RUNCORN EFW FACILITY

Mitigated Noise Survey

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CONTENTS

1.0 INTRODUCTION 4

2.0 ASSESSMENT LOCATIONS 5

3.0 THE RAILHEAD 6

3.1 Train Times 6

3.2 Railhead Operations 6

4.0 MITIGATION 7

5.0 RELEVANT GUIDANCE 9

5.1 World Health Organisation 9

6.0 MITIGATED OPERATIONAL SURVEY 10

6.1 Survey Date and Time 10

6.2 Survey Locations 10

6.3 Measurement Protocol 13

7.0 MITIGATED OPERATIONAL NOISE ASSESSMENT 20

7.1 Westfield Road 20

7.2 Analysis of Measured and Recorded Data at Westfield Road 29

7.3 Analysis of Surveyor's Notes on Soundscape 29

7.4 Weston Road 30

7.5 Analysis of Measured and Recorded Data at Weston Road 39

7.6 Audibility Discussion 39

8.0 CONCLUSION 40

DOCUMENT REFERENCES

TABLES

Table 6-1 Noise Sensitive Receptor Sound Level Meters 13

Table 6-2 On-Site Surveyor Notes 14

Table 6-3 Off Site Surveyor Notes 18

FIGURES

Figure 2-1 Impulsive Noise Complainant Monitoring Locations (shown in green) 5
Figure 4-1 Chain Socks 7
Figure 4-2 Foam Pads 8
Figure 6-1 Survey Locations 10
Figure 6-2 Railhead (At 1.5m) 11
Figure 6-3 Westfield Road (At 1.5m and 4m) 12
Figure 6-4 No. 20 Weston Road (At 1.5m and 4m) 12
Figure 6-5 Line of Sight Between the Westfield Receptor and the Railhead Events 17
Figure 6-6 Line of Sight Between the Weston Receptor and the Railhead Events 17
Figure 7-1 Measured $L_{Aeq,T}$ at Westfield Road at 1.5m with Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart 21
Figure 7-2 Measured $L_{Aeq,T}$ at Westfield Road at 4m with Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart 22
Figure 7-3 Measured $L_{Amax,T}$ at Westfield Road at 1.5m with Railhead L_{Amax} Noise Events Shown as a Bar Chart 23
Figure 7-4 Measured $L_{Amax,T}$ at Westfield Road at 4m with Railhead L_{Amax} Noise Events Shown as a Bar Chart 24
Figure 7-5 Measured $L_{Aeq,T}$ at Westfield Road at 1.5m with Three Highest Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart 25
Figure 7-6 Measured $L_{Aeq,T}$ at Westfield Road at 4m with Three Highest Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart 26
Figure 7-7 Measured L_{AMax} at Westfield Road at 1.5m with Three Highest Railhead L_{Amax} Noise Events Shown as a Bar Chart 27
Figure 7-8 Measured L_{AMax} at Westfield Road at 4m with Three Highest Railhead L_{Amax} Noise Events Shown as a Bar Chart 28
Figure 7-9 Measured $L_{Aeq,T}$ at Weston Road at 1.5 meters with Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart 31
Figure 7-10 Measured $L_{Aeq,T}$ at Weston Road at 4 meters with Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart 32
Figure 7-11 Measured $L_{Amax,T}$ at Weston Road at 1.5m with Railhead L_{Amax} Noise Events Shown as a Bar Chart 33
Figure 7-12 Measured $L_{Amax,T}$ at Weston Road at 4m with Railhead L_{Amax} Noise Events Shown as a Bar Chart 34
Figure 7-13 Measured $L_{Aeq,T}$ at Weston Road at 1.5m with Three Highest Railhead $L_{Aeq,T}$ Noise Events Shown 35
Figure 7-14 Measured $L_{Aeq,T}$ at Weston Road at 4m with Three Highest Railhead $L_{Aeq,T}$ Noise Events Shown 36
Figure 7-15 Measured L_{AMax} at Weston Road at 1.5m with Three Highest Railhead L_{Amax} Noise Events Shown 37

Figure 7-16 38

APPENDICES

Appendix 01: Glossary of Terminology
Appendix 02: Mitigated Survey Results

1.0 Introduction

SLR understands that the Facility has recently received complaints with regards to noise from the handling of containers at the railhead, and that the Environment Agency (EA) has subsequently determined that the sound is impulsive in nature.

Consequently, railhead activities north of the Halton fabrication building have been stopped between the hours of 9pm and 7am. Operations during this time may only recommence following written agreement from the EA.

Following a meeting held on the 20th of April that a Mitigated Noise Survey should be completed whilst mitigated Railhead Operations are taking place to the north of the Halton fabrication building.

This Report is structured as follows:

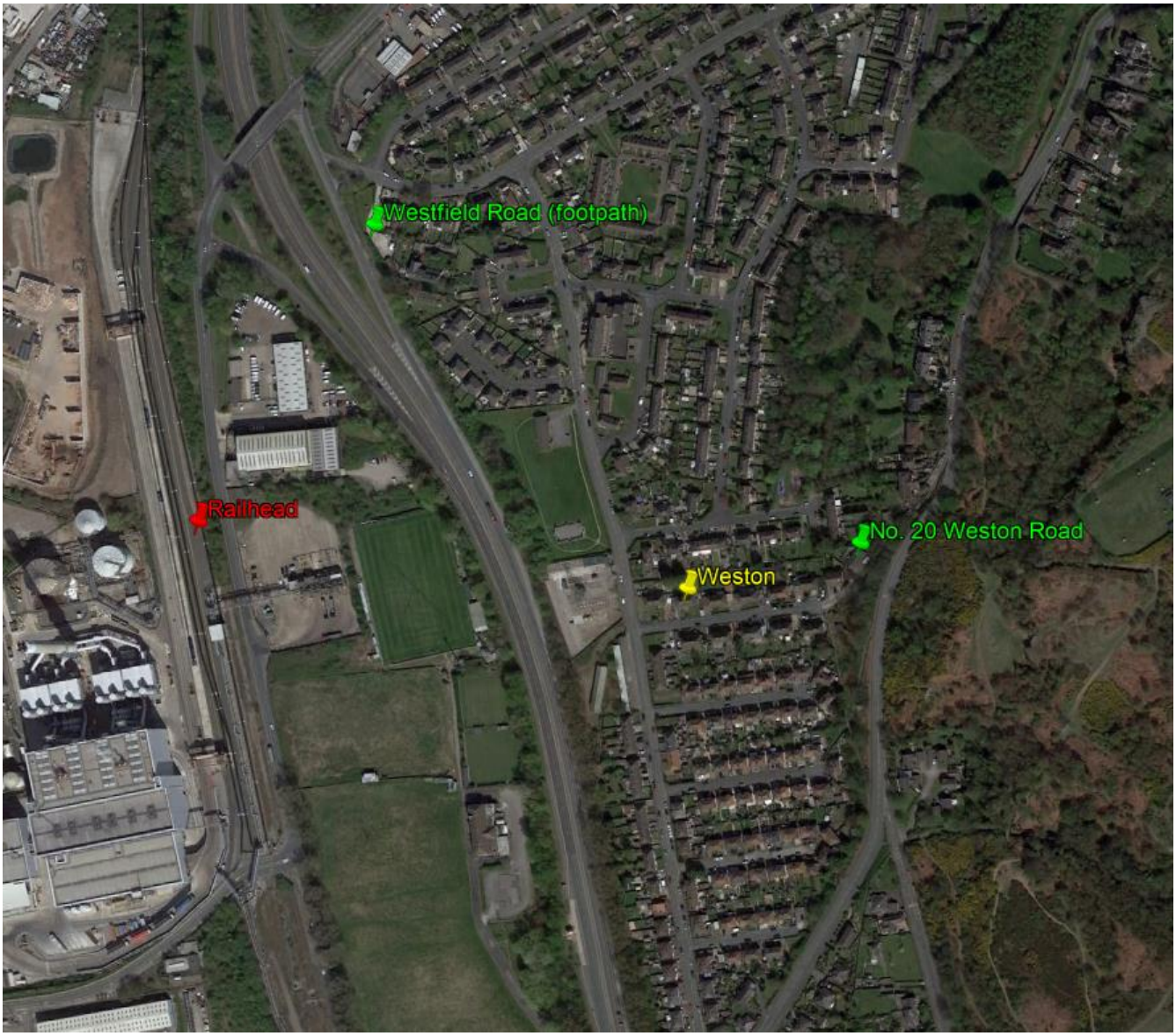
- Complainant Locations.
- The Railhead Operations.
- Mitigation Measures Implemented.
- Relevant Guidance.
- Mitigated Operational Noise Survey.
- Mitigated Operational Noise Assessment.
- Conclusion.

Whilst reasonable effort has been made to make this report easy to understand, it is technical in nature; to assist the reader, a glossary of terminology is included in Appendix 01.

2.0 Assessment Locations

It is understood that complaints from noise from the Facility have been received fro residents at the following locations shown on Figure 2-1.

Figure 2-1
Impulsive Noise Complainant Monitoring Locations (shown in green)



3.0 The Railhead

3.1 Train Times

Use of the rail sidings has been understood to coincide with three, daily deliveries of waste via freight, as limited by Network Rail movement restrictions as follows:

- Bredbury arrives at 11:58 and departs at 21:14.
- Northenden arrives at 20:30 and departs 13:30 the following day.
- Brindle Heath arrives at 22:30 and departs 11:12 the following day.

Two gantry cranes have been noted at the rail sidings, termed "*northern crane*" and "*southern crane*".

3.2 Railhead Operations

The works at the rail sidings have been typically understood to include the unloading of containers from freight, directly onto Internal Movement Vehicles (IMVs). The IMVs discharge the contents of the container within the Tipping Hall, then return to the rail sidings to return the empty container which is subsequently placed back onto freight. Containers may also be loaded and stacked onto the concrete rail sidings where not possible to process them immediately. The mechanisms involved with crane operations have therefore been understood as crane operations, typically:

- Lifting container from freight to IMV.
- Lifting container from IMV to freight.
- Occasionally including an interim step of resting the container on the rail sidings concrete.

The main source of noise associated with rail siding are from either:

1. Rail traffic movements (arrival and departure of trains).
2. Crane railhead and container (lifting the container in any direction).
3. Container and IMV (placing the loaded container).
4. Container and freight (placing the unloaded container).
5. Container and siding (if stacking on sidings).
6. For all movements, the locking mechanism of the crane.

Abnormal noise may occur from container movements if dropped from height, or if a suitable coupling does not occur in clamping the container to freight or IMV, causing the container to slip. Furthermore, an unloaded container has been considered with greater potential for impulsive noise with lesser payload (i.e. waste material) to dampen container walls. Coupled with the realisation that it may not be reasonably practicable to abate either the fleet of containers, freight or rotational clamps, greatest risks have been envisaged with reloading containers to the freight.

A list of mitigation that has been considered reasonably practicable to employ and will be tested in the Mitigated Noise Survey are presented in Section 4.

4.0 Mitigation

It is understood that the following measures have been implemented:

- The use of chain socks (see Figure 4-1).
- The use of foam pads when containers are placed on direct concrete (see Figure 4-2).
- Slowing down the crane close to the point of contact using a mechanical Cam control unit.

Figure 4-1
Chain Socks

Figure 4-2
Foam Pads

5.0 Relevant Guidance

In this Report the *"audibility"* of the Railhead at the off-Site Receptors will be assessed. With reference to *"audibility"* there is no specific guidance document. To assess the impact however, World Health Organisation recommended noise levels will be referred to.

5.1 World Health Organisation

The Guidelines for Community Noise (1999), Environmental Noise Guidelines for the European Region document (WHO, 2018) and Night Noise Guidelines for Europe (WHO, 2009) recommend guideline noise levels regardless of the current noise environment. The WHO suggests suitable noise levels for both indoor and outdoor living areas during daytime and night-time periods, and these levels are set regardless of the noise type or noise source, i.e. 'benchmark' levels. It advises on the minimum levels of noise before critical health effects, including annoyance, occur.

In this regard, the WHO 1999 guidelines state:

"If negative effects on sleep are to be avoided the equivalent sound pressure level should not exceed 30 dBA indoors for continuous noise. If the noise is not continuous, sleep disturbance correlates best with LAmax and effects have been observed at 45 dB or less. This is particularly true if the background level is low. Noise events exceeding 45 dBA should therefore be limited if possible. For sensitive people an even lower limit would be preferred. It should be noted that it should be possible to sleep with a bedroom window slightly open (a reduction from outside to inside of 15 dB). To prevent sleep disturbances, one should thus consider the equivalent sound pressure level and the number and level of sound events. Mitigation targeted to the first part of the night is believed to be effective for the ability to fall asleep."

WHO 2018 guidelines state:

"The NNG defines effect thresholds or 'lowest observed adverse health effect levels' for both immediate physiological reactions during sleep and long-term adverse health effects. These guideline exposure levels defined a level below which no effects were expected to occur (corresponding to 30dB L_{night}) and proceeded to define the level where adverse effects start to occur (corresponding to 40dB L_{night}, with the aim of protecting the whole population, including – to some extent – vulnerable groups."

The WHO 2009 guidelines state:

"Below the level of 30dB L_{night}, outside, no effects on sleep are observed except for a slight increase in the frequency of body movements during sleep due to night noise. There is no sufficient evidence that the biological effects observed at the level below 40dB L_{night}, outside are harmful to health. However, adverse health effects are observed at the level above 40dB L_{night}, such as self-reported sleep disturbance, environmental insomnia, and increased use of somnifacient drugs and sedatives". And *"Above 55dB the cardiovascular effects become the major public health concern, which are likely to be less dependent on the nature of the noise. Closer examination of the precise impact will be necessary in the range between 30dB and 55dB as much will depend on the detailed circumstances of each case."*

With reference to the above, whilst this Assessment is strictly looking at noise levels during the daytime (i.e., before 23:00 hours) this Report will refer to the WHO noise level "*Limits*" listed below. The external "Limit" is 13dB(A) higher than those internal noise levels quoted above as a partially open window is estimated to reduce external noise levels by 15dB(A).

- An external ambient noise level of 45dB(A).
- An external maximum noise level of 60dB(A).

6.0 Mitigated Operational Survey

6.1 Survey Date and Time

Measurements of Railhead Operations were completed during the following period on the 25th of May 2022:

- Northenden Train: 20:30 to 23:00.

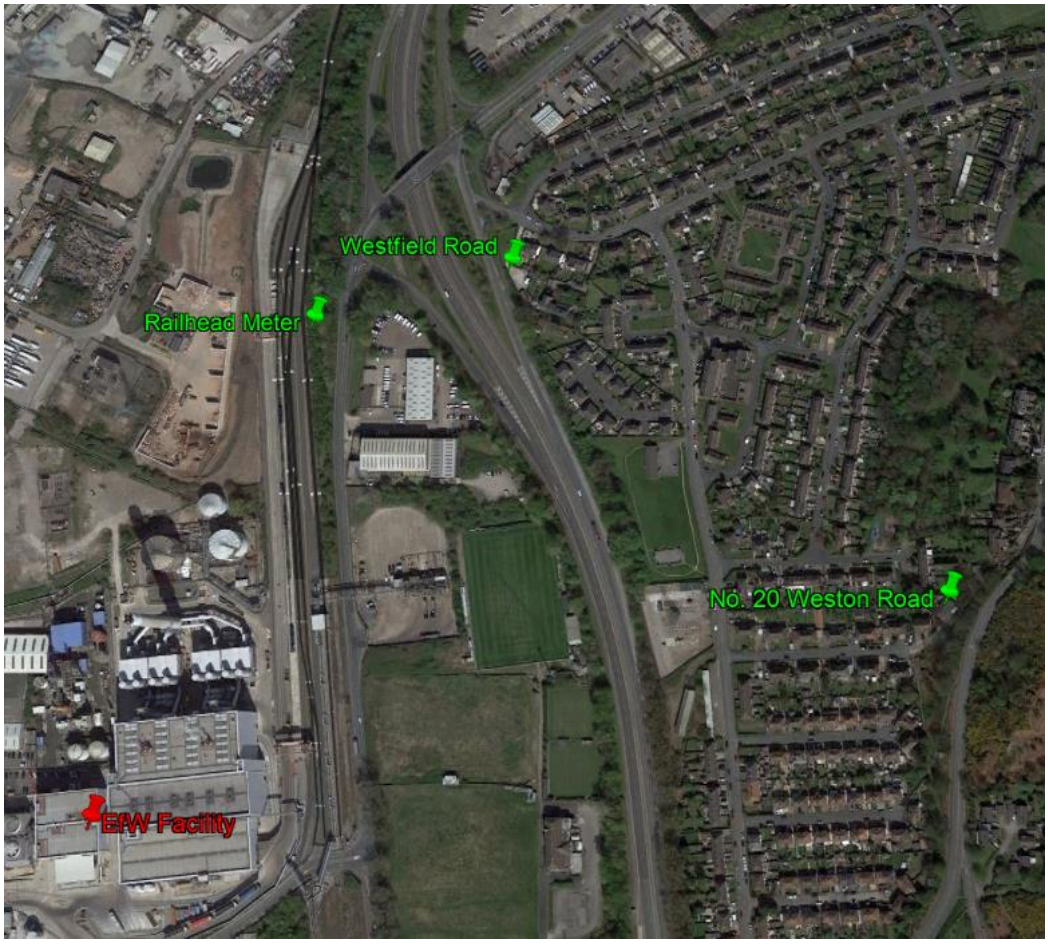
6.2 Survey Locations

Static meters were positioned at the following three locations during the survey:

- The Railhead (On-Site).
- Westfield Road (Off-Site).
- Number 30 Weston Road (Off-Site).

The location of each meter can be seen in Figure 6-1.

Figure 6-1
Survey Locations



At each location a sound level meter was placed at a height of 1.5m, and at the residential Off-Site locations, a second sound level meter was placed at a height of 4m. Photographs of these sound level meters can be seen in Figures 6-2 to 6-4.

Figure 6-2
Railhead (At 1.5m)

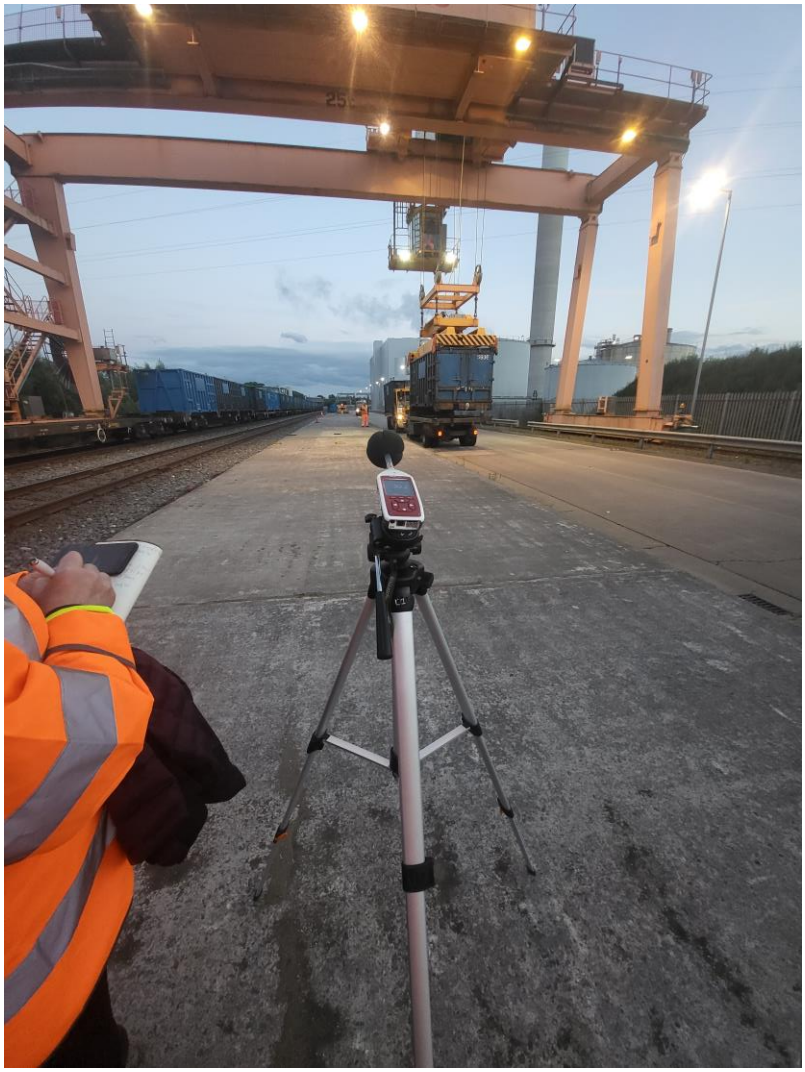


Figure 6-3
Westfield Road (At 1.5m and 4m)

Figure 6-4
No. 20 Weston Road (At 1.5m and 4m)

The sound level noise meters used at each location are detailed in Table 6-1.

