



September 26, 2023

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

RE: Environmental Sound Monitoring – Billy Strings Concerts

Dear Mr. Yuen;

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 2023 summer 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.

The Billy Strings Concert was a two-night event held in the Midway area at the CVE facility on July 22nd and July 23rd, 2023. Two SLMs were deployed for each night of the concert event with the east and west fence-line boundaries being 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. Both concerts were approximately 3-hour events with sound monitoring covering the entire event. The music began each evening at approximately 7:30 pm on the Midway stage, which was oriented to the western property line and concluded at approximately 10:15 pm. Both SLMs collected sound data at the beginning of the show until after its conclusion.

The weather for the Saturday night show was mostly cloudy to fair skies with calm winds and temperatures started in the low 70's and dropped to the high 60's by the end of the show. The Sunday night show's weather was again mostly cloudy skies with calm winds, although the temperatures were higher, ranging from the low 80's to the low 70's at the conclusion of the Sunday night show. Sound monitoring along both the eastern and western boundaries began between 6:30 pm and 7:15 pm for both nights. The sound monitoring concluded soon after the show ended each night before 11:00 pm along both boundaries. Both meters monitored the sound levels continuously throughout the event from the beginning of the concert 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 Saturday, July 22nd

	Hour 1	Hour 2	Hour 3	Hour 4	Hour 5
Hourly Average (dBA)	59.1	68.9	64.4	64.0	52.6
Max Sound Level (dBA)	75.0	75.9	75.7	75.4	55.0
Time Above Max Level (min)	0.0	0.0	0.0	0.0	0.0

The data presented above for the Saturday night east property line indicates the hourly average sound limits were not exceeded at any time during the concert. 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 Saturday night concert 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 Saturday, July 22nd

	Hour 1	Hour 2	Hour 3	Hour 4
Hourly Average (dBA)	70.6	69.4	76.1	67.5
Max Sound Level (dBA)	82.7	85.8	84.7	82.8
Time Above Max Level (min)	0.0	1.1	0.3	0.0

The data listed above indicates the Saturday night 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 for less than the 5-minute average without exception.

Table 3: East Property Line Data Sunday, July 23rd

	Hour 1	Hour 2	Hour 3	Hour 4	Hour 5
Hourly Average (dBA)	55.6	70.1	64.6	66.1	54.5
Max Sound Level (dBA)	75.4	78.7	79.0	77.4	62.6
Time Above Max Level (min)	0.0	0.0	0.0	0.0	0.0

The data presented above for the Sunday night concert east property line indicates the hourly average sound limits were not exceeded at any time during the concert. 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 Sunday night west property line sound monitoring data is presented below in the same manner as the east property line data above.

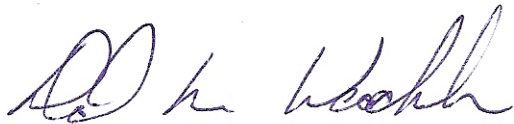
Table 4: West Property Line Data Sunday, July 23rd

	Hour 1	Hour 2	Hour 3	Hour 4
Hourly Average (dBA)	63.4	70.5	73.7	75.8
Max Sound Level (dBA)	80.4	81.6	86.0	81.3
Time Above Max Level (min)	0.0	0.0	0.2	0.0

The data shows the Sunday night concert 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 for less than the 5-minute average without exception.

The sound level data is presented in attached charts for the SLMs used during the Billy Strings Concert events held on July 22, 2023, and July 23, 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 Village of Essex Junction.

