

22 July 2025

Dear Chris

RGRE, Plot H, Charles Street, Manchester M1 7AR Environmental Noise Survey Report – Demolition

Planning permission is being sought for the demolition of the current multi-storey car park on Charles Street in Manchester on behalf of RGRE. Blackbird Acoustics Limited (BAL) have been appointed by RGRE to supply acoustic input to the project. Blackbird Acoustics have undertaken baseline environmental noise surveying at the site to establish the prevailing noise levels. This report details the findings of the noise surveying, on which future assessments will be based; including assessment of demolition noise and vibration impacts in the EIA by Heyda Acoustics.

Noise Surveying

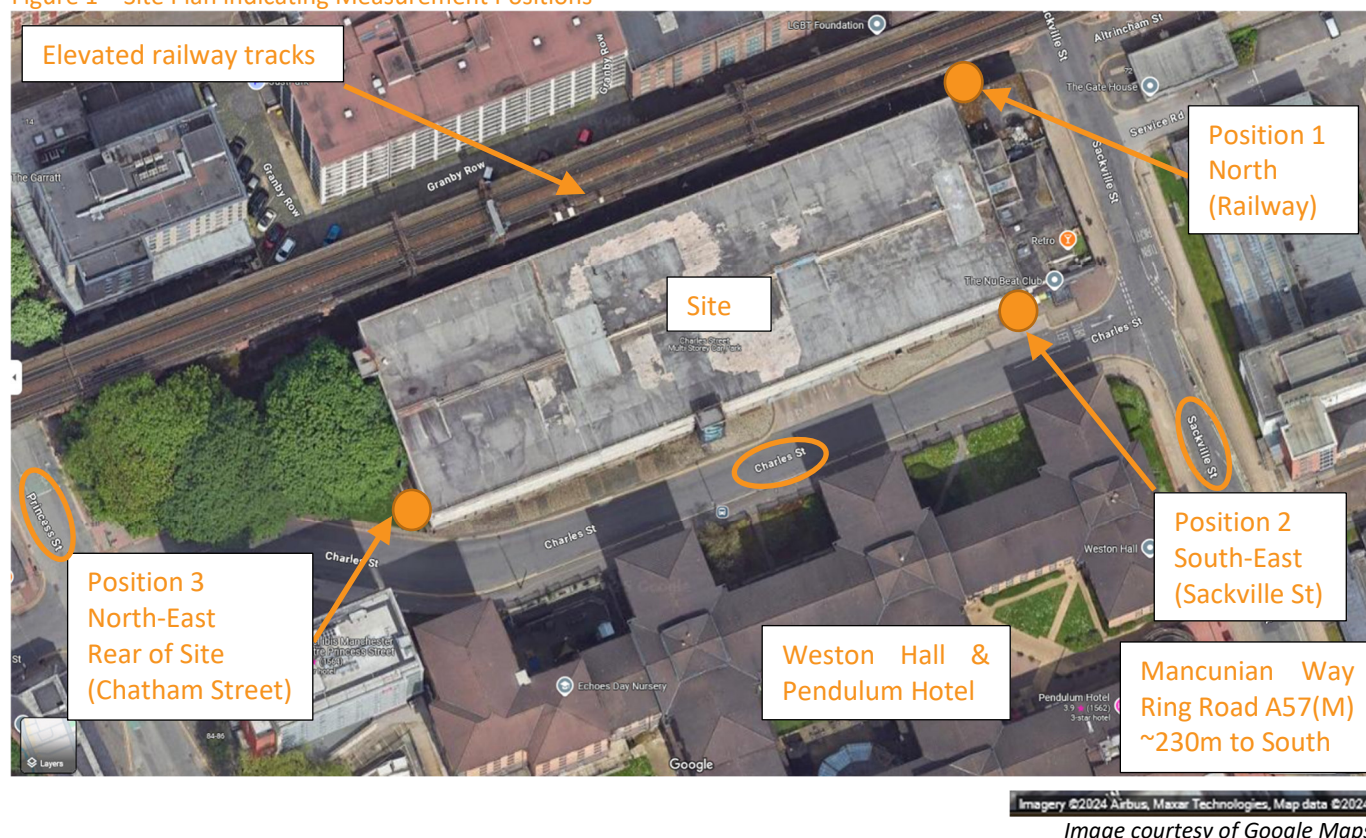
Blackbird Acoustics attended site to undertake environmental noise surveying of the prevailing noise levels at site. Noise monitoring was conducted over a full weekend period (due to its central city location) between 15:15 hours on Friday 4th to 13:20 hours on Tuesday 8th July 2025.