Table 6-1
Noise Sensitive Receptor Sound Level Meters

Location	Equipment	Serial Number
Railhead (1.5m)	Cirrus CR:171B Class 1 Sound Level Meter	G068726
	Cirrus CR:515 Acoustic Calibrator	72210
Westfield Road (1.5m)	Cirrus CR:171B Class 1 Sound Level Meter	G300561
	Cirrus CR:515 Acoustic Calibrator	59336
Westfield Road (4m)	Cirrus CR:171B Class 1 Sound Level Meter	G080284
	Cirrus CR:515 Acoustic Calibrator	59336
No.20 Weston Road (1.5m)	Cirrus CR:171B Class 1 Sound Level Meter	G061094
	Cirrus CR:515 Acoustic Calibrator	72210
No. 20 Weston Road (4m)	Cirrus CR:171B Class 1 Sound Level Meter	G079816
	Cirrus CR:515 Acoustic Calibrator	72210

6.3 Measurement Protocol

Prior to the survey, the time setting across all the sound level meters were synched to ensure that noise readings can be compared. The measurement protocol was as follows:

- Fast (F) time weighted, with 25ms logging.
- Noise levels logged every minute (Repeat Timer on 1-minute). The full survey results can be seen in Appendix 02.
- The audio trigger was set to a level sufficiently low for the entire measurement period to be recorded on an audio file.

During the survey an SLR Surveyor stayed at the Railhead to make notes on the timing of notable Railhead Events. At the same time a second SLR Surveyor rotated between the two Off-Site locations to listen for the “audibility” of Events at the Railhead.

The On-Site Surveyor Notes, along with the measured $L_{Aeq,T}$ and L_{Amax}, are tabulated in Table 6-2 below. The 3rd and fourth column of the Table states whether the Halton Fabrication Building was blocking line of sight with the noise event.

Table 6-2
On-Site Surveyor Notes

Event	Time	Location (X/Y)	L_{Aeq}	L_{Amax}	Halton Fabrication Building Blocking Line of Site to Westfield Rd Y/N	Halton Fabrication Building Blocking Line of Site to Weston Rd Y/N
Crane Dropping Container Off Truck	21:09	53.33258 / -2.75347	63.0	72.3	No	Yes
Crane Dropping Container On Train	21:12	53.33258 / -2.75347	74.1	93.0	No	Yes
Crane Loading Container Off Train	21:14	53.33257 / -2.73541	67.9	73.8	No	Yes
Crane Dropping Container On Truck	21:15	53.33257 / -2.73541	67.4	72.5	No	Yes
Crane Dropping Container Off Truck	21:17	53.33257 / -2.73541	62.7	77.4	No	Yes
Crane Dropping Container On Train	21:18	53.33257 / -2.73541	57.7	71.5	No	Yes
Crane Loading Container Off Train	21:19	53.33242 / -2.75346	61.9	72.3	No	Yes
Crane Dropping Container On Truck	21:20	53.33242 / -2.75346	59.4	72.8	No	Yes
Crane Dropping Container Off Truck	21:22	53.332244 / -2.75347	67.8	82.8	No	Yes
Crane Dropping Container On Train	21:24	53.33244 / -2.75347	61.3	76.4	No	Yes
Crane Loading Container Off Train	21:25	53.33228 / -2.75344	64.7	71.3	No	Yes
Crane Dropping Container On Truck	21:26	53.33228 / -2.75344	65.0	73.5	No	Yes
Crane Dropping Container Off Truck	21:27	53.33241 / -2.75350	70.2	84.2	No	Yes
Crane Dropping Container On Train	21:29	53.33241 / -2.75350	58.5	71.3	No	Yes
Crane Loading Container Off Train	21:30	53.33221 / -2.75341	62.6	73.9	No	Yes

Event	Time	Location (X/Y)	L_{Aeq}	L_{Amax}	Halton Fabrication Building Blocking Line of Site to Westfield Rd Y/N	Halton Fabrication Building Blocking Line of Site to Weston Rd Y/N
Crane Dropping Container On Truck	21:34	53.33221 / -2.75341	65.1	77.0	No	Yes
Crane Dropping Container Off Truck	21:35	53.33234 / -2.75348	67.1	81.8	No	Yes
Crane Dropping Container On Train	21:36	53.33234 / -2.75348	64.3	73.0	No	Yes
Crane Loading Container Off Train	21:37	53.33219 / -2.75352	62.8	71.6	No	Yes
Crane Dropping Container On Truck	21:38	53.33219 / -2.75352	62.8	74.0	No	Yes
Crane Dropping Container Off Truck	21:41	53.33220 / -2.75344	61.4	76.2	No	Yes
Crane Dropping Container On Train	21:42	53.33220 / -2.75344	61.6	71.0	No	Yes
Crane Loading Container Off Train	21:42	53.33200 / -2.75335	61.6	71.0	No	Yes
Crane Dropping Container On Truck	21:44	53.33200 / -2.75335	61.5	73.1	No	Yes
Crane Dropping Container Off Truck	21:45	53.33213 / -2.75344	64.1	83.0	No	Yes
Crane Dropping Container On Train	21:47	53.33213 / -2.75344	61.4	71.5	No	Yes
Crane Loading Container Off Train	21:48	53.33208 / -2.75341	68.8	87.5	No	Yes
Crane Dropping Container On Truck	21:49	53.33208 / -2.75341	68.9	81.6	No	Yes
Crane Dropping Container Off Truck	21:50	53.33208 / -2.75341	64.9	74.0	No	Yes
Crane Dropping Container On Train	21:51	53.33208 / -2.75341	66.6	81.1	No	Yes
Crane Loading Container Off Train	21:52	53.33194 / -2.75340	64.7	80.6	No	Yes
Crane Dropping Container On Truck	21:53	53.33194 / -2.75340	70.6	81.9	No	Yes
Crane Dropping Container Off Truck	21:54	53.33200 / -2.75341	67.9	83.5	No	Yes
Crane Dropping Container On Train	21:56	53.33200 / -2.75341	59.1	70.8	No	Yes

Event	Time	Location (X/Y)	L_{Aeq}	L_{Amax}	Halton Fabrication Building Blocking Line of Site to Westfield Rd Y/N	Halton Fabrication Building Blocking Line of Site to Weston Rd Y/N
Crane Loading Container Off Train	21:57	53.33186 / -2.75347	62.9	71.8	No	Yes
Crane Dropping Container On Truck	21:58	53.33186 / -2.75347	61.1	73.8	No	Yes

Figures 6-1 and 6-2 show the monitoring locations and the line of sight with each Receptor position.

Figure 6-5
Line of Sight Between the Westfield Receptor and the Railhead Events

Figure 6-6
Line of Sight Between the Weston Receptor and the Railhead Events

The Off-Site Surveyor Notes are tabulated in Table 6-3 below. As the main concern was the noise impact at Westfield, the surveyor attended the Westfield monitoring location for the majority of the time.

Table 6-3
Off Site Surveyor Notes

Event
20.33 - car pass by, stack noise from site, 20.36 - low altitude aircraft 20.38 - train heard from site 20.39 - railhead heard, background bird song 20.41 - reverse sound from fright vehicle heard 20.42 - car pass by continuous, 20.43 - stack noise generally audible 20.44 - low altitude aircraft 20.56 - general noise climate from
21.12 - freight being lifted onto train 21.13 - low pitch hum, lifting operations not audible, car pass by 21.14 - when noise climate is low freight lifter can be audible 21.15 - freight being dropped in vehicle 21.16 - freight dropped but not audible from receptor location 21.17-21.18 - pickup of freight from vehicle, cannot hear the drop from receptor Location, background noise of activity but no sudden drop noise 21.19 - 21.20 - drop of freight onto vehicle, high altitude aircraft in background, couldn't perceive the drop of freight 21.21 - alarm from site was audible only for 3 seconds 21.22 - vehicle movement on-site 21.23 - freight being dropped onto train 21.24 - vehicle pass by which was a bit loud 21.26 - freight being dropped onto vehicle, low altitude aircraft and freight dropped at same time
21.28 - pick up of freight audible, dropped @21.29 21.30 - alarm sound lasted for 3 seconds, mechanical movement of crane audible, 1 second of alarm sound again 21.32 - alarm sound @21.32, car pass by, freight dropped on vehicle but not audible 21.33 - movement of crane moving upwards audible 21.34 squeaking noise from (most likely from rubber/tyres) being dropped 21.35 - crane picking up freight from vehicle 21.36 - siren audible for 3 seconds, freight being dropped on train @21.37 21.38 - freight being dropped on to vehicle, aircraft audible, and vehicle pass by 21.39 - loud music from car passing by 21.40 - vehicles passing by 21.41 - freight being lifted onto train and @21.42 drop off was audible

Event
21.44 - heard like an 'tapping', noise
21.45 - heard like a drop of metal
21.46 - heard almost like a 'swoosh sound', noise not disturbing
21.48 - clunking noise of site, freight being dropped onto vehicle
21.50 - vehicle pass by siren audible for almost 5 seconds,
21.51 - freight being dropped onto train and was audible
21.52 - vehicle pass by loud clunking sound from freight being dropped onto vehicle
21.55 - general background from humming of stack near site
21.56 - alarm noise for 3 seconds
21.58 - activity stopped

7.0 Mitigated Operational Noise Assessment

7.1 Westfield Road

Figures 7-1 to 7-4 below detail the measured $L_{Aeq,T}$ and L_{Amax} noise levels at Westfield Road during the Survey. The 35 events noted at the Railhead are also shown as an overlaid bar chart.

Figure 7-1
Measured $L_{Aeq,T}$ at Westfield Road at 1.5m with Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart

Figure 7-2
Measured $L_{Aeq,T}$ at Westfield Road at 4m with Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart

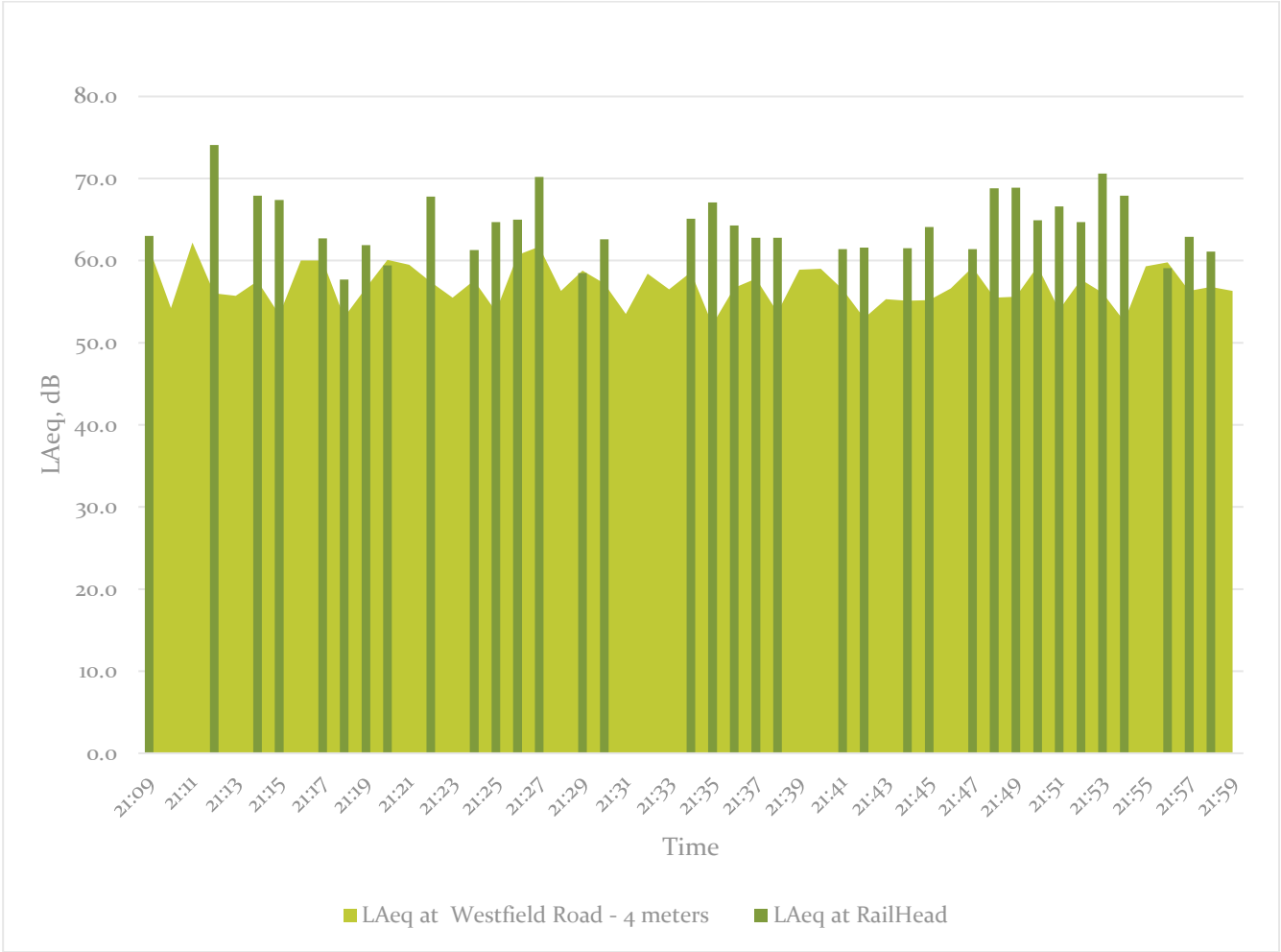


Figure 7-3
Measured $L_{Amax, T}$ at Westfield Road at 1.5m with Railhead L_{Amax} Noise Events Shown as a Bar Chart

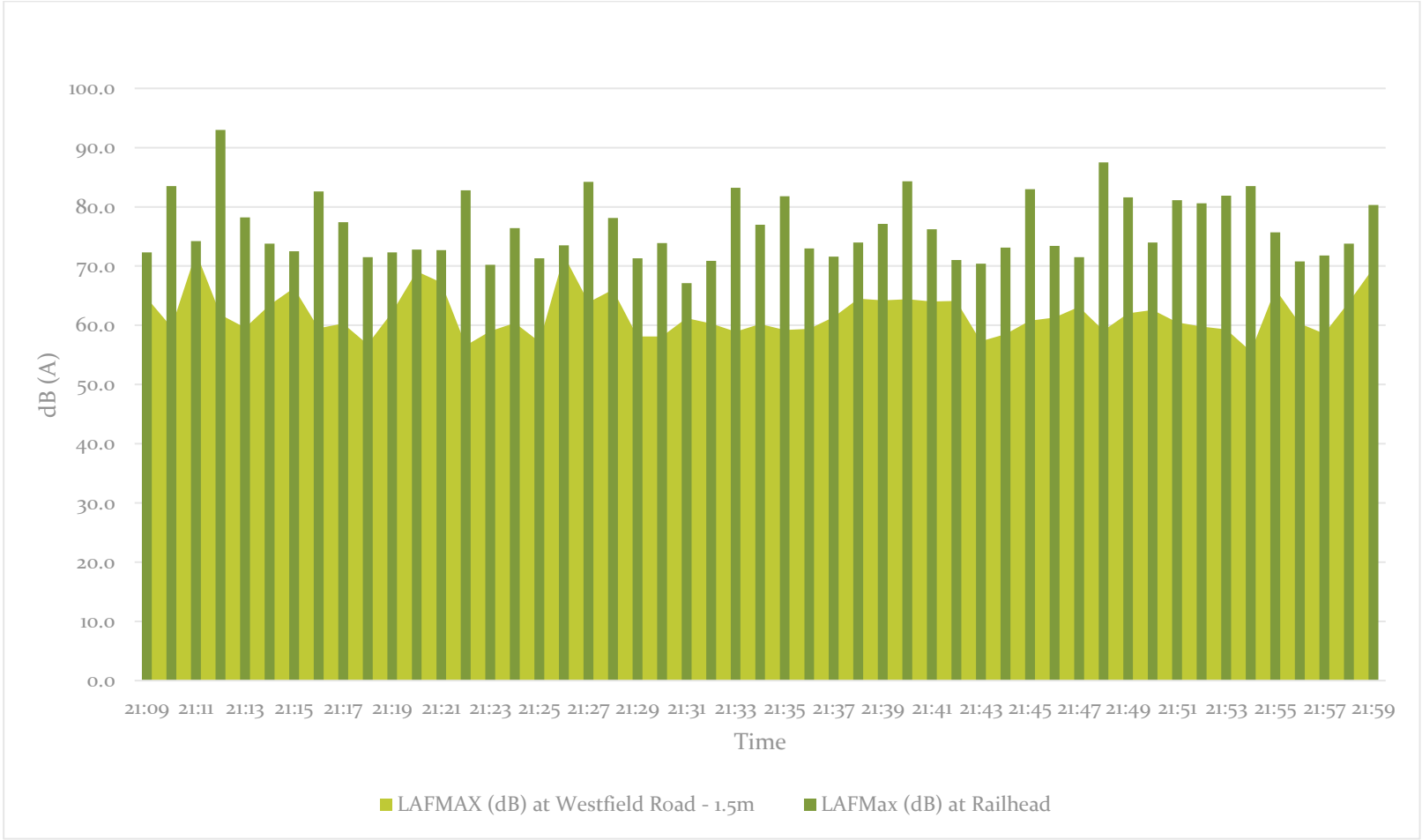
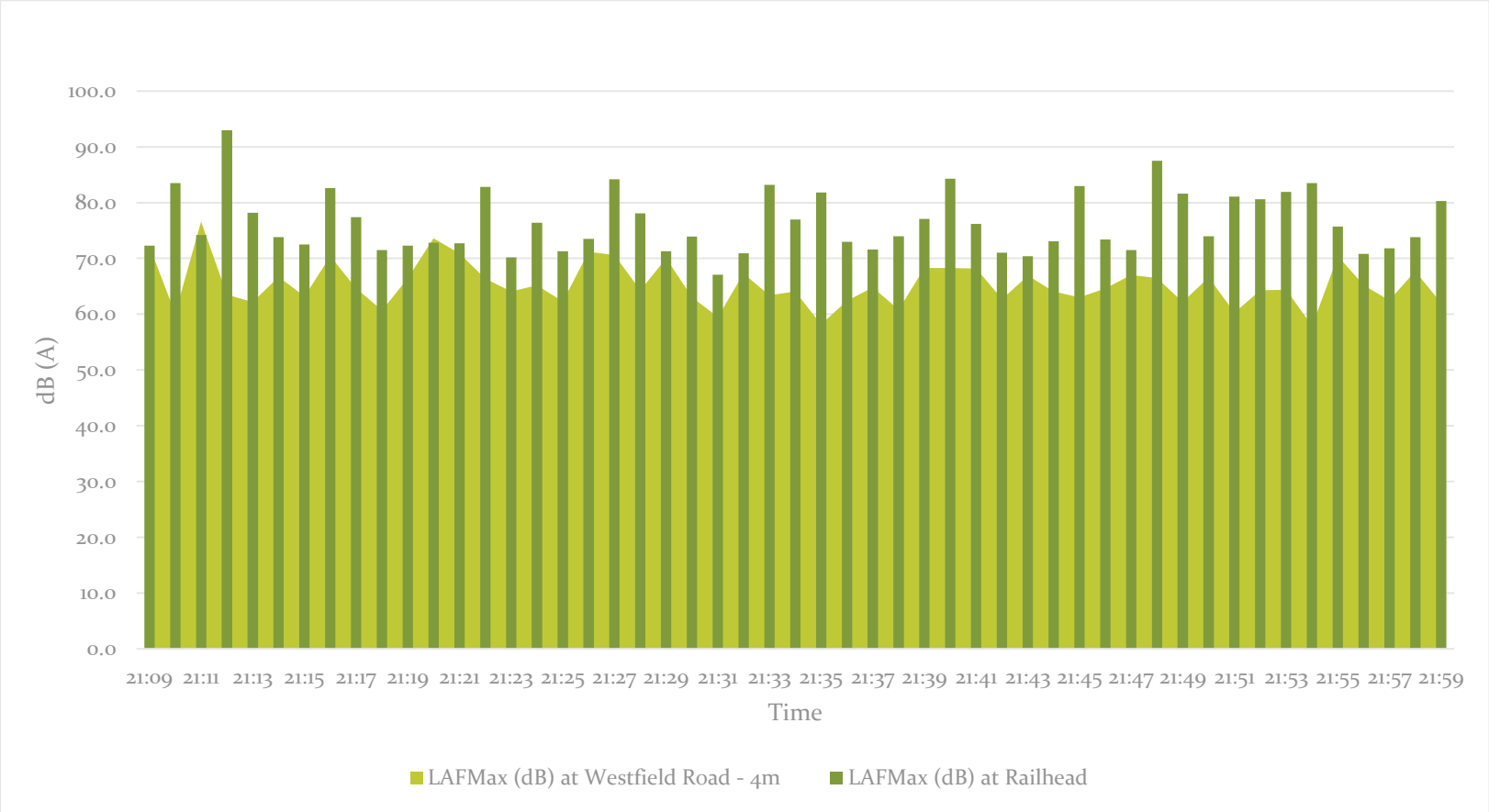


Figure 7-4
Measured $L_{Amax,T}$ at Westfield Road at 4m with Railhead L_{Amax} Noise Events Shown as a Bar Chart



For further detailed analysis the three highest rail head noise events are compared to the measured $L_{Aeq,T}$, and L_{Amax} noise levels at Westfield Road in Figures 7-5 to 7-8.