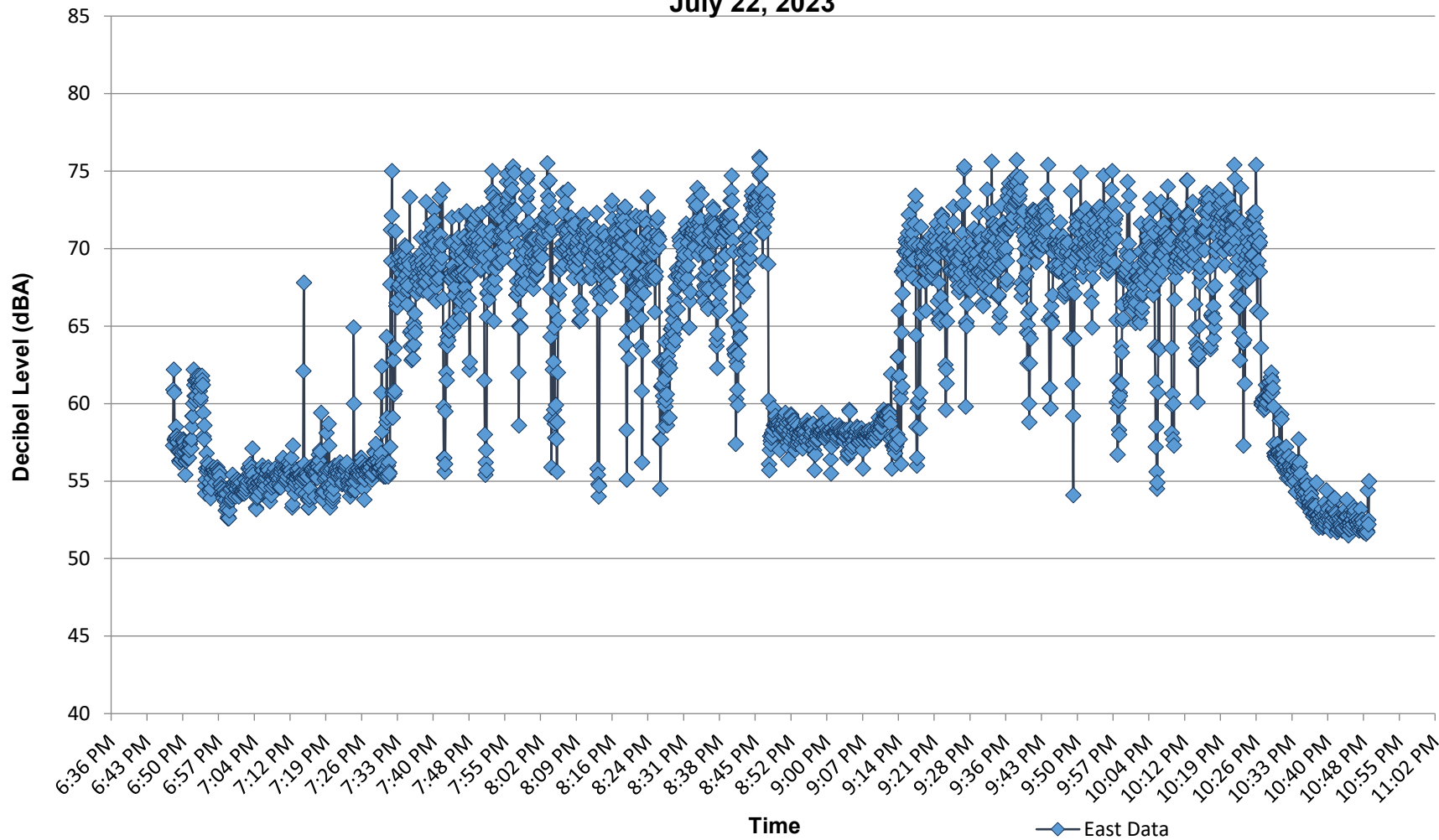
Best regards,



Principal

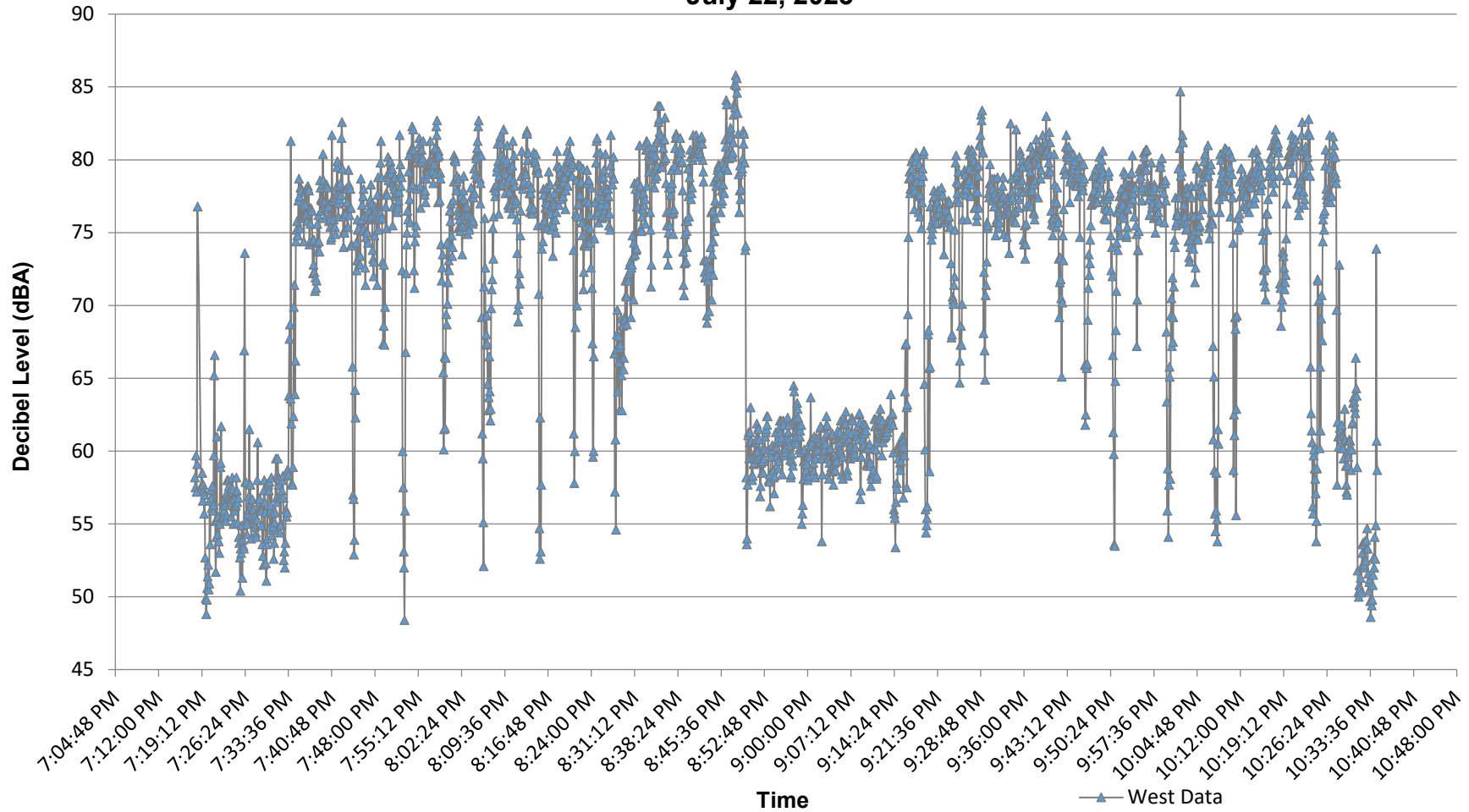
C:\Users\dwechsler\Downloads\Billy Strings Concerts 2023.docx

Champlain Valley Exposition
Billy Strings Concert - East Boundary Noise Monitoring
July 22, 2023



