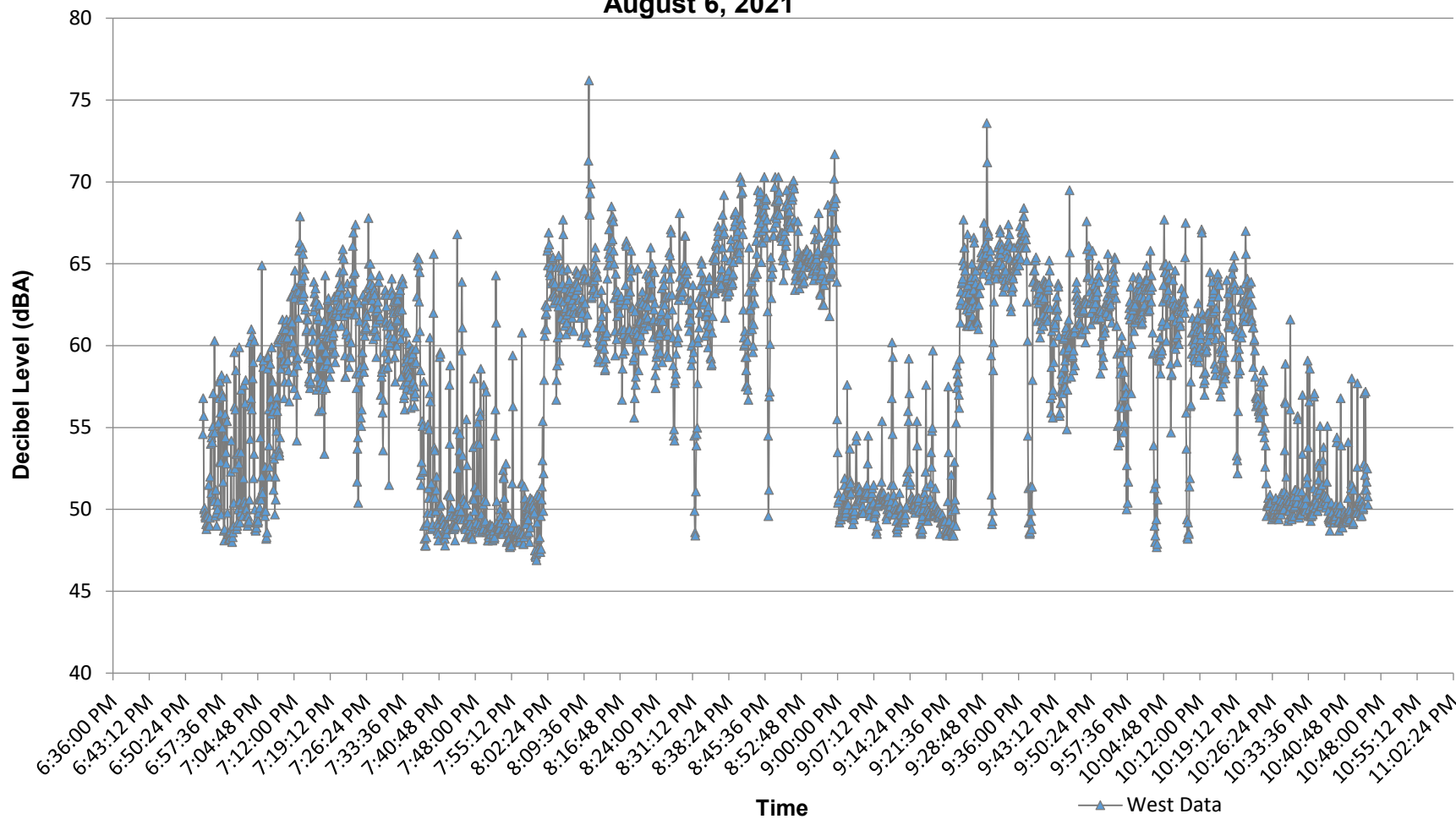
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# **Champlain Valley Exposition Twiddle Concert - East Boundary Noise Monitoring August 6, 2021**