Figure 7-5
Measured $L_{Aeq,T}$ at Westfield Road at 1.5m with Three Highest Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart

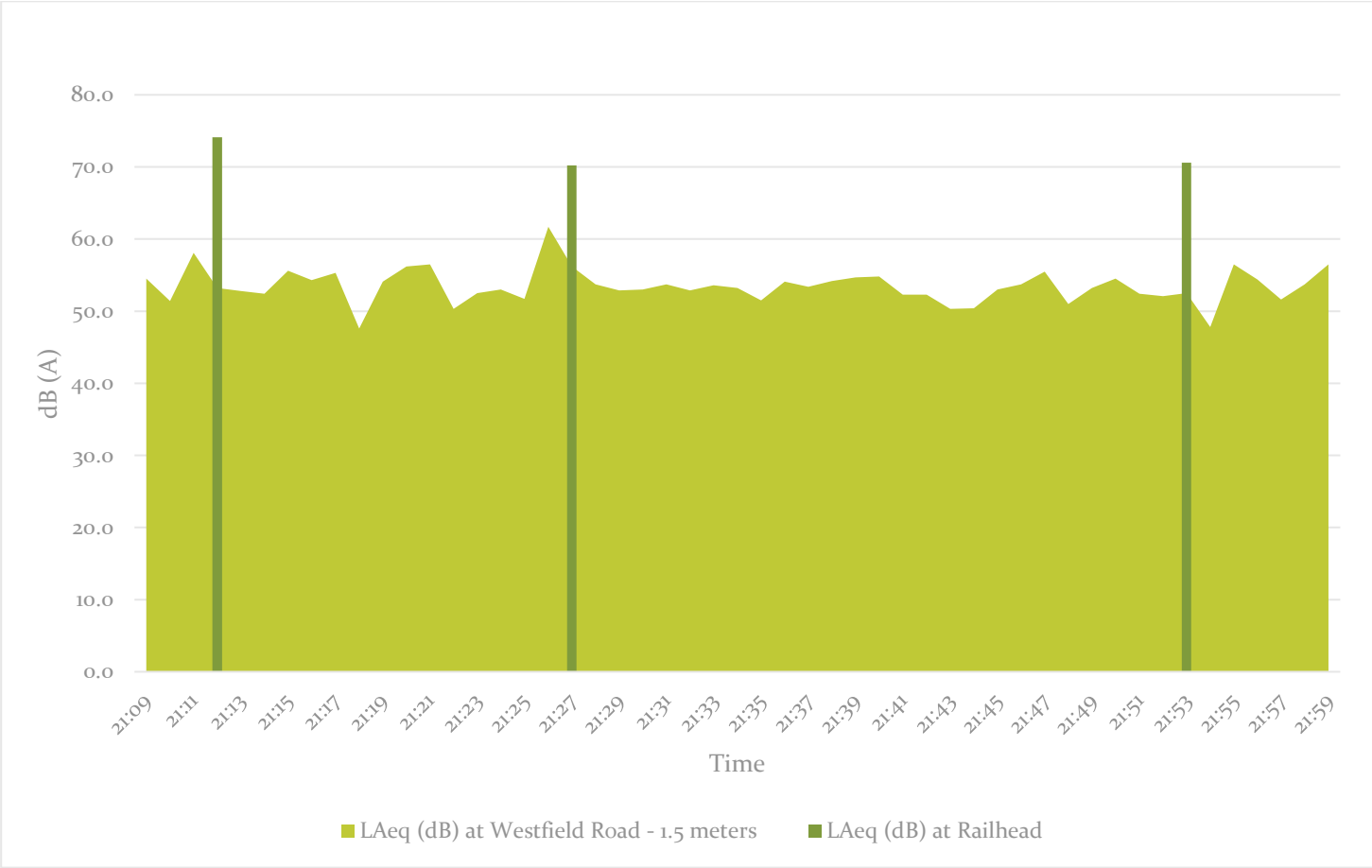


Figure 7-6
Measured $L_{Aeq,T}$ at Westfield Road at 4m with Three Highest Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart

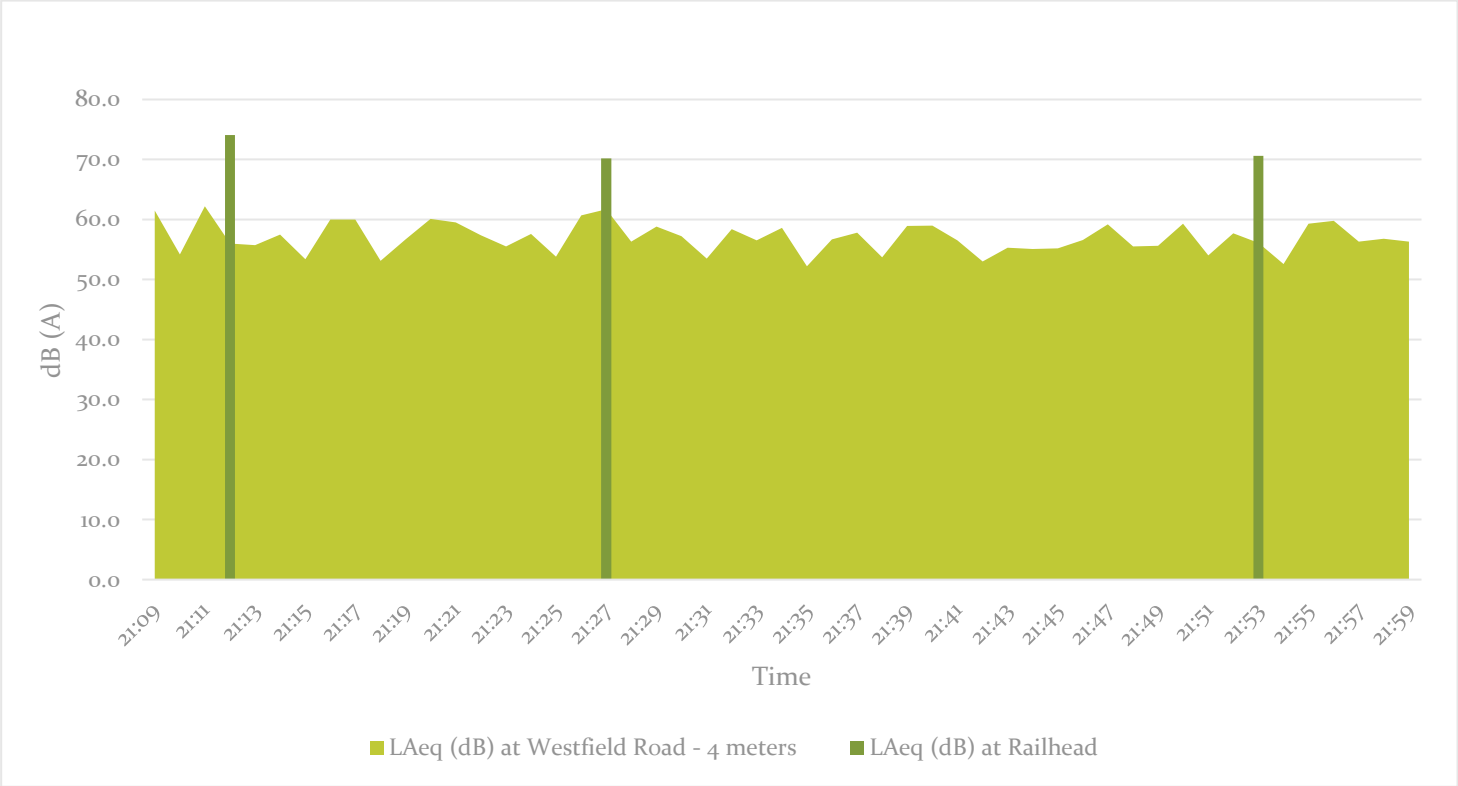


Figure 7-7
Measured L_{AMax} at Westfield Road at 1.5m with Three Highest Railhead L_{Amax} Noise Events Shown as a Bar Chart

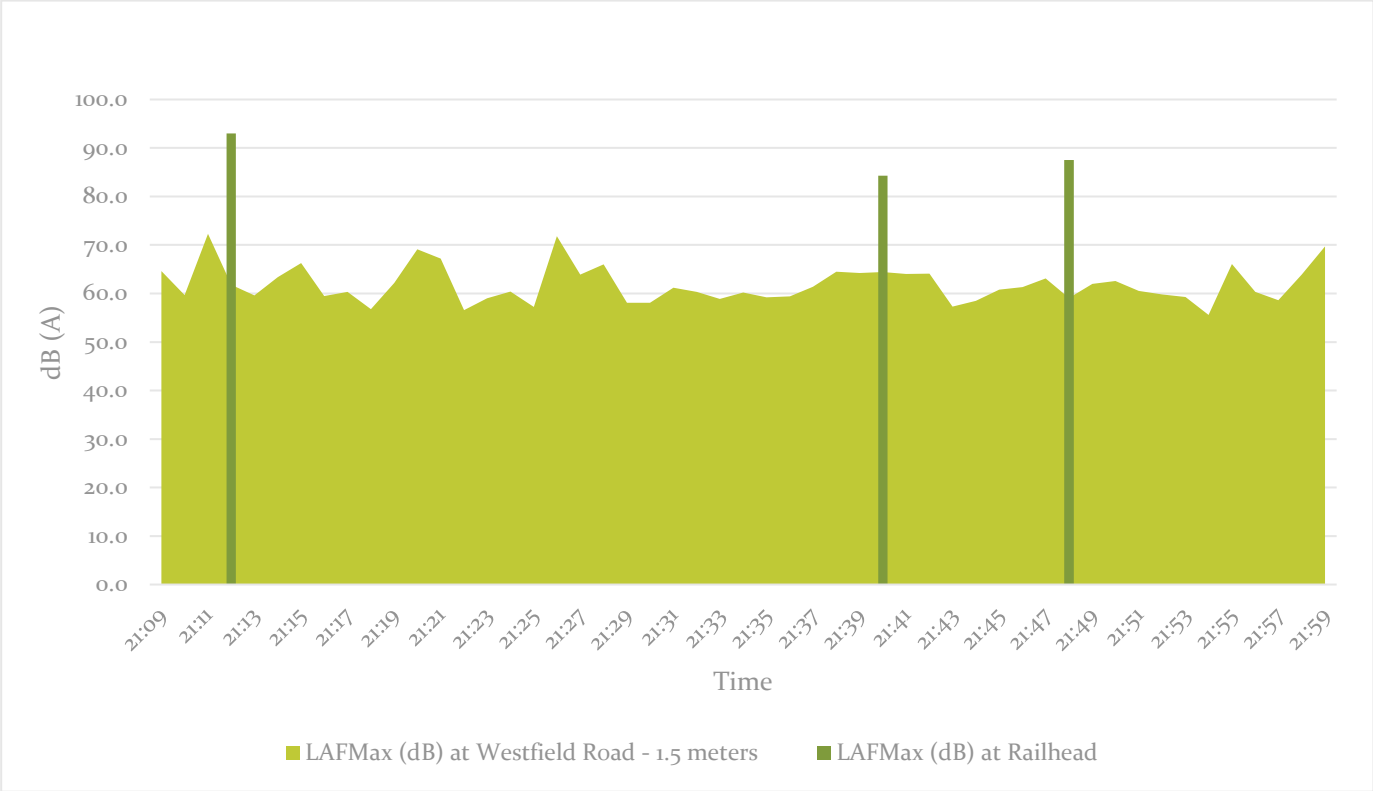
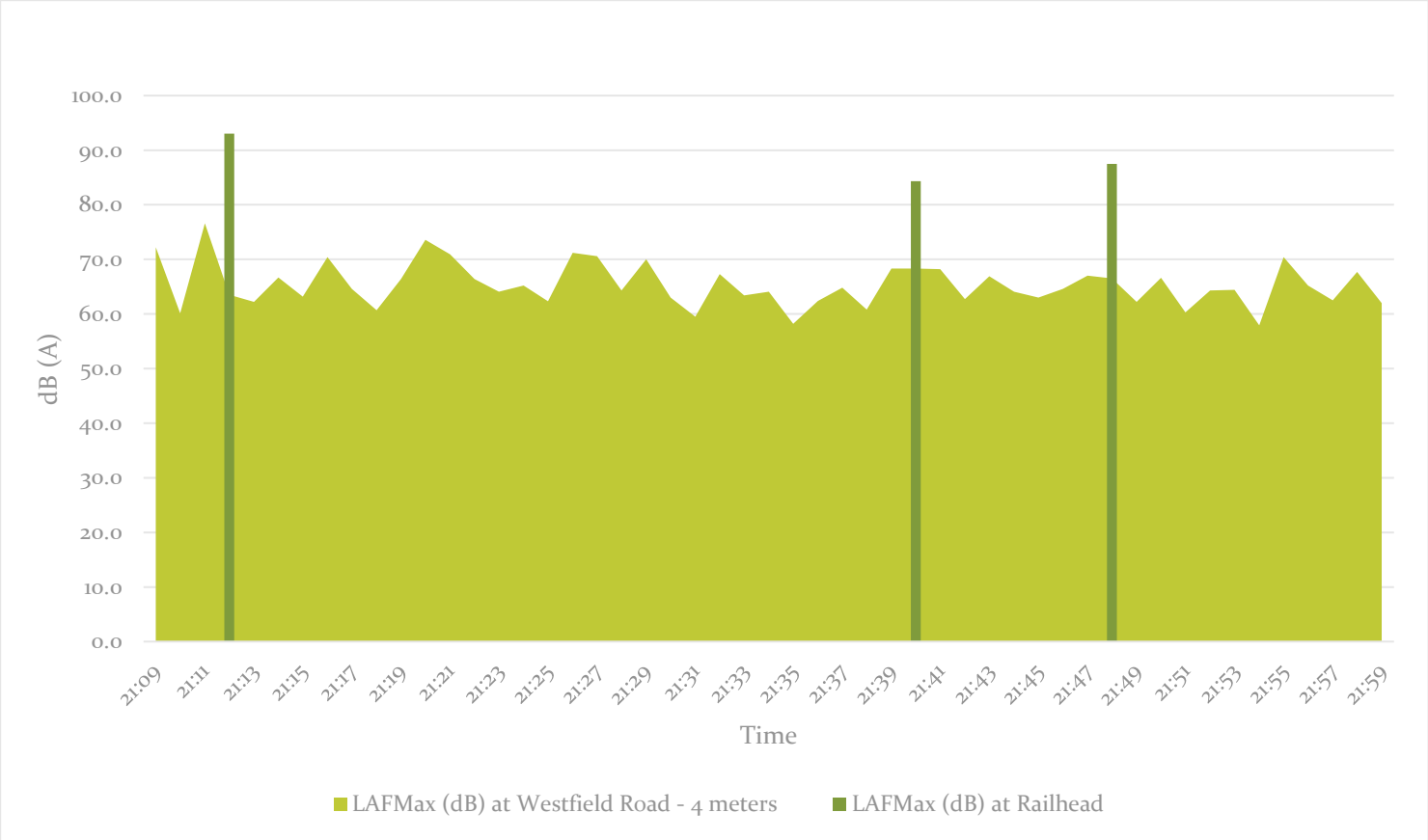


Figure 7-8
Measured L_{AMax} at Westfield Road at 4m with Three Highest Railhead L_{Amax} Noise Events Shown as a Bar Chart



7.2 Analysis of Measured and Recorded Data at Westfield Road

It can be seen from Figures 7-1 to 7-8 that:

- There is no direct correlation between all railhead noise events and elevated $L_{Aeq,T}$ noise levels at Westfield Road.
- At 21:11 to 21:13 the higher $L_{Aeq,T}$ noise level at Westfield Road does not correlate with the dropping of a container. The recorded audio file has been examined and listened to, the container dropping can be heard but very faintly in relation to other noise sources audible at the time i.e., road traffic noise, bird song and wind/breeze noise. The highest noise levels were caused by car passings in this space of time.
- At 21:26 to 21:28 the higher $L_{Aeq,T}$ noise level at Westfield Road does not correlate with the dropping of a container. The recorded audio file has been examined and listened to, the container dropping can be heard but very faintly in relation to other noise sources audible at the time i.e. road traffic noise, bird song and wind/breeze noise. The highest noise levels were caused by car passings in this space of time.
- At 21:47 to 21:53 the higher $L_{Aeq,T}$ noise level at Westfield Road may correlate with the dropping of a container. The recorded audio file has been examined and listened to, the container dropping can be heard but very faintly in relation to other noise sources audible at the time i.e. road traffic noise, bird song and wind/breeze noise. The highest noise levels were caused by car passings in this space of time.
- At 21:11 to 21:13 the higher L_{AMax} noise level at Westfield Road does not correlate with the dropping of a container. The recorded audio file has been examined and listened to, the container dropping can be heard but very faintly in relation to other noise sources audible at the time i.e., road traffic noise, bird song and wind/breeze noise. The highest noise levels were caused by car passings in this space of time.
- At 21:39 to 21:42 the higher L_{AMax} noise level at Westfield Road does not correlate with the dropping of a container. The recorded audio file has been examined and listened to, the container dropping can be heard but very faintly in relation to other noise sources audible at the time i.e. road traffic noise, bird song and wind/breeze noise. The highest noise levels were caused by car passings in this space of time.
- At 21:47 to 21:53 the higher L_{AMax} noise level at Westfield Road may correlate with the dropping of a container. The recorded audio file has been examined and listened to, the container dropping can be heard but very faintly in relation to other noise sources audible at the time i.e. road traffic noise, bird song and wind/breeze noise. The highest noise levels were caused by car passings in this space of time.