The survey was undertaken in general accordance with BS 7445 and the ANC's Environmental Noise Measurement Guide. Weather conditions throughout the survey were conducive with obtaining representative noise measurements, being generally dry with light winds with periods of light rainfall occasionally. The measurements were made using Type 1 sound level meters, Norsonic 140s, which were calibrated both prior to and on completion of the surveying, with no significant calibration drifts observed. Calibration details available upon request.

Measurements were undertaken over 5-minute sample periods at the following positions, with microphones attached to booms at least 1.5m from the façade line, in the free-field.

Position 1 – North – Rail:	Rear of Site overlooking elevated railway tracks, 9.3m above ground level, circa 3 rd floor, ~0.5m above tracks with direct line-of-sight [///august.museum.rank]
Position 2 – South-East – Sackville St:	Corner of site overlooking Sackville and Charles Streets, 5.6m above ground, circa 2 nd floor [///chef.same.lease]
Position 3 – South-West – Charles St:	Corner of Site overlooking Charles St towards Princess St, opposite Echoes Day Nursery, 7.8m above ground, circa 2 nd floor [///issue.prop.vibrates]

Figure 1 – Site Plan indicating Measurement Positions



Imagery ©2024 Airbus, Maxar Technologies, Map data ©2024
Image courtesy of Google Maps

The measured levels are summarised below;

Table 1 – Summary of Measured Noise Levels

Measurement Period	Pos 1 – North (Railway)			Pos 2 – South-East (Sackville St)			Pos 3 – South-West (Charles St)		
	Typical Lowest L_{A90} (dB)	Period-Averaged L_{Aeq} (dB)	Typical Night L_{Amax} (dB)	Typical Lowest L_{A90} (dB)	Period-Averaged L_{Aeq} (dB)	Typical Night L_{Amax} (dB)	Typical Lowest L_{A90} (dB)	Period-Averaged L_{Aeq} (dB)	Typical Night L_{Amax} (dB)
Daytime (07:00 – 23:00 hours)	46	65	-	47	61	-	48	61	-
Night-time (23:00 – 07:00 hours)	41	62	82	43	58	75	43	58	78

The typical night-time $L_{Amax,f}$ values are calculated from the 90th percentile of the 5-minute samples.

It should be noted that noise levels at all Measurement Positions were dominated by local road traffic movements along the immediately adjacent Sackville (east) and Charles (south) Streets, and the other local roads, including Princess Street (west) and the Mancunian Way Ring Road A58(M), which is approximately 230m to the south of the site. Traffic is fairly consistent and prevalent in the vicinity, although quieter periods occur during the daytime with congestion during rush hour periods. Road traffic movements along the elevated A58(M) contribute to the prevailing background levels. Road sweeping machines were present around the site, on and off throughout the day. Vehicles of all types were present, i.e. cars, motorbikes, vans, buses, lorries, etc.

Rail traffic movements along the elevated railway tracks running the length of the northern boundary also heavily influenced the noise environs. Both passenger and freight trains use the tracks with movements generally quite slow, as the trains travel between stations, with Manchester Oxford Road station to the west of site and Manchester Piccadilly station to the east. Low frequency rumble ('boomy') noise was present on site due to re-radiated noise off the arches supporting the elevated tracks, particularly for faster moving trains.

The measured noise levels from the surveying are graphically represented in the attached Graphs;