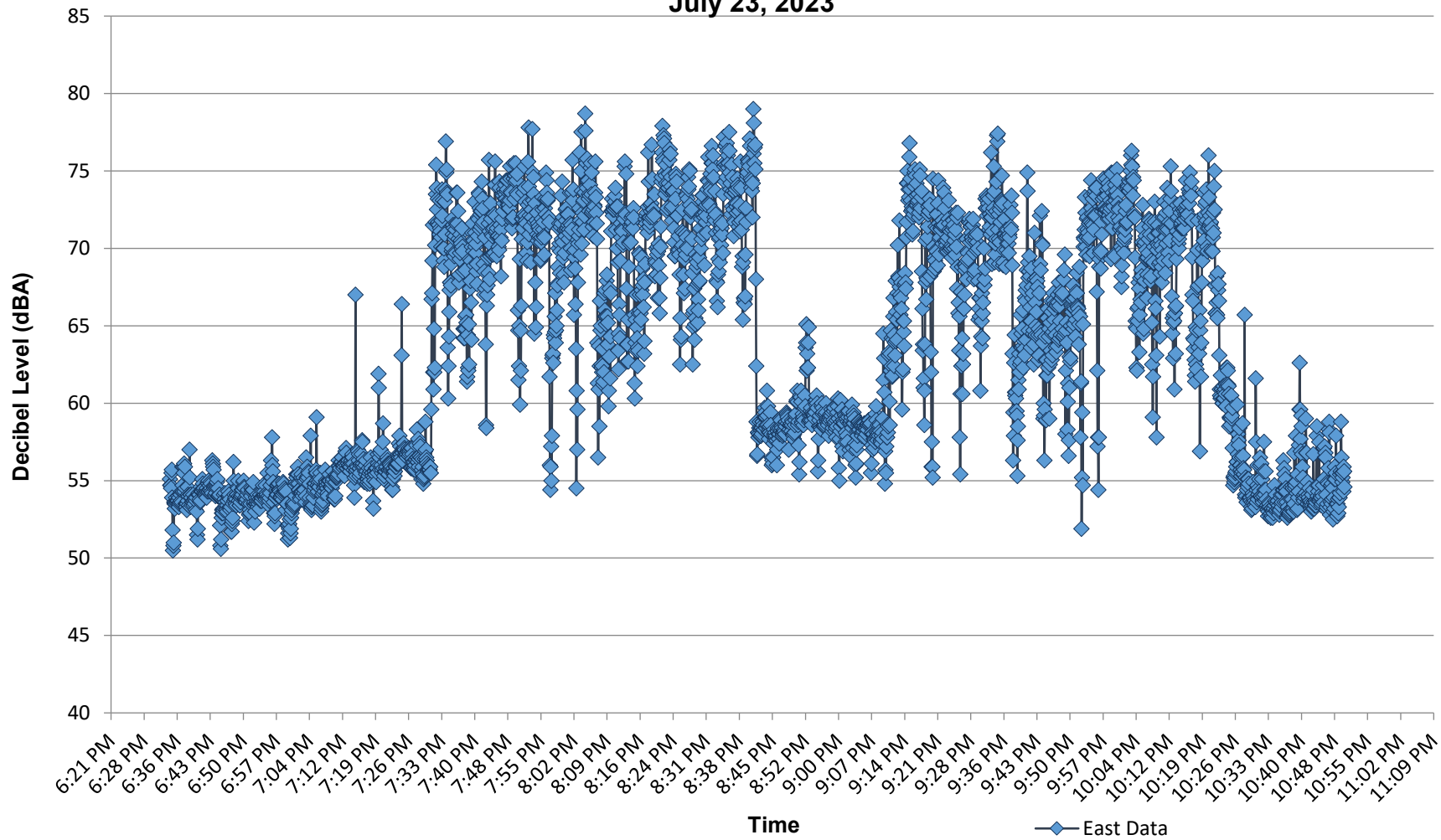
	Hour 1	Hour 2	Hour 3	Hour 4	Hour 5
Hourly Avg	59.1	68.9	64.4	64.0	52.6
Max Levels	75.0	75.9	75.7	75.4	55.0
Exceeding Limit (min)	0.0	0.0	0.0	0.0	0.0

Champlain Valley Exposition Billy Strings Concert - West Boundary Monitoring July 22, 2023