7.3 Analysis of Surveyor's Notes on Soundscape

From the surveyor notes in Table 6-3 some on-site events occurring at the Railhead when works were operational were heard by the surveyor at Westfield Road. Although faintly audible, it can be seen in the above graphs, the measured noise level at Westfield Road do not clearly correlate with on site activities. This is the due to several reasons, i.e., traffic levels at the specific time, wind direction, and other general noises in the area. Even in instances where the noise from the site in question was captured and audible, there are also several other noise sources in the area, the main source at both locations being road traffic noise. In all incidents, the loudest noises captured were cars passing near by which measured much louder than any noise made at the railhead at this location.

It must further be noted that the surveyor at this location was specifically listening out for noises from the Railhead and was viewing the live events happening on site via video phone call, which could have had influence on their findings/ability to notice these noises which may normally be masked other noise sources in the area.

7.4 Weston Road

Figures 7-9 to 7-12 below detail the measured $L_{Aeq,T}$ and L_{Amax} noise levels at Weston Road during the Survey. The 35 events noted at the Railhead are also shown as an overlaid bar chart.

Figure 7-9
Measured $L_{Aeq,T}$ at Weston Road at 1.5 meters with Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart

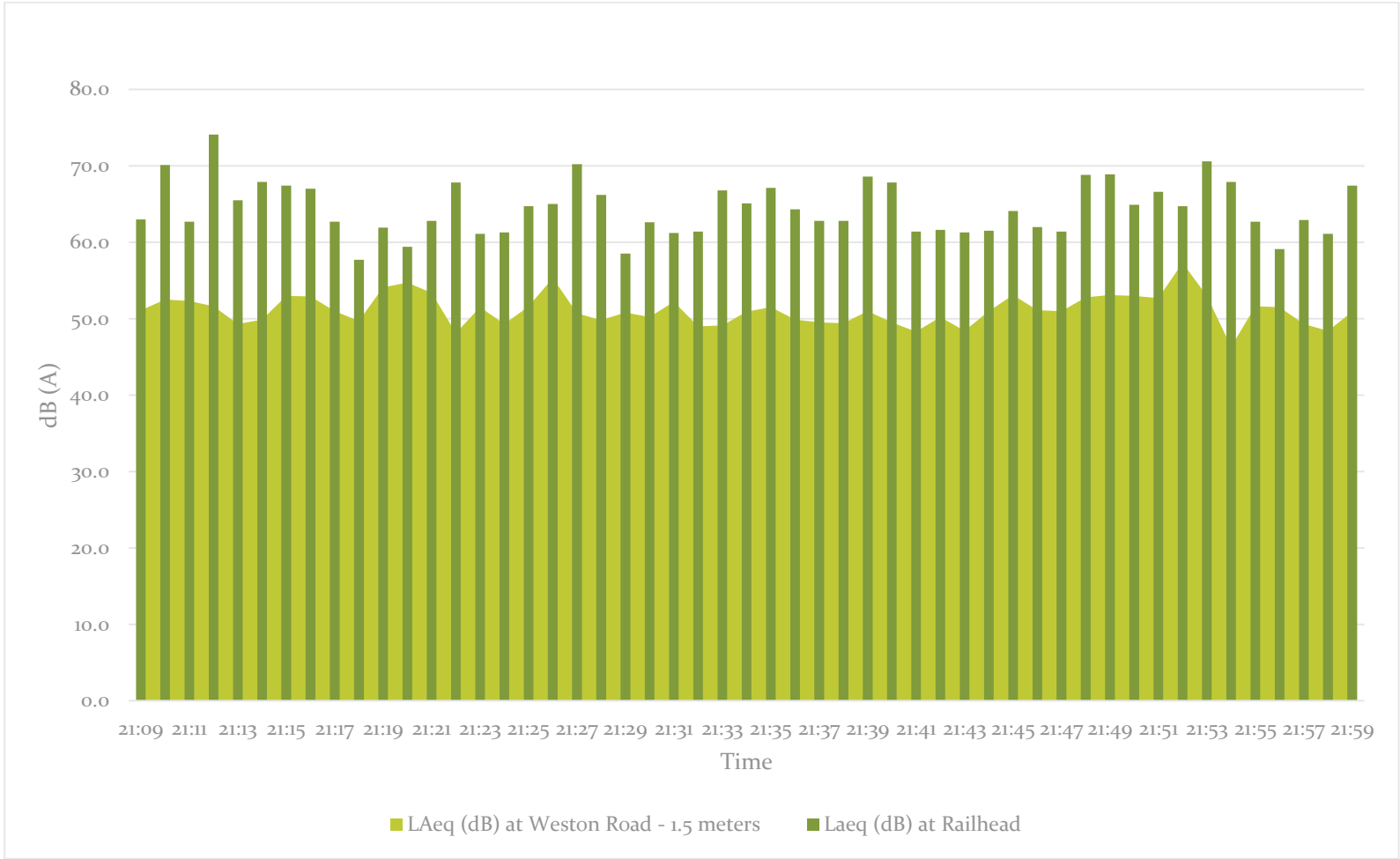


Figure 7-10
Measured $L_{Aeq,T}$ at Weston Road at 4 meters with Railhead $L_{Aeq,T}$ Noise Events Shown as a Bar Chart

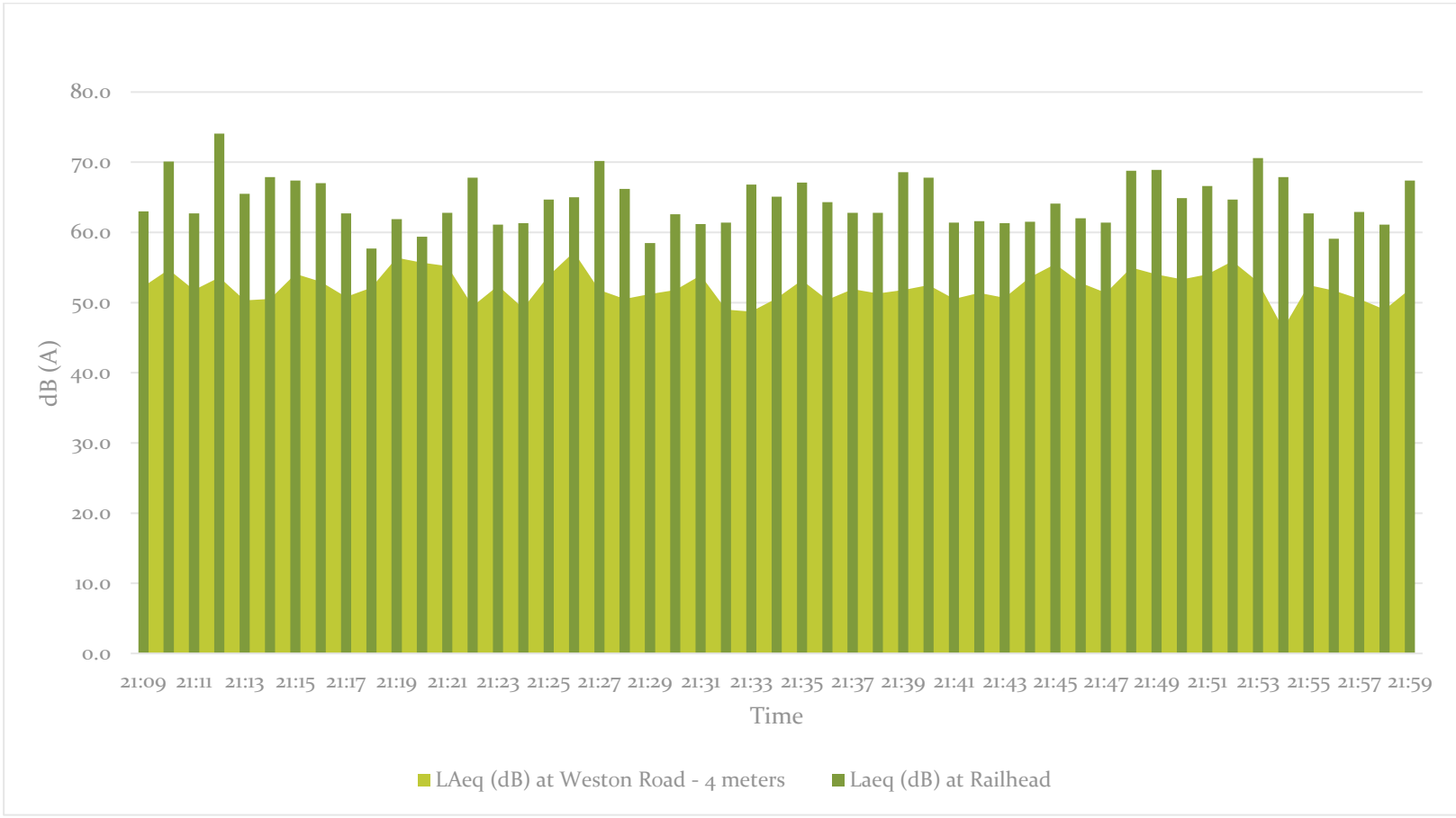


Figure 7-11
Measured $L_{Amax,\,T}$ at Weston Road at 1.5m with Railhead L_{Amax} Noise Events Shown as a Bar Chart

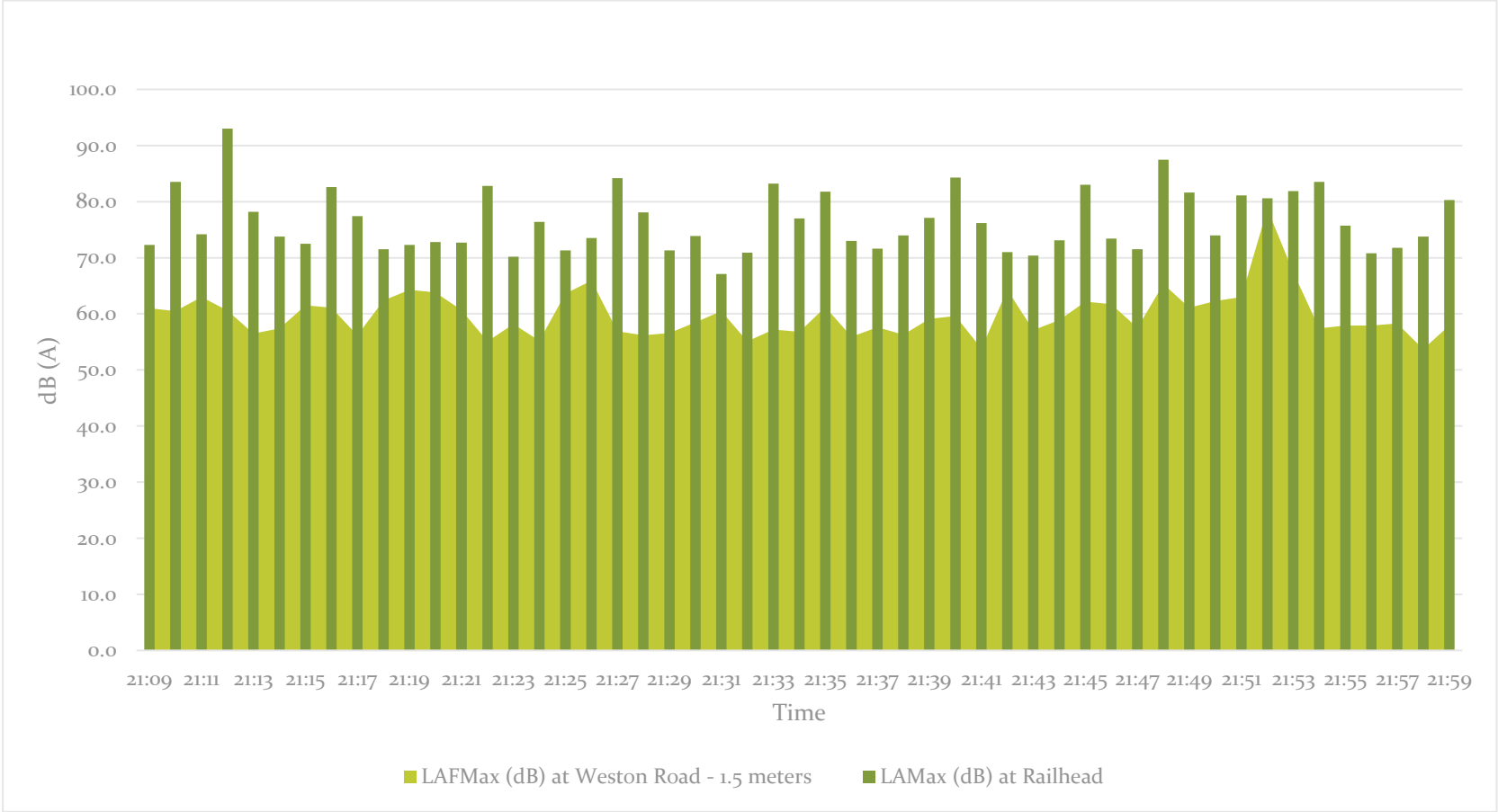
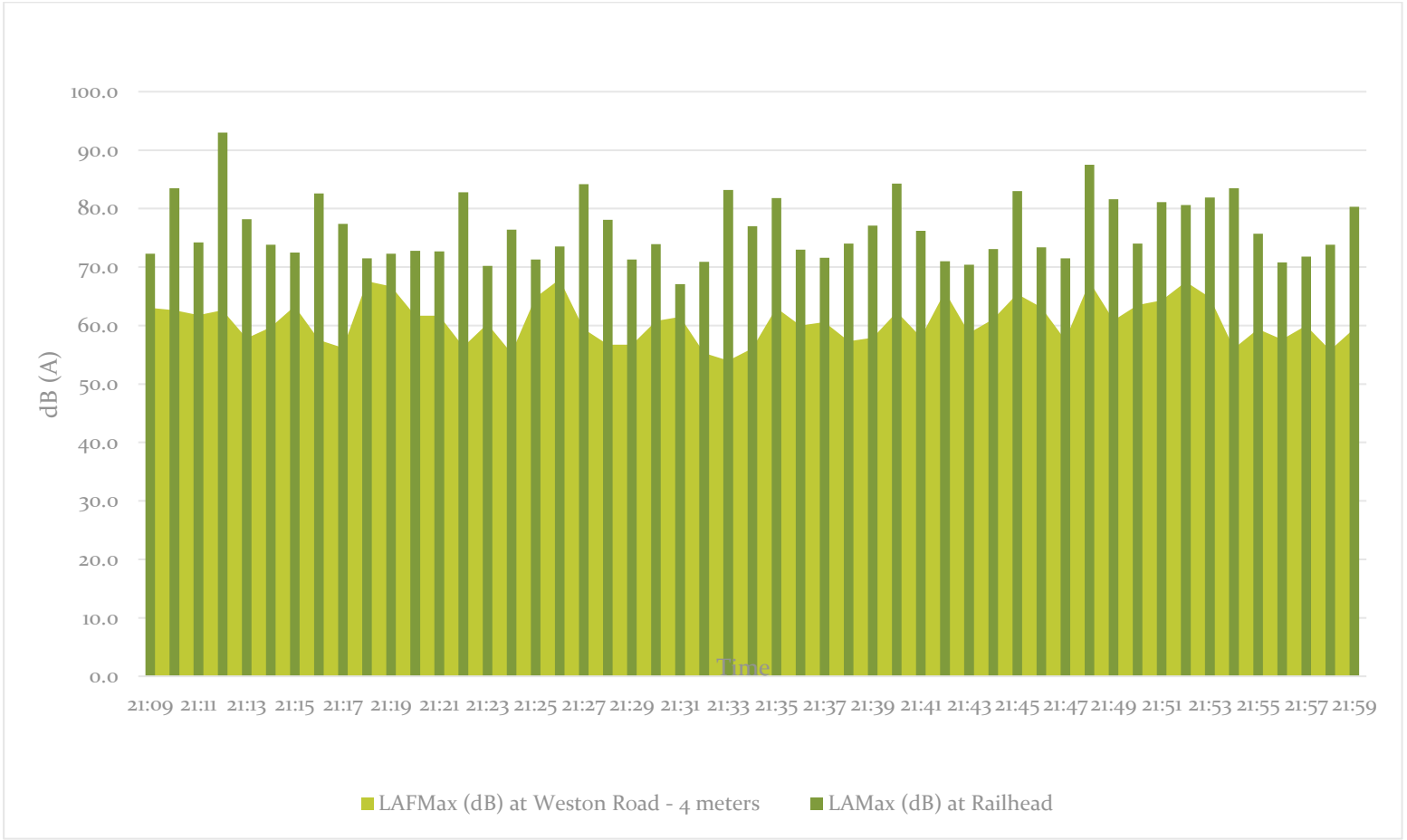


Figure 7-12
Measured $L_{Amax,T}$ at Weston Road at 4m with Railhead L_{Amax} Noise Events Shown as a Bar Chart



For further detailed analysis the three highest rail head noise events are compared to the measured $L_{Aeq,T}$, and L_{Amax} noise levels at Westfield Road in Figures 7-5 to 7-8.