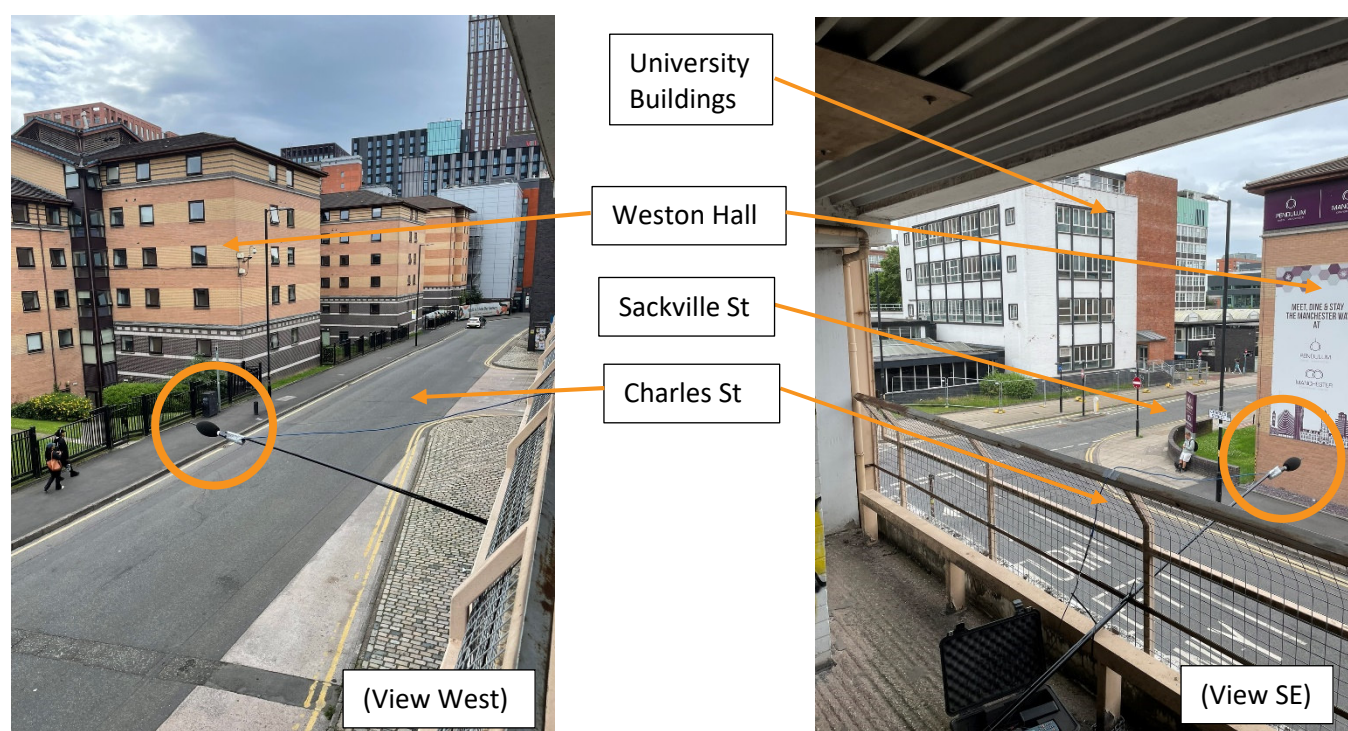
- Graphs 1 - 6 indicate the L_{eq} and L_{max} & L_{90} overall dBA value time-histories measured at each position.
- Graphs 7 - 9 indicate the spectral noise levels, which will be used in the assessment of the glazing specs.
- Graphs 10 - 12 indicate the L_{90} histograms used to derive the “typical lowest” values & thus plant noise criteria.
- Graphs 13 - 15 indicate the $L_{Amax,f,5mins}$ histograms for the night-time only, used to derive the “typical L_{max} ” values.

Photos of the measurement positions are as follows;