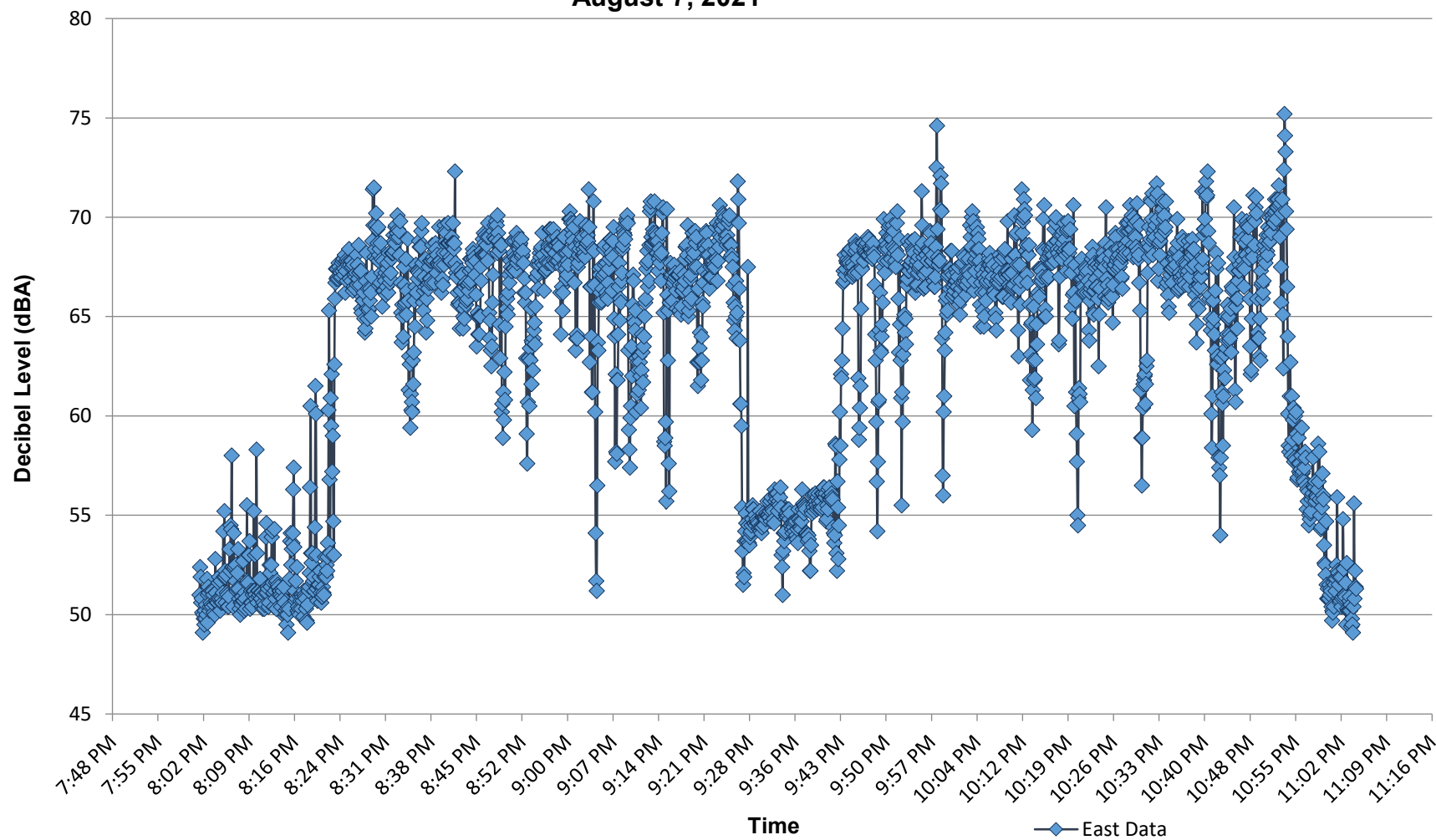
	Hour 1	Hour 2	Hour 3	Hour 4
Hourly Avg	57.7	61.9	63.3	66.6
Max Levels	69.9	76.7	74.9	73.3
Exceeding Limit (min)	0.0	0.0	0.0	0.0