Figure 7-13
Measured $L_{Aeq,T}$ at Weston Road at 1.5m with Three Highest Railhead $L_{Aeq,T}$ Noise Events Shown

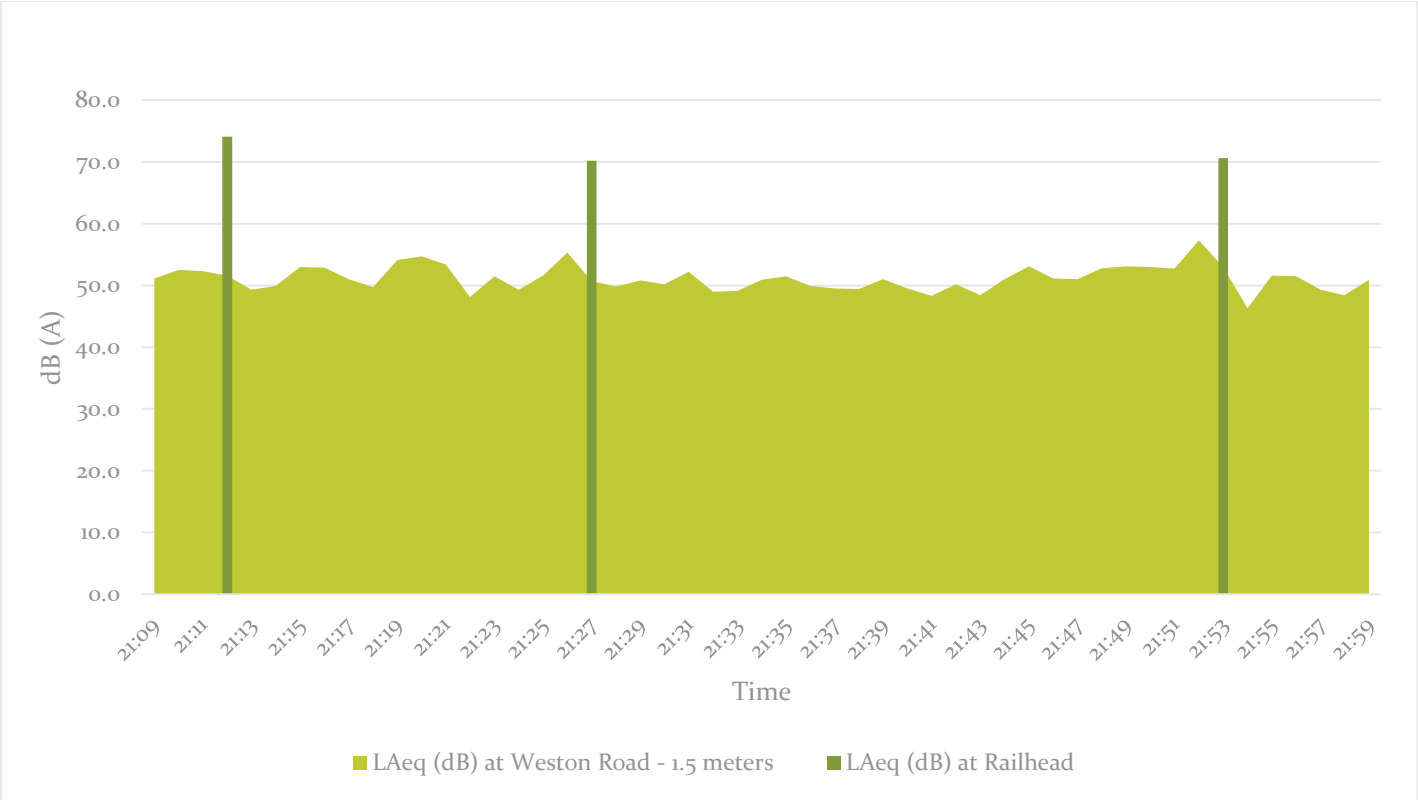


Figure 7-14
Measured $L_{Aeq,T}$ at Weston Road at 4m with Three Highest Railhead $L_{Aeq,T}$ Noise Events Shown

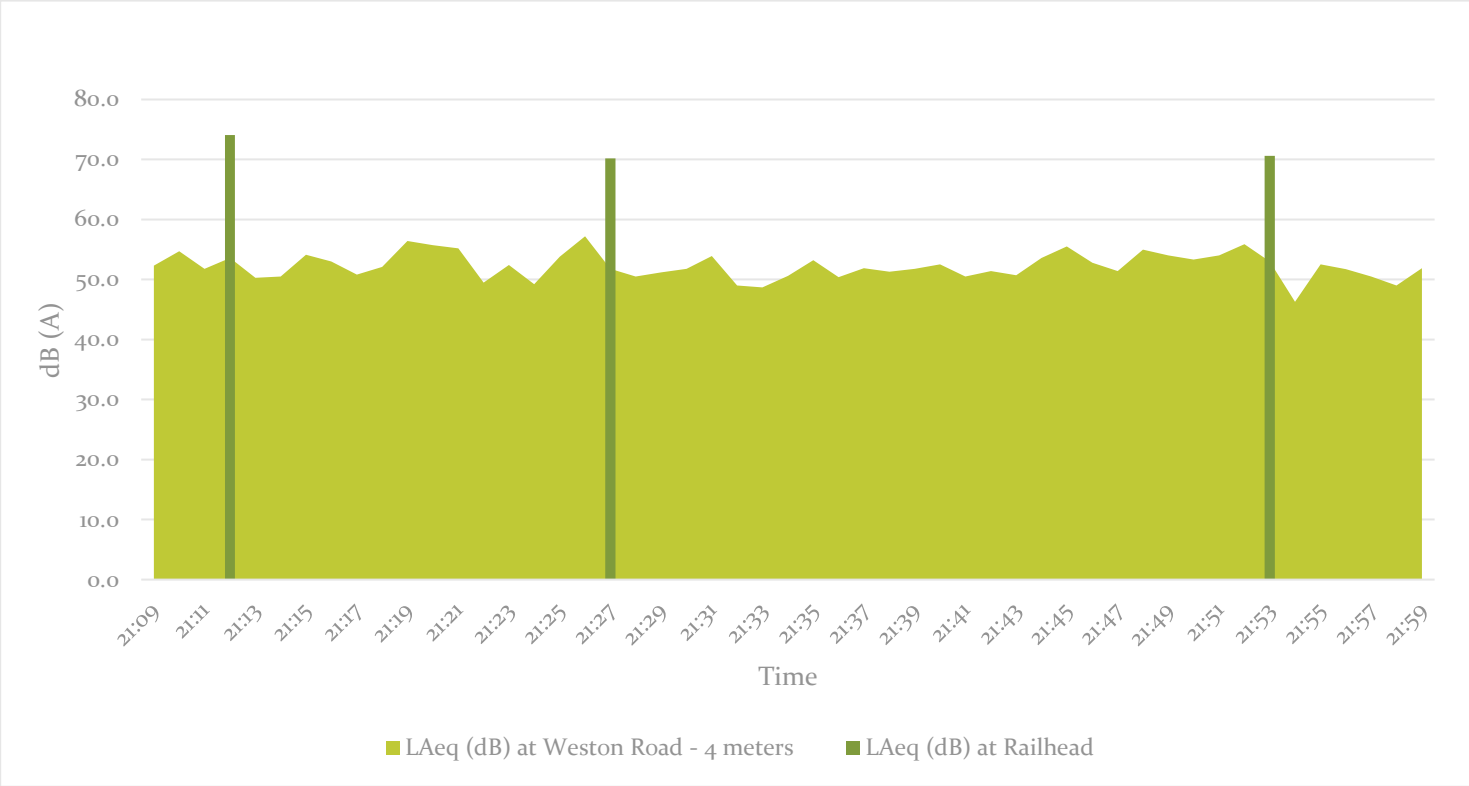


Figure 7-15
Measured L_{AMax} at Weston Road at 1.5m with Three Highest Railhead L_{Amax} Noise Events Shown

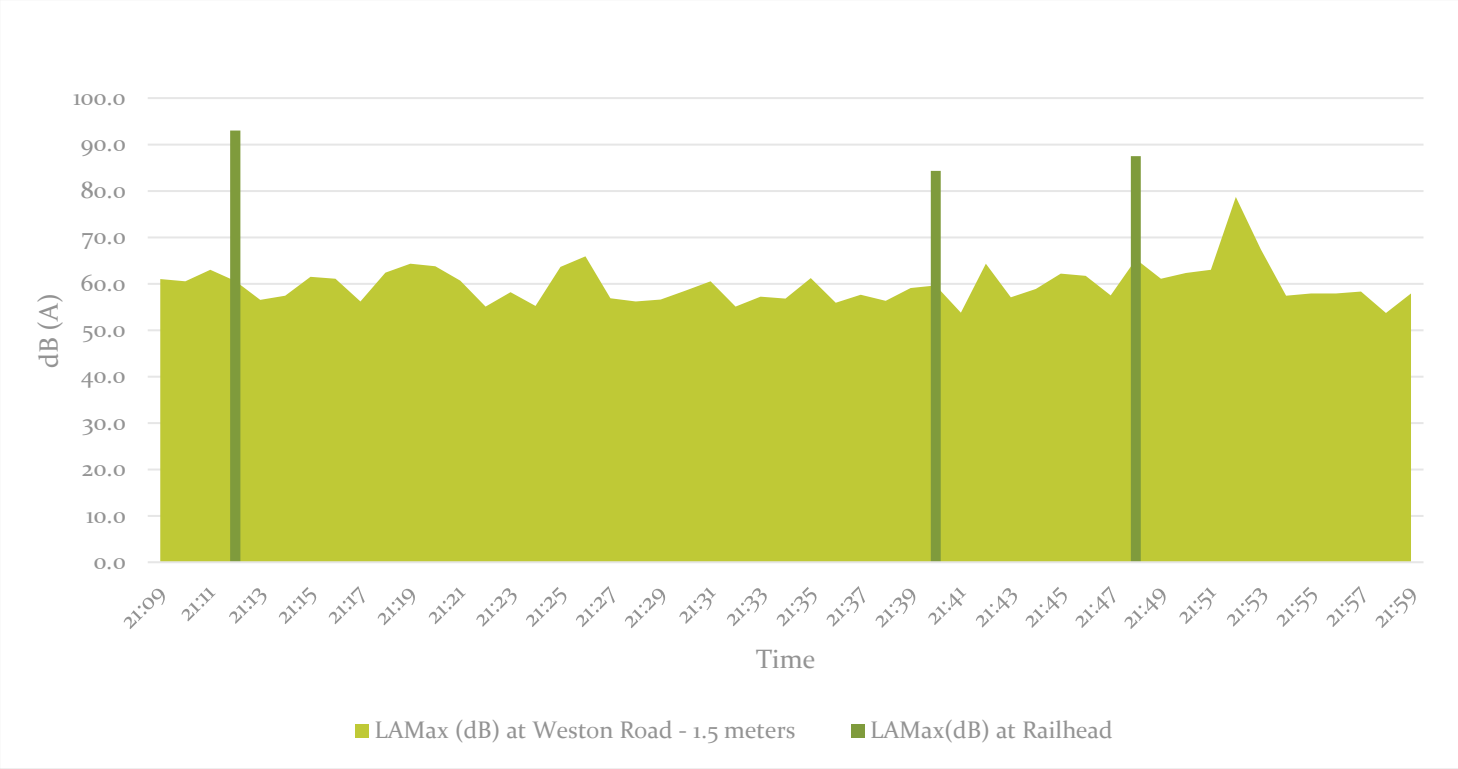
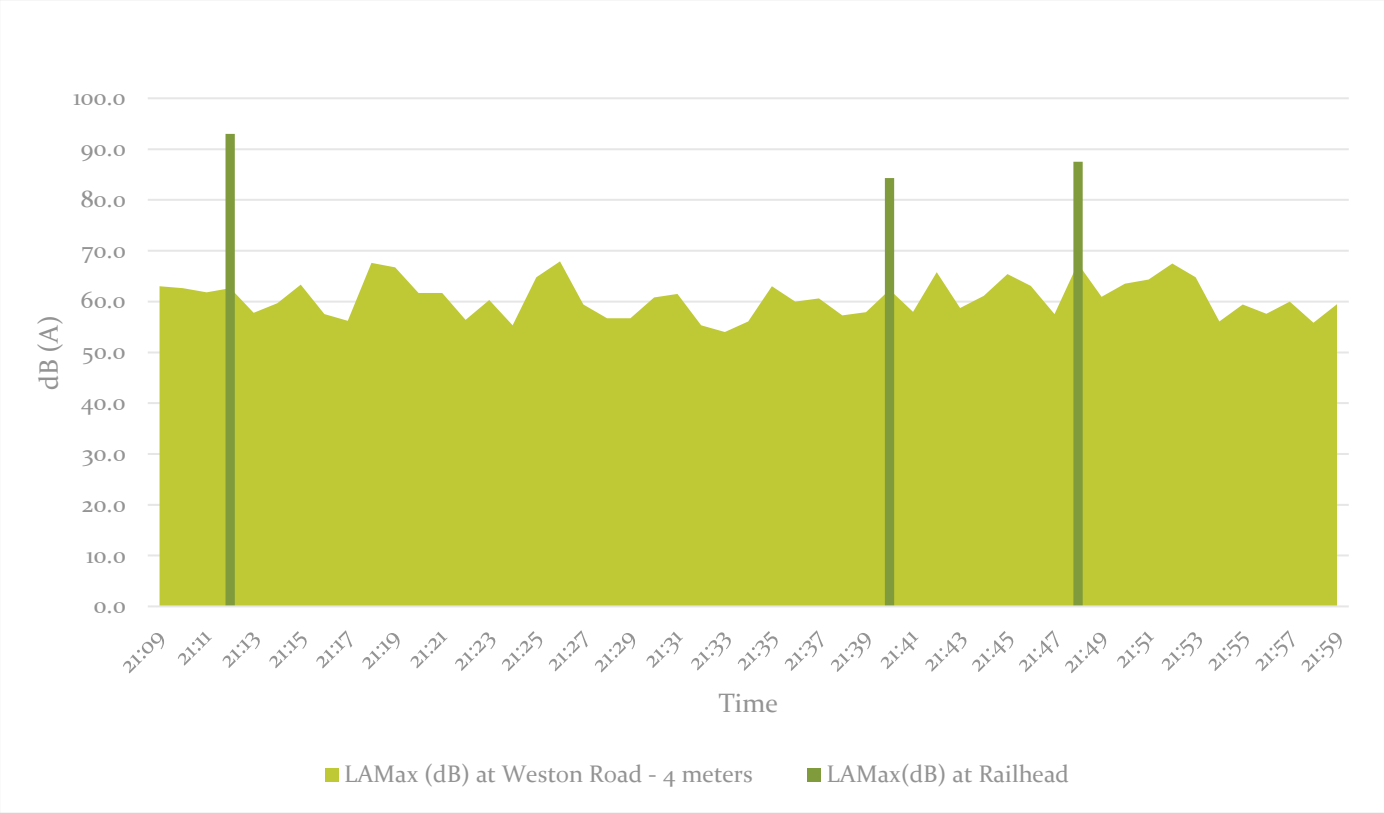


Figure 7-16
Measured L_{AMax} at Weston Road at 4m with Three Highest Railhead L_{Amax} Noise Events Shown



7.5 Analysis of Measured and Recorded Data at Weston Road

It can be seen from Figures 7-9 to 7-16 that:

- There is no direct correlation between all railhead noise events and elevated $L_{Aeq,T}$ noise levels at Weston Road.
- At 21:11 the higher $L_{Aeq,T}$ noise level at Weston Road does not correlate with the dropping of a container. The recorded audio file has been examined and listened to. There is a faintly audible noise source, but it is difficult to discern whether it is a plane passing by, or if it is an industrial noise source. Either way, it is quite faint. Occasional birdsong and vehicle pass bys were also heard.
- 21:15 – 21:17 The higher $L_{Aeq,T}$ noise level at Weston Road does not correlate with the dropping of a container. In the initial few seconds there is something faintly audible, but this passes. There is the sound of what the listener believed to be distant HGV passes. In general road traffic noise is dominant with occasional birdsong. At the end of the period as the road traffic noise drops, there is a faintly audible sound that could be industrial.
- 21:20: The higher $L_{Aeq,T}$ noise level at Weston Road does not correlate with the dropping of a container. I think there was an overhead vehicle pass. There something relatively dominant throughout the period, but it wasn't industrial or road traffic noise.
- 21:26: The higher $L_{Aeq,T}$ noise level at Weston Road does not correlate with the dropping of a container. Air traffic movement overheard. No notable industrial noise audible. Occasional birdsong.
- 21:47 to 21:53: The higher $L_{Aeq,T}$ noise level at Weston Road does not correlate with the dropping of a container. Distant road traffic noise is heard with occasional nearby vehicle passes, and birdsong. No audible industrial noise or container drops.

7.6 Audibility Discussion

It can be seen in the above graphs, the measured noise level at Westfield Road do not clearly correlate with on site activities. This is the due to several reasons, i.e., traffic levels at the specific time, wind direction, and other general noises in the area. In all incidents, the loudest noises captured were cars passing nearby.

8.0 Conclusion

SLR understands that the Facility has recently received complaints with regards to noise from the handling of containers at the railhead, and that the EA has subsequently determined that the sound is impulsive in nature.

Consequently, railhead activities north of the Halton fabrication building have been stopped between the hours of 9pm and 7am. Operations during this time may only recommence following written agreement from the EA.

It was agreed in a meeting held on the 20th of April that a Mitigated Noise Survey should be completed whilst mitigated Railhead Operations are taking place to the north of the Halton fabrication building.

This Report has presented the results of the Noise Mitigation Survey. An analysis has then been undertaken to determine if railhead Events were distinctive at either Weston Road or Westfield Road.

Based on the results presented and discussed in this Report, with the continued implementation of the measures proposed in the Action Plan, SLR would recommend to the EA that the prohibition of railhead operations between the hours of 9pm and 7am to the north of the Halton fabrication building is lifted.

APPENDIX 01

Glossary of Terminology

The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0dB (the threshold of hearing) to over 120dB. An indication of the range of sound levels commonly found in the environment is given in the following table.

Table 01-01
Sound Levels Commonly Found in the Environment

Sound Level	Location
0dB(A)	Threshold of hearing
20 to 30dB(A)	Quiet bedroom at night
30 to 40dB(A)	Living room during the day
40 to 50dB(A)	Typical office
50 to 60dB(A)	Inside a car
60 to 70dB(A)	Typical high street
70 to 90dB(A)	Inside factory
100 to 110dB(A)	Burglar alarm at 1m away
110 to 130dB(A)	Jet aircraft on take off
140dB(A)	Threshold of Pain

Acoustic Terminology

dB (decibel) The scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure ($2x10^{-5}$ Pa).

dB(A) A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e. 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.

L_{Aeq} L_{Aeq} is defined as the notional steady sound level which, over a stated period of time, would contain the same amount of acoustical energy as the A-weighted fluctuating sound measured over that period.

L_{10} & L_{90} If a non-steady noise is to be described it is necessary to know both its level and the degree of fluctuation. The Ln indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L_{10} is the level exceeded for 10% of the time and as such can be regarded as the 'average maximum level'. Similarly, L_{90} is the 'average minimum level' and is often used to describe the background noise. It is common practice to use the L_{10} index to describe traffic noise.

L_{AFmax} L_{AFmax} is the maximum A-weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.