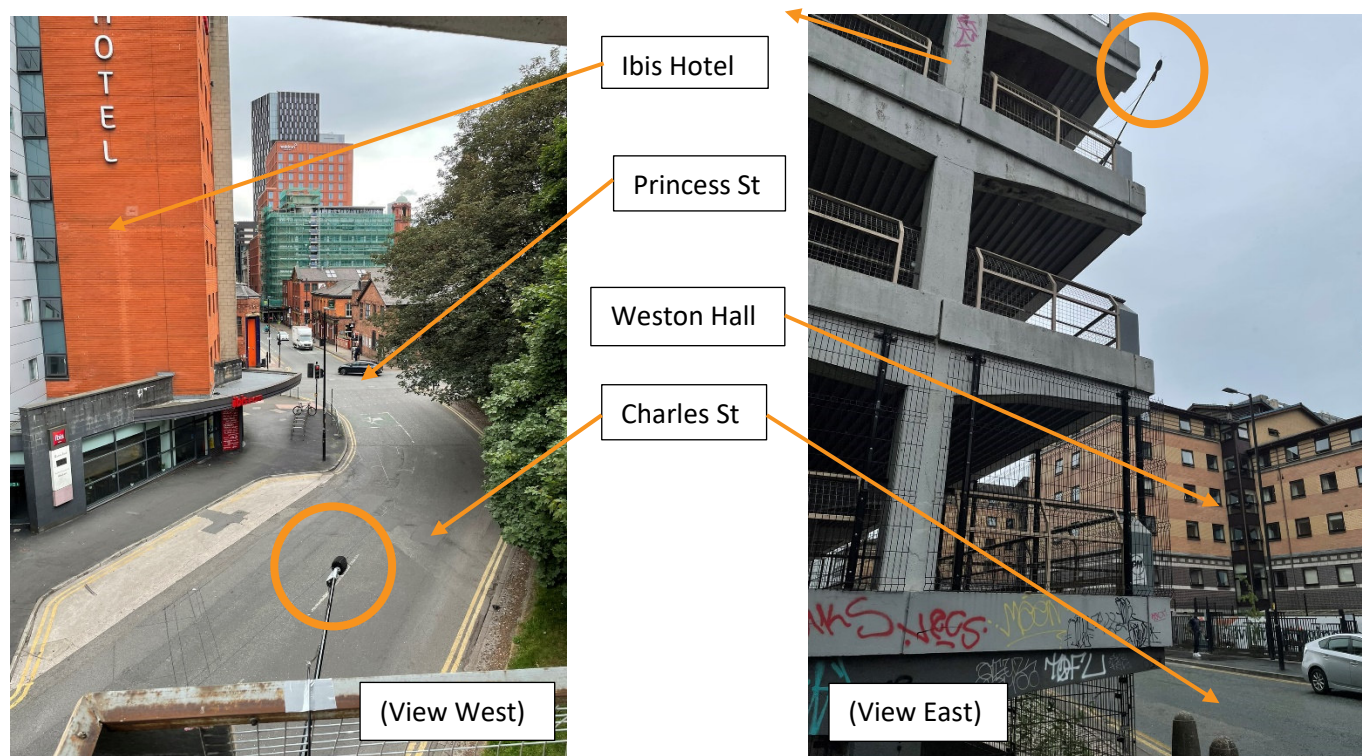
Position 1 – North – Railway Tracks



Position 2 – South-East – Sackville Street



Position 3 – South-West – Charles Street



“Typical-Lowest” Background Levels

When considering the existing background levels at a site, BS 4142:2014 “*Methods for Rating and Assessing Industrial and Commercial Sound*” recommends assessing to the “typical” measured $L_{A90, 15\text{mins}}$ background levels, BS 4142:2014 goes on to state:

In using the background sound level in the method for rating and assessing industrial and commercial sound it is important to ensure that values are reliable and suitably represent both the particular circumstances and periods of interest. For this purpose, the objective is not simply to ascertain a lowest measured background sound level, but rather to quantify what is typical during particular time periods.

BS 4142:2014 suggests that statistical analysis is a suitable method to determine the “typical” background level. This can be carried out by calculating the level of the most-commonly occurring $L_{A90, 15\text{mins}}$ period during the proposed operating hours of equipment.

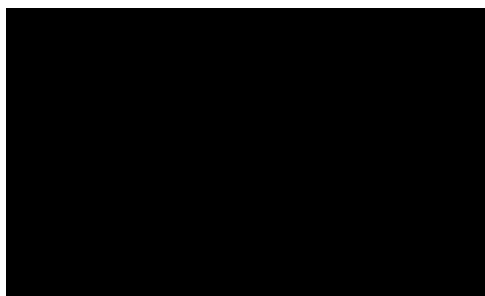
We generally consider that designing to the most-commonly occurring $L_{A90, 15\text{mins}}$ period is not sufficient during those slightly quieter periods. In our opinion, a more representative value would be the “typical-lowest” level, which can be determined statistically as the lowest rounded $L_{A90, 15\text{mins}}$ level which occurs for at least 10% of the assessment period.

The “typical-lowest” background noise levels ($L_{A90, 5\text{mins}}$) at the measurement positions are therefore summarised in the Table 1 above, based upon the L_{A90} histograms attached in Graphs 10 - 12. This data can be used to set plant noise emission criteria for use in the assessment of noise emissions from any proposed operational plant at the development site.