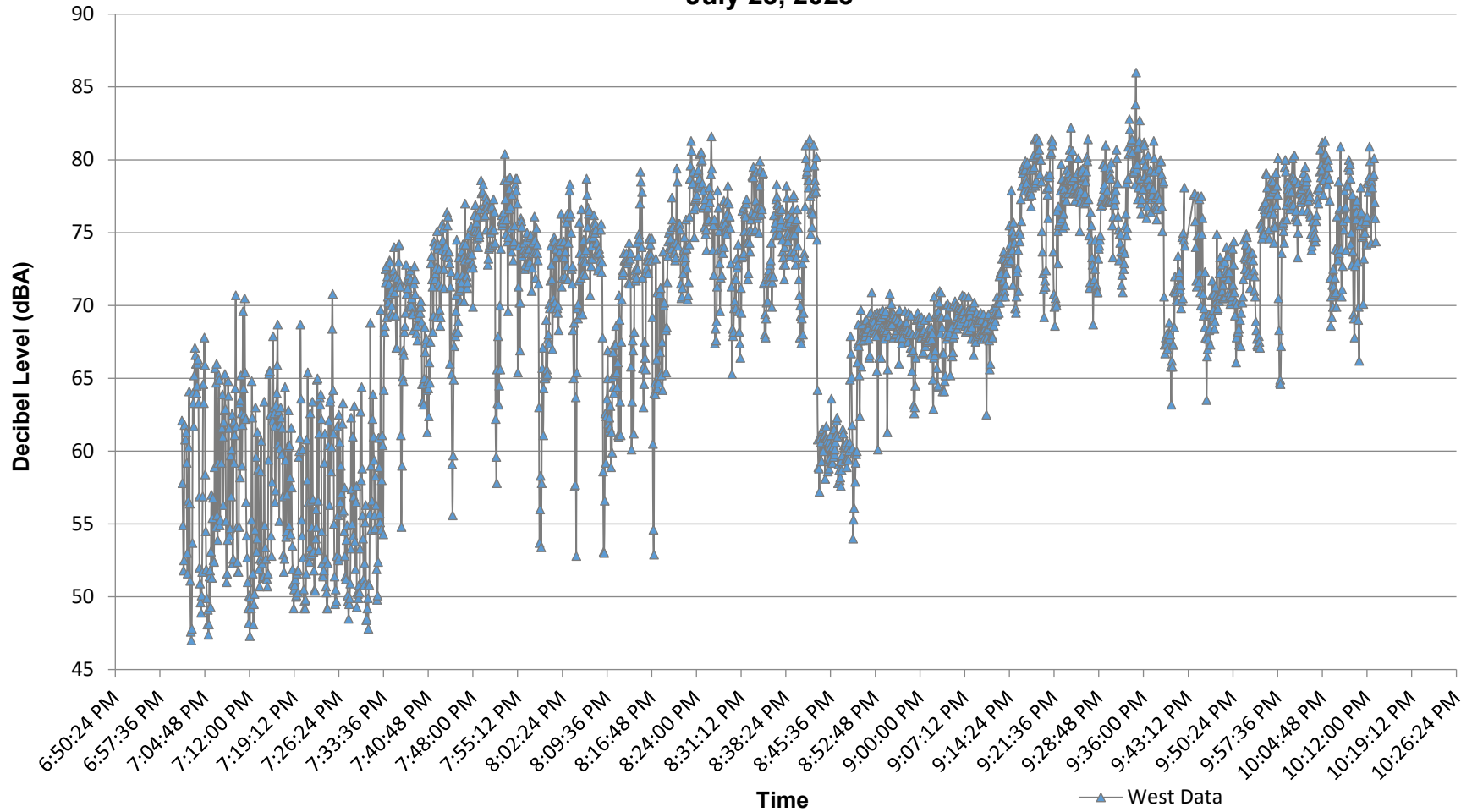
	Hour 1	Hour 2	Hour 3	Hour 4
Hourly Avg	70.6	69.4	76.1	67.5
Max Levels	82.7	85.8	84.7	82.8
> 83 dBA (sustained time > 83 dB, in minutes)	0.0	1.1	0.3	0.0

Champlain Valley Exposition
Billy Strings Concert - East Boundary Noise Monitoring
July 23, 2023



	Hour 1	Hour 2	Hour 3	Hour 4	Hour 5
Hourly Avg	55.6	70.1	64.6	66.1	54.5
Max Levels	75.4	78.7	79.0	77.4	62.6
Exceeding Limit (min)	0.0	0.0	0.0	0.0	0.0

Champlain Valley Exposition Billy Strings Concert - West Boundary Monitoring July 23, 2023



	Hour 1	Hour 2	Hour 3	Hour 4
Hourly Avg	63.4	70.5	73.7	75.8
Max Levels	80.4	81.6	86.0	81.3
> 83 dBA (sustained time > 83 dB, in minutes)	0.0	0.0	0.2	0.0