APPENDIX 02

Mitigated Survey Results

Table 02-01
On-Site Railhead Survey Results

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (dB)
25/05/2022 21:09	63.0	72.3	64.5	60.6
25/05/2022 21:10	70.1	83.5	74.9	59.9
25/05/2022 21:11	62.7	74.2	64.0	60.0
25/05/2022 21:12	74.1	93.0	72.6	60.7
25/05/2022 21:13	65.5	78.2	67.5	61.3
25/05/2022 21:14	67.9	73.8	68.9	66.8
25/05/2022 21:15	67.4	72.5	68.1	66.7
25/05/2022 21:16	67.0	82.6	71.2	57.6
25/05/2022 21:17	62.7	77.4	63.8	56.4
25/05/2022 21:18	57.7	71.5	58.2	55.4
25/05/2022 21:19	61.9	72.3	65.6	56.4
25/05/2022 21:20	59.4	72.8	61.7	56.5
25/05/2022 21:21	62.8	72.7	64.0	60.0
25/05/2022 21:22	67.8	82.8	70.7	61.4
25/05/2022 21:23	61.1	70.2	63.6	59.1
25/05/2022 21:24	61.3	76.4	61.9	58.8
25/05/2022 21:25	64.7	71.3	67.6	61.7
25/05/2022 21:26	65.0	73.5	67.5	62.1
25/05/2022 21:27	70.2	84.2	74.4	59.4
25/05/2022 21:28	66.2	78.1	69.4	56.5
25/05/2022 21:29	58.5	71.3	60.9	56.0
25/05/2022 21:30	62.6	73.9	66.0	58.0
25/05/2022 21:31	61.2	67.1	63.2	59.3
25/05/2022 21:32	61.4	70.9	63.2	59.7
25/05/2022 21:33	66.8	83.2	67.1	59.1
25/05/2022 21:34	65.1	77.0	67.4	59.8
25/05/2022 21:35	67.1	81.8	70.3	59.8
25/05/2022 21:36	64.3	73.0	69.1	57.7
25/05/2022 21:37	62.8	71.6	67.3	57.9
25/05/2022 21:38	62.8	74.0	64.9	59.7

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (dB)
25/05/2022 21:39	68.6	77.1	73.7	60.5
25/05/2022 21:40	67.8	84.3	70.9	57.4
25/05/2022 21:41	61.4	76.2	63.1	55.1
25/05/2022 21:42	61.6	71.0	66.6	55.5
25/05/2022 21:43	61.3	70.4	63.8	57.4
25/05/2022 21:44	61.5	73.1	62.8	57.7
25/05/2022 21:45	64.1	83.0	63.4	60.1
25/05/2022 21:46	62.0	73.4	65.3	58.0
25/05/2022 21:47	61.4	71.5	62.8	58.1
25/05/2022 21:48	68.8	87.5	71.0	60.5
25/05/2022 21:49	68.9	81.6	73.1	60.6
25/05/2022 21:50	64.9	74.0	68.6	60.5
25/05/2022 21:51	66.6	81.1	70.0	60.2
25/05/2022 21:52	64.7	80.6	65.9	60.9
25/05/2022 21:53	70.6	81.9	75.9	60.7
25/05/2022 21:54	67.9	83.5	71.7	57.5
25/05/2022 21:55	62.7	75.7	65.0	55.3
25/05/2022 21:56	59.1	70.8	60.7	56.1
25/05/2022 21:57	62.9	71.8	66.0	57.9
25/05/2022 21:58	61.1	73.8	62.6	56.4
25/05/2022 21:59	67.4	80.3	68.8	62.5

Table 02-02
Off-Site Westfield Road @ 1.5 Meters Survey Results

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90(dB)
25/05/2022 19:26	62.1	81.1	63.6	52.2
25/05/2022 19:27	60.6	72.9	63.6	53.4
25/05/2022 19:28	61.7	74.8	65.9	50.9
25/05/2022 19:29	57.0	62.6	60.5	50.6
25/05/2022 19:30	54.9	64.0	57.3	51.1
25/05/2022 19:31	54.3	60.1	57.5	50.3
25/05/2022 19:32	58.5	69.7	61.1	48.4
25/05/2022 19:33	55.7	64.8	57.2	51.7
25/05/2022 19:34	54.4	59.0	56.9	51.1
25/05/2022 19:35	53.9	60.6	57.6	48.8
25/05/2022 19:36	58.2	68.4	61.1	50.7
25/05/2022 19:37	58.5	69.0	62.7	51.1
25/05/2022 19:38	62.3	70.5	65.6	54.2
25/05/2022 19:39	56.9	65.9	59.5	52.4
25/05/2022 19:40	61.7	72.4	64.9	53.4
25/05/2022 19:41	60.2	69.3	64.7	52.8
25/05/2022 19:42	55.4	62.6	58.0	51.3
25/05/2022 19:43	58.4	71.0	59.9	51.0
25/05/2022 19:44	52.4	63.2	55.4	47.2
25/05/2022 19:45	50.8	55.8	53.8	46.9
25/05/2022 19:46	56.6	62.8	60.8	48.3
25/05/2022 19:47	53.5	63.5	54.9	48.7
25/05/2022 19:48	51.2	61.4	54.5	46.0
25/05/2022 19:49	55.1	62.2	59.0	48.4
25/05/2022 19:50	50.5	54.2	51.6	48.8
25/05/2022 19:51	54.6	59.6	57.8	50.3
25/05/2022 19:52	53.1	59.4	56.9	48.4
25/05/2022 19:53	50.5	56.7	53.0	48.0
25/05/2022 19:54	58.4	68.7	61.2	49.3
25/05/2022 19:55	55.4	66.3	57.1	48.0

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90(dB)
25/05/2022 19:56	55.0	67.7	56.4	48.8
25/05/2022 19:57	59.6	72.8	63.5	50.0
25/05/2022 19:58	55.2	65.1	57.9	48.4
25/05/2022 19:59	52.5	59.5	55.4	48.3
25/05/2022 20:00	54.1	66.3	56.1	47.5
25/05/2022 20:01	55.5	64.2	57.2	49.6
25/05/2022 20:02	52.1	64.5	54.4	46.1
25/05/2022 20:03	53.3	64.3	56.9	46.9
25/05/2022 20:04	55.0	61.7	58.5	48.0
25/05/2022 20:05	53.6	61.2	56.5	46.0
25/05/2022 20:06	54.7	65.5	57.1	48.3
25/05/2022 20:07	63.0	73.2	67.5	53.1
25/05/2022 20:08	58.2	63.2	60.7	54.0
25/05/2022 20:09	60.4	68.9	65.5	53.4
25/05/2022 20:10	58.9	68.9	62.5	51.3
25/05/2022 20:11	54.5	60.8	58.0	48.6
25/05/2022 20:12	56.2	65.9	58.2	51.5
25/05/2022 20:13	57.9	67.4	60.4	51.2
25/05/2022 20:14	54.2	58.9	56.9	50.6
25/05/2022 20:15	53.9	64.1	56.5	49.1
25/05/2022 20:16	60.5	72.1	63.1	49.3
25/05/2022 20:17	52.0	57.6	55.0	47.9
25/05/2022 20:18	52.5	60.9	57.3	47.0
25/05/2022 20:19	51.3	58.8	53.8	47.7
25/05/2022 20:20	56.7	64.5	59.8	52.4
25/05/2022 20:21	53.8	63.9	56.2	50.5
25/05/2022 20:22	52.5	58.9	55.7	48.9
25/05/2022 20:23	56.6	64.9	59.7	49.6
25/05/2022 20:24	57.9	68.9	60.2	51.3
25/05/2022 20:25	50.0	59.2	53.1	45.8
25/05/2022 20:26	58.4	68.4	61.8	47.5
25/05/2022 20:27	53.9	62.2	58.0	48.8

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90(dB)
25/05/2022 20:28	50.2	57.1	54.7	46.1
25/05/2022 20:29	50.3	56.6	52.9	47.6
25/05/2022 20:30	53.2	61.3	58.4	46.9
25/05/2022 20:31	53.1	59.1	55.8	49.1
25/05/2022 20:32	53.7	59.0	56.3	49.7
25/05/2022 20:33	53.5	60.2	56.8	47.5
25/05/2022 20:34	55.1	66.0	56.9	51.0
25/05/2022 20:35	53.4	58.0	55.5	50.9
25/05/2022 20:36	59.3	70.9	63.1	51.9
25/05/2022 20:37	61.5	70.5	65.9	53.2
25/05/2022 20:38	52.4	60.6	55.5	47.5
25/05/2022 20:39	52.0	57.0	54.0	48.8
25/05/2022 20:40	51.4	58.7	54.3	47.6
25/05/2022 20:41	58.5	67.1	62.6	50.1
25/05/2022 20:42	58.5	69.0	60.4	48.5
25/05/2022 20:43	53.5	61.1	57.0	47.9
25/05/2022 20:44	61.4	70.6	64.9	53.5
25/05/2022 20:45	53.3	59.9	56.0	48.7
25/05/2022 20:46	54.3	61.0	57.9	48.8
25/05/2022 20:47	57.2	67.4	59.6	50.1
25/05/2022 20:48	55.4	63.4	57.9	50.6
25/05/2022 20:49	53.7	61.2	57.8	47.2
25/05/2022 20:50	51.9	60.2	55.4	47.8
25/05/2022 20:51	52.3	58.2	55.4	47.1
25/05/2022 20:52	50.5	55.9	52.6	48.1
25/05/2022 20:53	53.0	60.0	55.5	49.1
25/05/2022 20:54	53.1	62.7	55.8	48.4
25/05/2022 20:55	52.7	60.3	56.1	47.8
25/05/2022 20:56	54.2	61.5	57.0	49.2
25/05/2022 20:57	59.0	69.9	61.4	51.8
25/05/2022 20:58	56.8	66.2	60.0	48.6
25/05/2022 20:59	53.9	63.8	56.9	49.6

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90(dB)
25/05/2022 21:00	57.0	65.6	59.7	50.9
25/05/2022 21:01	57.3	64.5	60.0	52.2
25/05/2022 21:02	55.9	63.5	58.7	51.2
25/05/2022 21:03	55.0	62.7	58.2	50.1
25/05/2022 21:04	56.1	65.3	59.0	49.1
25/05/2022 21:05	52.2	61.2	55.1	47.7
25/05/2022 21:06	56.5	68.7	60.1	49.1
25/05/2022 21:07	54.5	61.0	58.0	47.6
25/05/2022 21:08	56.3	68.7	57.7	49.6
25/05/2022 21:09	54.5	64.6	56.7	48.9
25/05/2022 21:10	51.4	59.7	53.7	47.9
25/05/2022 21:11	58.1	72.3	59.9	51.4
25/05/2022 21:12	53.2	61.8	56.1	48.4
25/05/2022 21:13	52.8	59.6	56.2	48.7
25/05/2022 21:14	52.4	63.4	54.3	47.9
25/05/2022 21:15	55.6	66.3	59.2	47.8
25/05/2022 21:16	54.3	59.5	57.3	49.6
25/05/2022 21:17	55.3	60.3	57.9	50.4
25/05/2022 21:18	47.6	56.8	49.1	45.3
25/05/2022 21:19	54.1	62.2	58.0	48.1
25/05/2022 21:20	56.2	69.1	57.6	50.5
25/05/2022 21:21	56.5	67.2	60.6	48.6
25/05/2022 21:22	50.3	56.6	52.3	47.1
25/05/2022 21:23	52.5	59.0	55.4	48.7
25/05/2022 21:24	53.0	60.4	57.2	48.0
25/05/2022 21:25	51.7	57.2	55.0	46.7
25/05/2022 21:26	61.7	71.8	65.7	50.8
25/05/2022 21:27	56.2	63.9	59.5	51.4
25/05/2022 21:28	53.7	66.0	56.3	47.1
25/05/2022 21:29	52.9	58.1	56.0	48.2
25/05/2022 21:30	53.0	58.1	56.0	49.5
25/05/2022 21:31	53.7	61.2	59.1	46.8

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90(dB)
25/05/2022 21:32	52.9	60.3	56.8	45.8
25/05/2022 21:33	53.6	58.9	57.6	47.4
25/05/2022 21:34	53.2	60.2	57.4	47.2
25/05/2022 21:35	51.5	59.2	54.7	46.7
25/05/2022 21:36	54.1	59.4	57.4	49.3
25/05/2022 21:37	53.4	61.4	57.8	48.5
25/05/2022 21:38	54.2	64.5	58.0	47.6
25/05/2022 21:39	54.7	64.2	57.3	47.9
25/05/2022 21:40	54.8	64.4	58.6	47.4
25/05/2022 21:41	52.3	64.0	54.3	47.0
25/05/2022 21:42	52.3	64.1	54.0	46.9
25/05/2022 21:43	50.3	57.3	54.8	46.4
25/05/2022 21:44	50.4	58.5	55.0	45.4
25/05/2022 21:45	53.0	60.8	56.8	47.0
25/05/2022 21:46	53.7	61.3	57.7	47.9
25/05/2022 21:47	55.5	63.1	59.6	47.5
25/05/2022 21:48	51.0	59.1	54.8	46.7
25/05/2022 21:49	53.2	62.0	55.6	48.6
25/05/2022 21:50	54.5	62.6	57.7	47.6
25/05/2022 21:51	52.4	60.5	55.3	47.8
25/05/2022 21:52	52.1	59.8	54.6	47.6
25/05/2022 21:53	52.5	59.3	57.0	47.0
25/05/2022 21:54	47.8	55.6	50.0	45.9
25/05/2022 21:55	56.5	66.1	58.7	49.1
25/05/2022 21:56	54.4	60.3	57.4	49.7
25/05/2022 21:57	51.6	58.6	55.6	47.5
25/05/2022 21:58	53.7	63.9	55.8	48.5
25/05/2022 21:59	56.5	69.7	58.3	49.4
25/05/2022 22:00	52.7	59.4	56.3	47.3
25/05/2022 22:01	52.0	61.5	54.6	47.0
25/05/2022 22:02	49.2	52.5	50.6	47.1
25/05/2022 22:03	52.1	57.9	55.6	46.1

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90(dB)
25/05/2022 22:04	51.4	61.5	54.3	47.0
25/05/2022 22:05	51.7	61.5	56.6	45.9
25/05/2022 22:06	48.8	56.6	50.2	46.6
25/05/2022 22:07	52.4	64.8	55.9	47.5
25/05/2022 22:08	62.6	71.2	67.2	47.9
25/05/2022 22:09	53.8	62.5	58.1	47.6
25/05/2022 22:10	57.3	69.7	59.7	47.6
25/05/2022 22:11	52.9	59.6	56.9	48.1
25/05/2022 22:12	54.7	66.2	56.1	47.5
25/05/2022 22:13	50.4	55.2	53.0	48.1
25/05/2022 22:14	53.7	60.6	57.6	48.4
25/05/2022 22:15	61.9	69.4	66.2	49.9
25/05/2022 22:16	54.8	64.8	57.7	48.0
25/05/2022 22:17	57.3	67.2	61.6	48.5
25/05/2022 22:18	59.1	70.8	62.0	49.4
25/05/2022 22:19	54.2	64.7	56.7	47.3
25/05/2022 22:20	57.5	64.5	60.2	53.0
25/05/2022 22:21	58.6	67.6	61.9	50.4
25/05/2022 22:22	62.8	80.5	65.0	51.5
25/05/2022 22:23	49.2	55.6	50.0	47.3
25/05/2022 22:24	54.5	60.9	59.0	47.0
25/05/2022 22:25	52.0	68.4	54.9	45.6
25/05/2022 22:26	56.1	70.7	60.3	48.2
25/05/2022 22:27	54.2	67.2	56.8	49.4
25/05/2022 22:28	55.4	75.2	58.4	45.8
25/05/2022 22:29	50.7	58.9	54.4	46.0
25/05/2022 22:30	54.8	74.1	55.1	46.4
25/05/2022 22:31	57.5	81.3	52.2	46.3
25/05/2022 22:32	51.3	58.3	55.5	46.4
25/05/2022 22:33	51.1	59.4	56.0	45.1
25/05/2022 22:34	51.2	64.0	53.6	44.9
25/05/2022 22:35	50.5	58.8	52.7	45.7

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90(dB)
25/05/2022 22:36	51.5	59.3	54.9	46.5
25/05/2022 22:37	52.0	58.7	56.2	45.8
25/05/2022 22:38	63.4	71.8	68.3	51.4
25/05/2022 22:39	53.4	62.9	56.5	47.9
25/05/2022 22:40	47.6	50.1	48.7	46.2
25/05/2022 22:41	46.9	50.8	49.1	45.4
25/05/2022 22:42	54.6	61.9	58.9	46.4
25/05/2022 22:43	53.4	66.2	52.4	46.0
25/05/2022 22:44	56.5	61.6	59.6	49.5
25/05/2022 22:45	51.0	57.7	52.8	46.9
25/05/2022 22:46	51.9	60.2	55.7	46.9
25/05/2022 22:47	48.2	54.0	52.1	45.1
25/05/2022 22:48	46.8	51.8	48.0	45.4
25/05/2022 22:49	53.0	57.4	55.2	49.4
25/05/2022 22:50	47.7	54.3	50.0	44.9
25/05/2022 22:51	55.2	66.3	58.5	46.8
25/05/2022 22:52	50.6	59.5	52.1	46.7
25/05/2022 22:53	58.1	69.9	61.7	49.4
25/05/2022 22:54	56.2	66.5	59.6	50.0
25/05/2022 22:55	54.1	65.2	56.6	47.4
25/05/2022 22:56	49.2	54.5	50.8	47.2
25/05/2022 22:57	49.5	54.9	51.4	47.0
25/05/2022 22:58	48.2	52.6	49.4	46.6
25/05/2022 22:59	49.9	55.4	52.3	47.3
25/05/2022 23:00	51.5	56.6	53.4	48.9
25/05/2022 23:01	55.5	65.9	58.0	49.6
25/05/2022 23:02	52.6	59.0	56.6	46.8
25/05/2022 23:03	51.5	63.1	53.2	47.1
25/05/2022 23:04	50.5	56.1	54.4	46.9
25/05/2022 23:05	53.9	62.1	58.6	46.6
25/05/2022 23:06	55.7	63.5	59.1	49.0
25/05/2022 23:07	54.2	60.9	56.8	49.2

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90(dB)
25/05/2022 23:08	50.4	57.8	52.6	47.7
25/05/2022 23:09	49.1	56.8	52.2	46.1
25/05/2022 23:10	54.4	64.7	56.8	48.5
25/05/2022 23:11	53.1	62.2	57.5	46.5
25/05/2022 23:12	51.0	62.7	53.8	45.7
25/05/2022 23:13	50.9	58.2	55.5	44.9
25/05/2022 23:14	48.4	55.7	50.5	45.7
25/05/2022 23:15	57.2	67.9	59.8	50.1
25/05/2022 23:16	57.2	68.1	62.5	46.5
25/05/2022 23:17	51.0	57.8	55.2	45.8
25/05/2022 23:18	47.7	56.7	49.0	44.9
25/05/2022 23:19	54.6	68.0	56.5	46.3
25/05/2022 23:20	49.4	56.2	53.1	45.8
25/05/2022 23:21	63.6	72.0	68.1	50.4
25/05/2022 23:22	51.1	58.1	53.4	47.8
25/05/2022 23:23	56.6	73.2	57.9	46.0

Table 02-03
Off-Site Westfield Road @ 4 Meters Survey Results

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (90) (dB)
25/05/2022 19:22	57.3	68.3	59.6	54.1
25/05/2022 19:23	62.0	70.7	65.2	54.5
25/05/2022 19:24	63.6	72.8	69.1	53.5
25/05/2022 19:25	64.3	75.2	67.4	58.1
25/05/2022 19:26	59.8	69.5	62.8	51.7
25/05/2022 19:27	61.4	72.6	64.5	53.5
25/05/2022 19:28	64.3	73.5	67.7	57.5
25/05/2022 19:29	58.0	65.3	61.6	52.1
25/05/2022 19:30	59.4	66.0	64.0	53.3
25/05/2022 19:31	58.7	68.2	61.9	52.8
25/05/2022 19:32	60.5	70.7	64.7	50.7
25/05/2022 19:33	61.7	73.8	64.2	55.0
25/05/2022 19:34	59.3	68.4	61.8	54.7

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (90) (dB)
25/05/2022 19:35	55.7	62.4	59.1	51.2
25/05/2022 19:36	62.6	73.3	66.2	55.4
25/05/2022 19:37	62.8	73.6	67.3	52.6
25/05/2022 19:38	62.8	70.9	67.1	55.1
25/05/2022 19:39	62.0	70.9	65.5	54.3
25/05/2022 19:40	63.0	72.2	66.8	55.9
25/05/2022 19:41	65.6	75.8	69.8	56.6
25/05/2022 19:42	58.4	64.6	61.0	53.9
25/05/2022 19:43	62.2	74.5	65.0	52.5
25/05/2022 19:44	56.8	61.9	59.8	52.3
25/05/2022 19:45	54.1	60.9	57.7	48.7
25/05/2022 19:46	58.9	66.8	63.4	50.2
25/05/2022 19:47	58.3	67.4	61.5	51.2
25/05/2022 19:48	56.5	68.5	60.0	48.4
25/05/2022 19:49	54.8	60.3	58.0	51.1
25/05/2022 19:50	58.4	64.9	62.0	51.3
25/05/2022 19:51	57.6	65.8	61.3	52.8
25/05/2022 19:52	57.1	63.5	61.4	50.7
25/05/2022 19:53	55.5	61.6	59.1	50.6
25/05/2022 19:54	61.0	72.4	64.2	51.2
25/05/2022 19:55	55.7	62.8	59.3	49.9
25/05/2022 19:56	59.4	70.5	60.8	51.3
25/05/2022 19:57	61.5	72.1	65.5	51.7
25/05/2022 19:58	62.9	77.2	65.6	50.9
25/05/2022 19:59	59.3	69.6	62.4	50.9
25/05/2022 20:00	58.2	70.2	61.4	51.7
25/05/2022 20:01	57.0	64.0	60.3	49.8
25/05/2022 20:02	59.4	68.8	62.2	50.9
25/05/2022 20:03	56.9	68.8	61.6	48.6
25/05/2022 20:04	55.9	63.6	60.0	49.1
25/05/2022 20:05	57.8	65.8	62.4	48.9
25/05/2022 20:06	60.2	70.1	62.7	52.4
25/05/2022 20:07	58.8	67.5	62.6	51.0
25/05/2022 20:08	65.1	74.2	68.6	58.1