# **Champlain Valley Exposition Twiddle Concert - West Boundary Monitoring August 6, 2021**



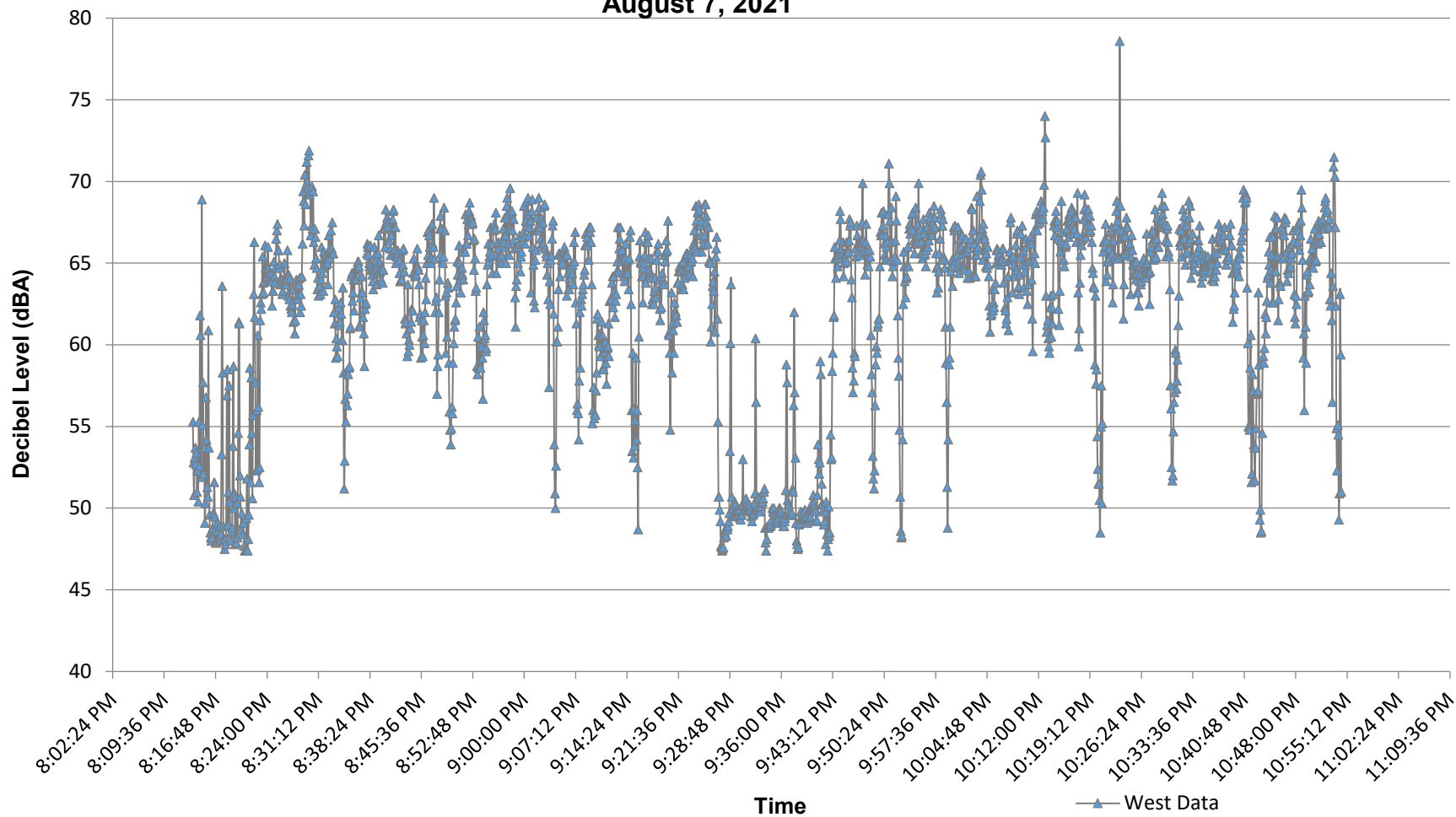
	Hour 1	Hour 2	Hour 3	Hour 4
Hourly Avg	56.1	61.6	58.1	56.6
Max Levels	67.9	76.2	73.6	67.7
> 83 dBA (sustained time > 83 dB, in minutes)	0.0	0.0	0.0	0.0

# **Champlain Valley Exposition Twiddle Concert - East Boundary Noise Monitoring August 7, 2021**



	Hour 1	Hour 2	Hour 3
Hourly Avg	61.6	63.5	65.6
Max Levels	72.3	74.6	75.2
Exceeding Limit (min)	0.0	0.0	0.0

**Champlain Valley Exposition  
Twiddle Concert - West Boundary Monitoring  
August 7, 2021**



	Hour 1	Hour 2	Hour 3
Hourly Avg	62.1	60.7	64.3
Max Levels	71.9	74.0	78.6
> 83 dBA (sustained time > 83 dB, in minutes)	0.0	0.0	0.0