The findings in this report will be used as the basis for future assessments; including the EIA’s demolition noise & vibration assessment by Heyda Acoustics.

We trust the above is clear and of assistance, but should you have any queries, please do not hesitate to contact the undersigned.

Yours sincerely,
For Blackbird Acoustics Limited



RGRE, PBSA, Plot H, Charles Street, Manchester

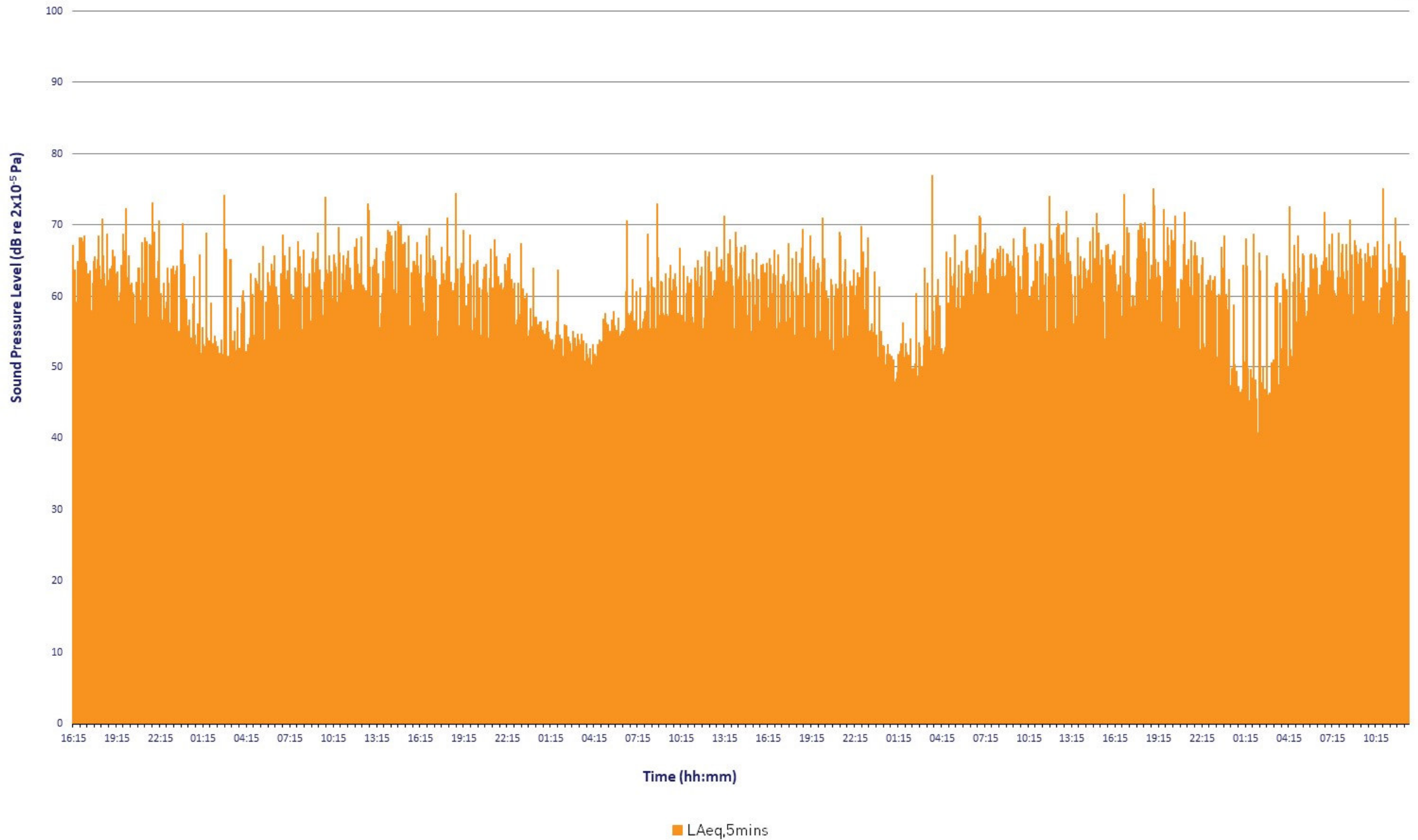
L_{Aeq} Time History (5-mins)