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (90) (dB)
25/05/2022 20:09	62.3	69.3	66.6	56.5
25/05/2022 20:10	60.6	68.7	63.6	54.2
25/05/2022 20:11	62.3	72.6	65.7	54.9
25/05/2022 20:12	57.2	64.7	61.4	51.2
25/05/2022 20:13	61.9	71.6	65.3	54.2
25/05/2022 20:14	59.8	70.4	63.5	53.4
25/05/2022 20:15	58.1	67.5	60.0	52.7
25/05/2022 20:16	57.2	65.2	61.0	50.9
25/05/2022 20:17	63.2	74.7	67.1	51.7
25/05/2022 20:18	56.7	66.9	60.8	49.6
25/05/2022 20:19	52.5	57.6	55.0	49.6
25/05/2022 20:20	58.0	62.2	60.6	52.3
25/05/2022 20:21	60.6	69.6	64.3	53.9
25/05/2022 20:22	56.0	60.9	59.1	51.9
25/05/2022 20:23	57.1	67.4	60.1	51.8
25/05/2022 20:24	62.6	72.4	65.1	56.8
25/05/2022 20:25	57.5	66.7	63.3	48.6
25/05/2022 20:26	59.3	72.7	63.3	48.2
25/05/2022 20:27	61.2	71.1	64.0	54.2
25/05/2022 20:28	52.5	59.3	55.0	49.0
25/05/2022 20:29	54.7	62.6	58.4	49.1
25/05/2022 20:30	55.5	64.2	60.5	49.4
25/05/2022 20:31	56.9	65.8	60.5	51.4
25/05/2022 20:32	56.0	62.2	59.1	51.4
25/05/2022 20:33	58.3	63.3	60.8	53.8
25/05/2022 20:34	59.1	70.8	62.2	50.0
25/05/2022 20:35	56.8	61.4	59.6	53.3
25/05/2022 20:36	62.3	72.8	65.9	53.8
25/05/2022 20:37	63.0	70.8	66.7	55.7
25/05/2022 20:38	57.8	63.7	60.7	51.9
25/05/2022 20:39	55.1	63.0	58.9	49.6
25/05/2022 20:40	54.6	62.2	56.7	50.9
25/05/2022 20:41	58.2	68.2	61.7	50.5
25/05/2022 20:42	64.3	72.7	68.3	55.2

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (90) (dB)
25/05/2022 20:43	55.8	65.2	59.6	49.9
25/05/2022 20:44	61.5	70.8	65.5	53.9
25/05/2022 20:45	59.6	72.1	63.6	53.1
25/05/2022 20:46	56.6	63.0	60.4	50.9
25/05/2022 20:47	58.0	65.8	61.9	51.6
25/05/2022 20:48	60.4	70.6	63.1	53.9
25/05/2022 20:49	58.8	64.9	61.7	52.7
25/05/2022 20:50	55.5	62.2	58.9	49.2
25/05/2022 20:51	54.2	60.6	57.8	50.2
25/05/2022 20:52	54.0	58.5	56.8	49.3
25/05/2022 20:53	55.0	61.5	57.7	50.6
25/05/2022 20:54	57.5	64.3	60.1	51.8
25/05/2022 20:55	53.5	62.4	55.9	49.5
25/05/2022 20:56	55.9	63.2	58.6	52.4
25/05/2022 20:57	62.7	73.5	64.7	54.8
25/05/2022 20:58	57.4	65.1	60.3	50.9
25/05/2022 20:59	61.1	71.2	64.7	52.7
25/05/2022 21:00	60.2	70.1	63.4	51.6
25/05/2022 21:01	59.6	69.8	62.4	53.4
25/05/2022 21:02	58.8	66.8	62.4	53.7
25/05/2022 21:03	59.8	67.8	62.2	54.3
25/05/2022 21:04	58.1	70.8	61.7	51.4
25/05/2022 21:05	58.9	68.7	62.5	51.9
25/05/2022 21:06	58.0	66.2	62.9	50.7
25/05/2022 21:07	59.2	71.7	62.4	50.1
25/05/2022 21:08	58.2	62.9	61.3	52.1
25/05/2022 21:09	61.5	72.2	65.2	52.7
25/05/2022 21:10	54.2	60.1	56.5	51.0
25/05/2022 21:11	62.2	76.6	64.4	53.0
25/05/2022 21:12	56.0	63.5	58.2	51.0
25/05/2022 21:13	55.7	62.2	58.7	52.0
25/05/2022 21:14	57.5	66.7	60.9	50.3
25/05/2022 21:15	53.4	63.2	55.0	50.2
25/05/2022 21:16	60.0	70.4	62.7	52.7

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (90) (dB)
25/05/2022 21:17	60.0	64.6	62.2	55.9
25/05/2022 21:18	53.1	60.7	55.9	47.4
25/05/2022 21:19	56.7	66.4	61.6	49.0
25/05/2022 21:20	60.1	73.6	62.2	53.0
25/05/2022 21:21	59.5	70.9	64.1	51.1
25/05/2022 21:22	57.4	66.4	61.9	50.9
25/05/2022 21:23	55.5	64.1	58.9	50.3
25/05/2022 21:24	57.6	65.2	60.8	52.1
25/05/2022 21:25	53.8	62.3	57.8	49.2
25/05/2022 21:26	60.7	71.2	64.5	50.7
25/05/2022 21:27	61.7	70.6	65.7	52.8
25/05/2022 21:28	56.3	64.3	59.8	49.7
25/05/2022 21:29	58.8	70.0	62.5	51.0
25/05/2022 21:30	57.2	63.0	60.8	51.8
25/05/2022 21:31	53.5	59.5	56.0	50.2
25/05/2022 21:32	58.4	67.3	62.9	48.8
25/05/2022 21:33	56.5	63.4	60.4	50.0
25/05/2022 21:34	58.6	64.1	62.2	49.8
25/05/2022 21:35	52.2	58.2	54.5	49.0
25/05/2022 21:36	56.7	62.4	60.0	52.2
25/05/2022 21:37	57.8	64.8	61.7	51.9
25/05/2022 21:38	53.7	60.8	55.1	51.4
25/05/2022 21:39	58.9	68.3	63.8	50.5
25/05/2022 21:40	59.0	68.3	61.3	52.1
25/05/2022 21:41	56.5	68.2	60.3	49.7
25/05/2022 21:42	53.0	62.7	54.3	48.7
25/05/2022 21:43	55.3	66.9	59.6	49.3
25/05/2022 21:44	55.1	64.1	59.7	48.7
25/05/2022 21:45	55.2	63.0	59.3	48.3
25/05/2022 21:46	56.6	64.6	60.8	50.2
25/05/2022 21:47	59.2	67.0	63.5	50.0
25/05/2022 21:48	55.5	66.5	56.6	50.5
25/05/2022 21:49	55.6	62.2	58.9	50.2
25/05/2022 21:50	59.3	66.6	64.1	52.1

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (90) (dB)
25/05/2022 21:51	54.0	60.3	57.3	49.6
25/05/2022 21:52	57.7	64.3	61.0	53.3
25/05/2022 21:53	56.1	64.4	60.6	49.5
25/05/2022 21:54	52.6	57.9	55.7	48.3
25/05/2022 21:55	59.3	70.4	62.8	48.4
25/05/2022 21:56	59.8	65.2	62.5	54.0
25/05/2022 21:57	56.3	62.5	59.5	52.6
25/05/2022 21:58	56.8	67.7	60.7	50.3
25/05/2022 21:59	56.3	62.0	59.5	52.1
25/05/2022 22:00	60.2	73.0	63.1	50.1
25/05/2022 22:01	56.5	63.5	60.5	50.1
25/05/2022 22:02	56.0	66.7	58.2	51.2
25/05/2022 22:03	54.2	60.8	57.4	48.7
25/05/2022 22:04	55.9	63.9	59.2	49.3
25/05/2022 22:05	55.8	62.9	59.7	50.8
25/05/2022 22:06	50.9	58.5	52.5	48.8
25/05/2022 22:07	52.3	59.4	55.6	49.5
25/05/2022 22:08	58.4	70.4	61.6	50.6
25/05/2022 22:09	64.3	72.8	68.1	54.1
25/05/2022 22:10	58.7	69.1	62.1	50.8
25/05/2022 22:11	60.6	74.1	62.5	50.5
25/05/2022 22:12	55.0	61.4	58.2	51.2
25/05/2022 22:13	58.2	71.1	61.5	51.0
25/05/2022 22:14	55.2	61.0	57.8	51.2
25/05/2022 22:15	58.8	66.9	64.0	50.9
25/05/2022 22:16	63.4	70.9	67.9	51.3
25/05/2022 22:17	60.9	70.9	63.8	50.3
25/05/2022 22:18	60.8	72.7	64.8	50.6
25/05/2022 22:19	62.6	75.7	65.2	50.6
25/05/2022 22:20	60.7	69.9	64.2	53.3
25/05/2022 22:21	63.0	70.4	65.7	56.2
25/05/2022 22:22	63.0	74.6	67.0	53.3
25/05/2022 22:23	56.6	67.2	61.0	48.7
25/05/2022 22:24	57.7	69.0	61.4	49.8

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (90) (dB)
25/05/2022 22:25	58.9	66.8	62.5	51.5
25/05/2022 22:26	56.2	67.5	61.4	48.7
25/05/2022 22:27	56.1	64.5	58.1	52.3
25/05/2022 22:28	55.3	66.2	59.2	49.4
25/05/2022 22:29	55.9	70.2	59.6	48.7
25/05/2022 22:30	54.2	61.6	57.9	49.7
25/05/2022 22:31	53.7	73.0	54.8	49.1
25/05/2022 22:32	53.9	61.3	58.4	48.8
25/05/2022 22:33	55.1	62.9	59.7	50.1
25/05/2022 22:34	55.5	67.9	59.2	47.4
25/05/2022 22:35	51.7	60.1	54.7	47.5
25/05/2022 22:36	55.0	63.2	57.9	50.4
25/05/2022 22:37	52.1	59.8	55.1	48.4
25/05/2022 22:38	58.5	65.6	62.0	53.0
25/05/2022 22:39	64.3	73.4	68.5	51.7
25/05/2022 22:40	51.3	58.6	53.7	49.1
25/05/2022 22:41	49.3	53.9	51.2	46.9
25/05/2022 22:42	57.6	65.4	62.1	47.6
25/05/2022 22:43	51.4	55.7	53.9	48.3
25/05/2022 22:44	57.6	67.7	62.1	47.4
25/05/2022 22:45	58.8	64.8	62.9	51.5
25/05/2022 22:46	54.9	62.0	59.2	48.8
25/05/2022 22:47	50.4	59.6	53.7	46.7
25/05/2022 22:48	50.8	58.9	54.9	46.8
25/05/2022 22:49	53.2	59.1	56.7	47.6
25/05/2022 22:50	54.5	60.9	58.5	46.8
25/05/2022 22:51	59.0	70.6	62.7	47.1
25/05/2022 22:52	51.5	58.5	53.9	48.6
25/05/2022 22:53	61.5	74.7	65.2	50.5
25/05/2022 22:54	59.8	70.2	63.9	51.0
25/05/2022 22:55	58.7	69.6	62.4	51.1
25/05/2022 22:56	52.6	57.9	55.5	48.8
25/05/2022 22:57	52.0	58.2	54.1	48.6
25/05/2022 22:58	50.1	54.1	51.3	48.9

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (90) (dB)
25/05/2022 22:59	51.2	56.2	52.7	48.9
25/05/2022 23:00	52.2	58.2	55.1	49.2
25/05/2022 23:01	55.2	61.6	57.8	51.4
25/05/2022 23:02	59.8	70.3	61.9	53.5
25/05/2022 23:03	54.9	67.1	59.4	48.3
25/05/2022 23:04	51.2	56.7	53.6	48.7
25/05/2022 23:05	53.0	60.9	56.9	48.2
25/05/2022 23:06	57.5	64.5	61.8	51.1
25/05/2022 23:07	57.6	63.0	60.3	51.8
25/05/2022 23:08	54.2	60.1	57.9	49.8
25/05/2022 23:09	52.5	58.7	55.7	48.8
25/05/2022 23:10	57.2	70.4	61.9	47.9
25/05/2022 23:11	57.5	65.6	60.8	51.6
25/05/2022 23:12	51.7	60.7	54.7	47.7
25/05/2022 23:13	54.6	65.9	58.8	47.4
25/05/2022 23:14	53.0	60.9	58.2	47.2
25/05/2022 23:15	57.3	63.7	62.2	48.9
25/05/2022 23:16	62.5	72.1	67.5	49.3
25/05/2022 23:17	53.7	61.0	58.9	48.2
25/05/2022 23:18	50.1	58.5	53.4	46.5
25/05/2022 23:19	59.4	73.1	63.4	47.7
25/05/2022 23:20	49.3	55.4	51.1	47.7
25/05/2022 23:21	64.2	74.4	69.2	51.5
25/05/2022 23:22	59.1	72.2	63.7	51.1
25/05/2022 23:23	55.1	63.0	58.5	50.1
25/05/2022 23:24	48.7	52.6	50.2	47.0
25/05/2022 23:25	56.7	71.1	60.4	47.9
25/05/2022 23:26	53.8	64.8	57.6	47.9

Table 02-04
Off-Site No.20 Weston @ 1.5 meters Survey Results

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (dB)
25/05/2022 20:20	63.9	75.0	68.5	48.5
25/05/2022 20:21	54.9	74.4	54.9	47.0

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (dB)
25/05/2022 20:22	48.7	54.2	50.5	46.0
25/05/2022 20:23	55.0	68.4	57.5	49.4
25/05/2022 20:24	52.0	58.1	54.6	48.0
25/05/2022 20:25	49.8	64.9	52.2	45.3
25/05/2022 20:26	51.4	58.0	54.6	46.2
25/05/2022 20:27	52.1	59.2	55.2	47.1
25/05/2022 20:28	49.7	57.5	51.8	45.6
25/05/2022 20:29	50.2	56.6	53.0	45.7
25/05/2022 20:30	50.3	59.4	53.1	45.8
25/05/2022 20:31	49.5	58.3	52.2	44.8
25/05/2022 20:32	52.1	58.1	54.7	48.2
25/05/2022 20:33	50.1	56.3	52.9	46.8
25/05/2022 20:34	53.1	61.7	56.1	47.3
25/05/2022 20:35	52.7	62.2	56.5	46.1
25/05/2022 20:36	54.9	68.3	57.5	47.6
25/05/2022 20:37	56.4	66.3	60.1	50.2
25/05/2022 20:38	51.0	59.0	53.0	47.2
25/05/2022 20:39	49.9	55.2	52.1	46.6
25/05/2022 20:40	47.0	54.8	48.1	44.3
25/05/2022 20:41	51.2	57.2	54.5	45.9
25/05/2022 20:42	53.3	60.1	56.2	49.3
25/05/2022 20:43	49.5	58.0	52.5	46.1
25/05/2022 20:44	54.8	67.4	58.6	46.0
25/05/2022 20:45	49.6	54.9	52.0	46.1
25/05/2022 20:46	51.8	59.8	54.5	48.0
25/05/2022 20:47	50.0	57.1	52.4	46.0
25/05/2022 20:48	53.7	61.8	56.5	48.1
25/05/2022 20:49	52.7	59.7	56.0	48.9
25/05/2022 20:50	49.6	55.7	52.1	46.7
25/05/2022 20:51	51.2	58.8	54.8	46.3
25/05/2022 20:52	50.3	60.1	52.6	46.2
25/05/2022 20:53	47.5	54.0	48.7	44.6

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (dB)
25/05/2022 20:54	49.7	56.7	52.7	45.0
25/05/2022 20:55	47.9	65.0	49.9	44.5
25/05/2022 20:56	52.1	60.2	54.7	47.4
25/05/2022 20:57	52.9	63.1	55.6	46.0
25/05/2022 20:58	52.4	59.5	54.6	48.4
25/05/2022 20:59	50.2	55.4	52.0	48.0
25/05/2022 21:00	50.4	56.0	53.3	46.0
25/05/2022 21:01	50.7	57.6	53.2	47.6
25/05/2022 21:02	50.6	57.8	53.0	47.4
25/05/2022 21:03	53.0	58.3	56.1	48.1
25/05/2022 21:04	47.5	54.1	49.1	44.8
25/05/2022 21:05	49.2	55.9	51.6	44.6
25/05/2022 21:06	51.9	59.4	54.9	45.7
25/05/2022 21:07	52.1	61.0	54.7	46.8
25/05/2022 21:08	51.2	59.2	53.4	48.0
25/05/2022 21:09	51.1	61.0	53.2	47.9
25/05/2022 21:10	52.5	60.5	55.8	44.6
25/05/2022 21:11	52.3	63.0	55.0	47.5
25/05/2022 21:12	51.6	60.6	54.6	47.3
25/05/2022 21:13	49.3	56.5	50.8	45.3
25/05/2022 21:14	49.9	57.4	51.7	47.0
25/05/2022 21:15	53.0	61.5	57.6	44.0
25/05/2022 21:16	52.9	61.1	55.1	49.2
25/05/2022 21:17	51.0	56.2	53.8	44.7
25/05/2022 21:18	49.7	62.4	52.2	45.0
25/05/2022 21:19	54.1	64.3	56.7	48.7
25/05/2022 21:20	54.7	63.8	57.2	48.9
25/05/2022 21:21	53.4	60.7	56.5	48.1
25/05/2022 21:22	48.1	55.1	50.2	45.2
25/05/2022 21:23	51.5	58.2	54.2	47.1
25/05/2022 21:24	49.3	55.2	52.2	44.9
25/05/2022 21:25	51.6	63.6	53.7	45.3

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (dB)
25/05/2022 21:26	55.3	65.9	59.7	45.6
25/05/2022 21:27	50.7	56.9	52.7	46.5
25/05/2022 21:28	49.8	56.2	52.4	45.1
25/05/2022 21:29	50.8	56.6	52.9	48.2
25/05/2022 21:30	50.2	58.5	53.3	44.7
25/05/2022 21:31	52.2	60.5	55.6	46.8
25/05/2022 21:32	49.0	55.1	51.3	45.9
25/05/2022 21:33	49.1	57.2	51.4	45.9
25/05/2022 21:34	50.9	56.8	53.3	46.6
25/05/2022 21:35	51.5	61.2	54.0	46.3
25/05/2022 21:36	49.9	55.9	52.4	44.8
25/05/2022 21:37	49.5	57.6	52.4	44.4
25/05/2022 21:38	49.4	56.3	52.8	45.1
25/05/2022 21:39	51.0	59.1	53.7	46.8
25/05/2022 21:40	49.5	59.6	52.8	44.3
25/05/2022 21:41	48.3	53.8	49.6	46.3
25/05/2022 21:42	50.2	64.3	52.1	45.0
25/05/2022 21:43	48.4	57.1	51.0	44.5
25/05/2022 21:44	51.0	58.9	54.6	45.6
25/05/2022 21:45	53.1	62.2	56.0	45.4
25/05/2022 21:46	51.1	61.7	54.4	45.4
25/05/2022 21:47	51.0	57.5	53.5	47.4
25/05/2022 21:48	52.8	65.3	54.5	46.1
25/05/2022 21:49	53.1	61.1	55.6	49.0
25/05/2022 21:50	53.0	62.3	56.0	45.9
25/05/2022 21:51	52.7	63.0	56.7	46.5
25/05/2022 21:52	57.3	78.7	59.9	47.3
25/05/2022 21:53	53.0	67.4	55.0	45.5
25/05/2022 21:54	46.3	57.4	48.0	43.2
25/05/2022 21:55	51.6	57.9	55.2	45.9
25/05/2022 21:56	51.5	57.9	53.8	48.9
25/05/2022 21:57	49.3	58.3	51.6	45.3

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (dB)
25/05/2022 21:58	48.4	53.7	50.7	46.0
25/05/2022 21:59	50.9	57.9	53.6	45.3
25/05/2022 22:00	48.3	56.1	50.6	45.2
25/05/2022 22:01	48.1	54.0	50.6	45.0
25/05/2022 22:02	47.3	53.4	49.0	43.5
25/05/2022 22:03	48.1	57.9	50.0	44.0
25/05/2022 22:04	46.6	54.0	48.1	44.7
25/05/2022 22:05	48.3	55.4	50.8	45.3
25/05/2022 22:06	48.7	58.4	50.5	44.8
25/05/2022 22:07	45.8	52.7	47.1	44.0
25/05/2022 22:08	56.2	67.9	61.0	45.1
25/05/2022 22:09	49.5	55.7	52.1	45.4
25/05/2022 22:10	48.6	54.5	51.7	45.0
25/05/2022 22:11	50.7	56.4	53.7	45.7
25/05/2022 22:12	49.3	55.6	50.8	47.4
25/05/2022 22:13	51.3	58.5	54.7	45.4
25/05/2022 22:14	48.3	56.1	51.2	43.7
25/05/2022 22:15	55.3	66.7	59.7	42.7
25/05/2022 22:16	50.2	62.5	53.9	45.0
25/05/2022 22:17	50.6	57.7	53.9	44.6
25/05/2022 22:18	51.3	58.9	54.4	45.3
25/05/2022 22:19	50.3	57.3	53.4	43.7
25/05/2022 22:20	52.0	59.2	55.3	44.9
25/05/2022 22:21	51.3	59.6	53.6	48.1
25/05/2022 22:22	51.7	59.2	54.8	44.6
25/05/2022 22:23	45.7	55.0	47.4	42.9
25/05/2022 22:24	51.2	58.3	53.8	44.8
25/05/2022 22:25	48.5	53.8	51.0	44.5
25/05/2022 22:26	48.9	55.0	52.3	45.1
25/05/2022 22:27	48.8	63.4	49.8	46.0
25/05/2022 22:28	48.9	56.2	51.4	43.0
25/05/2022 22:29	44.3	49.1	46.6	42.0

Date/Time:	LAeq (dB)	LAFMax (dB)	LA10 (dB)	LA90 (dB)
25/05/2022 22:30	45.8	54.1	48.9	41.7
25/05/2022 22:31	47.6	59.7	49.7	41.5
25/05/2022 22:32	45.6	53.2	48.4	41.6
25/05/2022 22:33	44.2	51.2	47.5	40.4
25/05/2022 22:34	45.1	55.0	47.9	41.1
25/05/2022 22:35	51.0	58.3	54.6	44.7
25/05/2022 22:36	50.9	63.4	52.0	42.5
25/05/2022 22:37	48.6	59.8	52.0	42.7
25/05/2022 22:38	57.0	69.6	60.3	48.7
25/05/2022 22:39	46.4	52.4	48.2	44.1
25/05/2022 22:40	50.4	60.9	55.1	42.2
25/05/2022 22:41	46.2	55.9	48.7	41.7
25/05/2022 22:42	49.6	58.3	53.0	42.9
25/05/2022 22:43	43.3	47.2	44.4	42.2
25/05/2022 22:44	49.2	56.0	52.8	43.5
25/05/2022 22:45	48.6	55.0	50.6	44.7
25/05/2022 22:46	46.6	53.1	48.6	43.2
25/05/2022 22:47	42.6	46.2	43.8	41.0
25/05/2022 22:48	45.2	51.9	47.5	42.6
25/05/2022 22:49	48.0	56.0	51.7	42.7
25/05/2022 22:50	47.3	60.0	49.5	43.2
25/05/2022 22:51	48.3	54.3	51.3	43.7
25/05/2022 22:52	45.6	55.0	48.4	42.1
25/05/2022 22:53	51.7	58.0	55.2	46.2
25/05/2022 22:54	50.9	57.4	53.7	45.0
25/05/2022 22:55	48.7	57.3	51.3	42.5
25/05/2022 22:56	44.3	57.4	46.0	42.0
25/05/2022 22:57	46.4	57.7	49.7	41.1
25/05/2022 22:58	43.5	49.6	44.8	42.1
25/05/2022 22:59	43.2	47.0	44.3	41.8

Table 02-05
Off-Site No.20 Weston @ 4 meters Survey Results

Date/Time:	$L_{Aeq\ (dB)}$	$LA_{FMax\ (dB)}$	$L_{A10\ (dB)}$	$L_{A90\ (dB)}$
25/05/2022 20:08	57.1	67.4	60.2	51.4
25/05/2022 20:09	54.1	65.1	57.6	49.4
25/05/2022 20:10	56.3	65.0	59.4	50.1
25/05/2022 20:11	54.0	60.9	57.4	49.2
25/05/2022 20:12	52.4	60.2	54.5	49.3
25/05/2022 20:13	53.7	59.4	55.8	50.2
25/05/2022 20:14	53.9	59.0	55.9	50.3
25/05/2022 20:15	53.7	60.9	56.7	49.7
25/05/2022 20:16	53.2	59.7	56.3	47.3
25/05/2022 20:17	51.3	60.3	54.5	48.1
25/05/2022 20:18	52.2	71.5	53.0	47.6
25/05/2022 20:19	54.4	61.6	58.0	48.6
25/05/2022 20:20	53.8	65.7	56.4	49.1
25/05/2022 20:21	51.4	63.7	54.3	47.0
25/05/2022 20:22	49.0	60.0	50.8	46.5
25/05/2022 20:23	53.7	61.0	56.2	48.8
25/05/2022 20:24	52.2	59.4	54.9	47.7
25/05/2022 20:25	51.0	63.5	54.4	45.9
25/05/2022 20:26	52.7	61.7	56.3	47.3
25/05/2022 20:27	53.6	61.6	56.6	48.0
25/05/2022 20:28	51.4	60.3	54.8	46.0
25/05/2022 20:29	50.8	57.8	53.3	47.2
25/05/2022 20:30	52.9	63.1	56.4	46.8
25/05/2022 20:31	51.7	61.2	55.6	45.8
25/05/2022 20:32	53.3	59.5	56.4	48.7
25/05/2022 20:33	51.3	56.7	54.1	47.3
25/05/2022 20:34	54.5	64.6	58.5	48.4
25/05/2022 20:35	53.9	62.5	58.4	47.2
25/05/2022 20:36	55.8	68.1	58.6	49.0

Date/Time:	$L_{Aeq\ (dB)}$	$LA_{FMax\ (dB)}$	$L_{A10\ (dB)}$	$L_{A90\ (dB)}$)
25/05/2022 20:37	57.2	65.8	61.6	50.0
25/05/2022 20:38	53.2	61.3	56.7	48.2
25/05/2022 20:39	52.2	59.4	55.0	47.9
25/05/2022 20:40	48.2	56.5	50.9	44.6
25/05/2022 20:41	52.8	59.3	55.9	46.8
25/05/2022 20:42	54.5	60.0	57.4	49.8
25/05/2022 20:43	50.7	59.6	54.2	46.3
25/05/2022 20:44	56.4	68.2	60.2	46.9
25/05/2022 20:45	50.2	59.8	52.4	46.4
25/05/2022 20:46	52.6	61.4	55.8	47.7
25/05/2022 20:47	50.9	58.6	53.7	46.5
25/05/2022 20:48	55.8	65.3	59.9	49.2
25/05/2022 20:49	54.5	61.4	57.9	49.2
25/05/2022 20:50	51.0	57.5	53.2	47.7
25/05/2022 20:51	52.3	59.5	55.9	47.5
25/05/2022 20:52	52.1	62.4	54.6	46.3
25/05/2022 20:53	48.7	54.6	50.7	45.8
25/05/2022 20:54	51.4	60.0	55.4	46.1
25/05/2022 20:55	49.6	61.8	52.4	45.0
25/05/2022 20:56	53.6	62.6	56.9	47.3
25/05/2022 20:57	54.3	61.7	57.3	47.0
25/05/2022 20:58	54.0	61.9	56.7	49.5
25/05/2022 20:59	50.2	54.5	51.7	48.5
25/05/2022 21:00	51.3	58.5	54.7	47.2
25/05/2022 21:01	52.1	58.6	55.6	48.2
25/05/2022 21:02	51.7	58.7	54.4	48.6
25/05/2022 21:03	54.9	59.7	57.8	49.1
25/05/2022 21:04	47.9	53.1	49.5	45.4
25/05/2022 21:05	50.1	56.1	52.3	45.4
25/05/2022 21:06	52.1	59.7	55.5	46.4
25/05/2022 21:07	51.8	61.5	54.3	47.3
25/05/2022 21:08	51.2	58.9	53.4	48.2

Date/Time:	$L_{Aeq\ (dB)}$	$LA_{FMax\ (dB)}$	$L_{A10\ (dB)}$	$L_{A90\ (dB)}$)
25/05/2022 21:09	52.3	63.0	54.7	48.6
25/05/2022 21:10	54.7	62.6	57.4	45.7
25/05/2022 21:11	51.8	61.8	54.4	47.7
25/05/2022 21:12	53.6	62.6	56.9	48.0
25/05/2022 21:13	50.3	57.8	52.2	47.0
25/05/2022 21:14	50.5	59.7	52.0	47.5
25/05/2022 21:15	54.1	63.3	58.4	44.7
25/05/2022 21:16	53.0	57.5	55.1	49.5
25/05/2022 21:17	50.8	56.2	53.3	46.1
25/05/2022 21:18	52.1	67.6	54.0	45.5
25/05/2022 21:19	56.4	66.7	59.3	49.7
25/05/2022 21:20	55.7	61.7	58.7	50.3
25/05/2022 21:21	55.2	61.7	57.9	50.2
25/05/2022 21:22	49.5	56.4	52.1	45.7
25/05/2022 21:23	52.4	60.3	55.2	48.1
25/05/2022 21:24	49.2	55.3	51.9	45.7
25/05/2022 21:25	53.8	64.8	57.9	45.8
25/05/2022 21:26	57.2	67.9	61.7	46.5
25/05/2022 21:27	51.8	59.4	54.5	47.2
25/05/2022 21:28	50.5	56.7	52.7	45.6
25/05/2022 21:29	51.2	56.7	53.4	48.5
25/05/2022 21:30	51.8	60.8	55.2	45.4
25/05/2022 21:31	53.9	61.5	57.4	47.5
25/05/2022 21:32	49.0	55.3	51.2	45.5
25/05/2022 21:33	48.7	54.0	51.0	45.5
25/05/2022 21:34	50.6	56.1	52.8	47.2
25/05/2022 21:35	53.2	63.0	55.6	47.7
25/05/2022 21:36	50.4	60.0	52.8	45.3
25/05/2022 21:37	51.9	60.6	55.8	44.9
25/05/2022 21:38	51.3	57.3	54.7	45.5
25/05/2022 21:39	51.8	57.9	54.3	48.7
25/05/2022 21:40	52.5	62.3	56.7	44.4

Date/Time:	$L_{Aeq\ (dB)}$	$LA_{FMax\ (dB)}$	$L_{A10\ (dB)}$	$L_{A90\ (dB)}$)
25/05/2022 21:41	50.5	58.0	53.2	47.4
25/05/2022 21:42	51.4	65.8	52.2	45.5
25/05/2022 21:43	50.7	58.7	55.2	45.6
25/05/2022 21:44	53.6	61.1	57.0	48.0
25/05/2022 21:45	55.5	65.4	59.2	47.1
25/05/2022 21:46	52.8	63.1	55.8	46.7
25/05/2022 21:47	51.4	57.5	54.5	47.3
25/05/2022 21:48	55.0	67.5	58.7	46.3
25/05/2022 21:49	54.0	60.9	57.0	49.7
25/05/2022 21:50	53.3	63.5	56.6	45.8
25/05/2022 21:51	54.0	64.3	57.8	46.4
25/05/2022 21:52	55.9	67.5	61.2	47.0
25/05/2022 21:53	53.0	64.8	56.5	47.0
25/05/2022 21:54	46.3	56.1	48.2	43.8
25/05/2022 21:55	52.5	59.4	55.9	47.0
25/05/2022 21:56	51.7	57.6	53.7	48.4
25/05/2022 21:57	50.5	60.0	53.4	45.0
25/05/2022 21:58	49.0	55.8	51.5	46.4
25/05/2022 21:59	51.9	59.5	54.9	46.0
25/05/2022 22:00	49.0	55.3	51.4	46.1
25/05/2022 22:01	48.7	56.8	51.5	45.2
25/05/2022 22:02	48.5	55.7	50.6	43.8
25/05/2022 22:03	47.6	53.7	49.7	44.5
25/05/2022 22:04	46.7	53.6	48.3	44.6
25/05/2022 22:05	48.7	54.5	51.5	46.2
25/05/2022 22:06	50.4	59.8	52.3	45.7
25/05/2022 22:07	46.1	49.9	47.4	44.3
25/05/2022 22:08	58.1	69.3	62.0	45.8
25/05/2022 22:09	49.6	56.9	52.1	45.7
25/05/2022 22:10	49.0	56.2	51.5	45.7
25/05/2022 22:11	52.1	59.4	55.1	46.7
25/05/2022 22:12	49.7	55.3	51.6	47.3

Date/Time:	$L_{Aeq\ (dB)}$	$LA_{FMax\ (dB)}$	$L_{A10\ (dB)}$	$L_{A90\ (dB)}$)
25/05/2022 22:13	53.4	60.5	57.1	46.1
25/05/2022 22:14	48.7	58.1	51.2	44.1
25/05/2022 22:15	56.4	66.8	60.8	43.9
25/05/2022 22:16	53.2	73.0	56.5	45.8
25/05/2022 22:17	52.5	61.6	56.3	45.9
25/05/2022 22:18	52.2	61.3	55.2	47.0
25/05/2022 22:19	51.5	59.3	54.6	44.8
25/05/2022 22:20	52.8	59.8	56.1	46.2
25/05/2022 22:21	51.3	57.9	53.6	48.2
25/05/2022 22:22	52.6	61.4	55.9	45.0
25/05/2022 22:23	47.2	57.7	49.3	44.3
25/05/2022 22:24	51.7	58.0	54.7	44.6
25/05/2022 22:25	49.0	55.5	51.2	45.0
25/05/2022 22:26	49.4	55.6	52.9	45.6
25/05/2022 22:27	54.0	76.2	50.7	46.0
25/05/2022 22:28	50.4	58.2	53.6	43.6
25/05/2022 22:29	44.9	49.5	46.7	42.9
25/05/2022 22:30	46.3	53.2	49.0	42.7
25/05/2022 22:31	50.0	61.6	53.5	41.6
25/05/2022 22:32	46.2	55.5	48.8	42.5
25/05/2022 22:33	44.5	50.3	47.5	41.1
25/05/2022 22:34	46.0	58.5	48.2	41.9
25/05/2022 22:35	51.2	58.9	53.9	46.8
25/05/2022 22:36	52.6	64.9	54.9	43.3
25/05/2022 22:37	49.5	59.7	52.6	42.7
25/05/2022 22:38	58.7	72.5	62.3	48.9
25/05/2022 22:39	46.2	50.4	47.8	44.2
25/05/2022 22:40	53.3	62.8	58.0	43.0
25/05/2022 22:41	48.5	57.2	52.1	43.2
25/05/2022 22:42	50.0	58.1	53.9	43.3
25/05/2022 22:43	44.3	51.4	45.3	42.7
25/05/2022 22:44	50.1	57.6	54.1	44.5

Date/Time:	$L_{Aeq\ (dB)}$	$LA_{FMax\ (dB)}$	$L_{A10\ (dB)}$	$L_{A90\ (dB)}$)
25/05/2022 22:45	49.0	54.8	50.7	46.4
25/05/2022 22:46	46.1	52.7	48.0	43.1
25/05/2022 22:47	43.6	49.0	44.9	41.9
25/05/2022 22:48	46.2	52.6	48.4	43.9
25/05/2022 22:49	47.9	55.3	51.0	43.4
25/05/2022 22:50	47.9	58.3	50.5	44.8
25/05/2022 22:51	49.1	57.0	52.6	44.0
25/05/2022 22:52	46.0	54.8	48.3	42.8
25/05/2022 22:53	51.8	59.3	54.4	47.8
25/05/2022 22:54	51.5	57.7	54.2	46.5
25/05/2022 22:55	49.8	57.4	53.6	43.2
25/05/2022 22:56	46.8	57.7	50.2	42.2
25/05/2022 22:57	47.5	59.2	50.8	41.4
25/05/2022 22:58	44.0	47.4	45.2	42.5
25/05/2022 22:59	43.7	46.8	45.0	41.9
25/05/2022 23:00	49.4	62.6	52.2	44.0
25/05/2022 23:01	50.7	59.9	55.3	45.4
25/05/2022 23:02	50.6	58.1	53.5	46.2
25/05/2022 23:03	46.6	53.3	48.3	44.6
25/05/2022 23:04	49.1	61.2	52.4	43.4
25/05/2022 23:05	49.5	64.2	52.2	45.0
25/05/2022 23:06	52.9	55.4	54.7	50.1

Table 02-06
Weather data

Date:	Time:	Temp Out	Hi Temp	Low Temp	Out Hum	Dew Pt.	Wind Speed	Wind Dir
25/05/2022	20:30	16.1	16.1	16	72	11	3.6	WSW
25/05/2022	20:45	15.8	16.1	15.8	71	10.6	3.1	W
25/05/2022	21:00	15.4	15.8	15.4	71	10.2	3.6	W
25/05/2022	21:15	15.2	15.4	15.1	74	10.6	3.1	W
25/05/2022	21:30	14.9	15.1	14.9	75	10.5	3.1	W
		Wind	Hi	Hi	Wind	Heat	THW	
		Run	Speed	Dir	Chill	Index	Index	Bar
25/05/2022	20:30	3.22	4.5	WSW	15.3	15.7	15	29.871
25/05/2022	20:45	2.82	6.3	WSW	15.4	15.4	15.1	29.869
25/05/2022	21:00	3.22	6.7	W	14.5	14.9	14.1	29.877
25/05/2022	21:15	2.82	6.7	W	14.7	14.8	14.3	29.881
25/05/2022	21:30	2.82	6.3	WSW	14.3	14.6	14	29.895
			Rain	Heat	Cool	In	In	In
		Rain	Rate	D-D	D-D	Temp	Hum	Dew
25/05/2022	20:30	0	0	0.024	0	20.1	57	11.3
25/05/2022	20:45	0	0	0.026	0	19.7	60	11.7
25/05/2022	21:00	0	0	0.031	0	18.9	60	11
25/05/2022	21:15	0	0	0.033	0	17.9	60	10
25/05/2022	21:30	0	0	0.036	0	16.9	60	9.1
		In	In	In Air	Wind	Wind	ISS	Arc.
		Heat	EMC	Density	Samp	Tx	Recept	Int.
25/05/2022	20:30	19.7	10.59	0.0741	10	1	2.9	15
25/05/2022	20:45	19.4	11.05	0.0741	351	1	100	15
25/05/2022	21:00	18.4	11.05	0.0744	349	1	100	15
25/05/2022	21:15	17.3	11.07	0.0747	350	1	100	15
25/05/2022	21:30	16.2	11.1	0.0751	351	1	100	15

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