Measurement Position 1 (North - Railway), Friday 4th to Tuesday 8th July 2025



Project: 2151

Graph 1



RGRE, PBSA, Plot H, Charles Street, Manchester

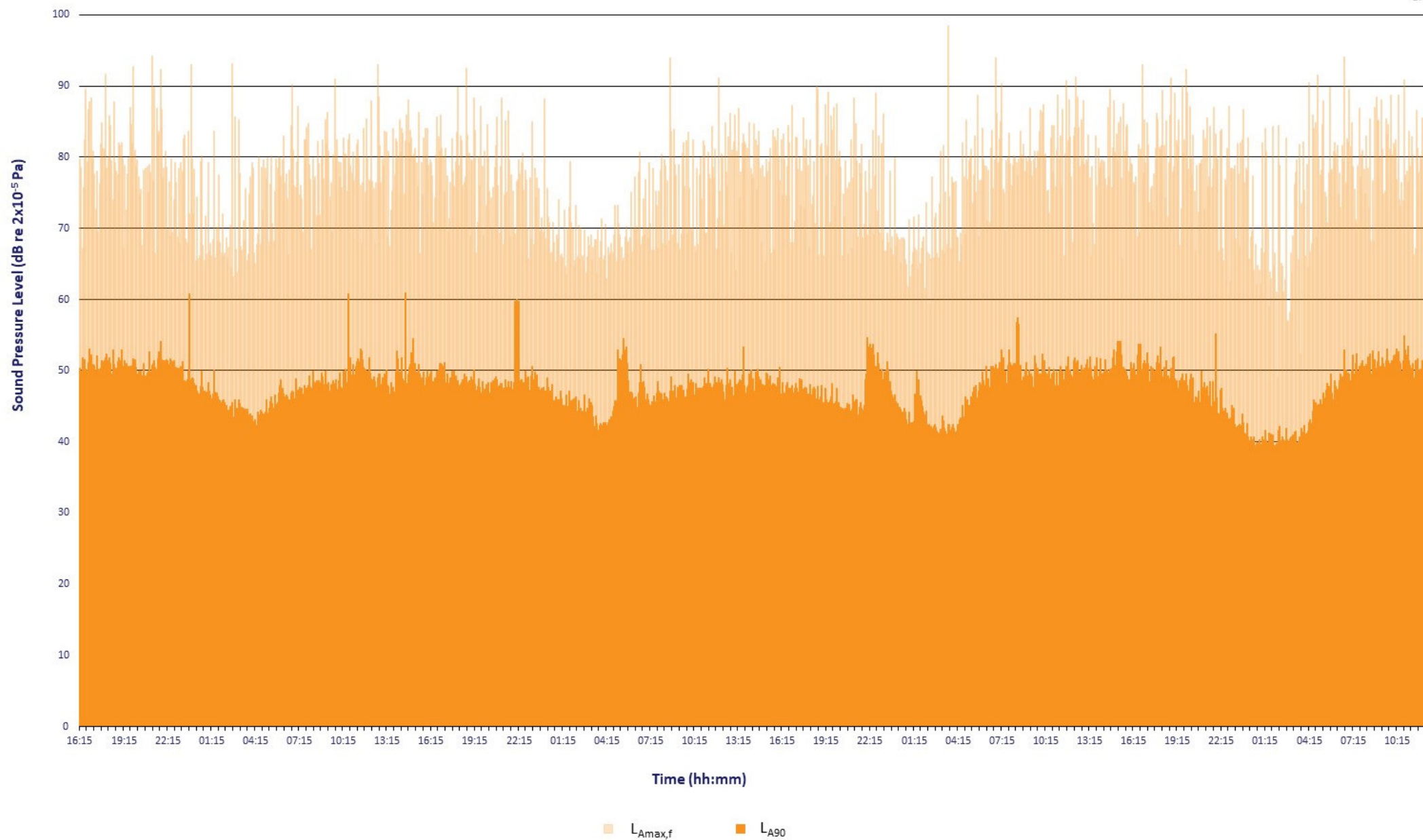
$L_{Amax,f}$ and L_{A90} Time History (5-mins)

Measurement Position 1 (North - Railway), Friday 4th to Tuesday 8th July 2025



Project: 2151

Graph 2



RGRE, PBSA, Plot H, Charles Street, Manchester

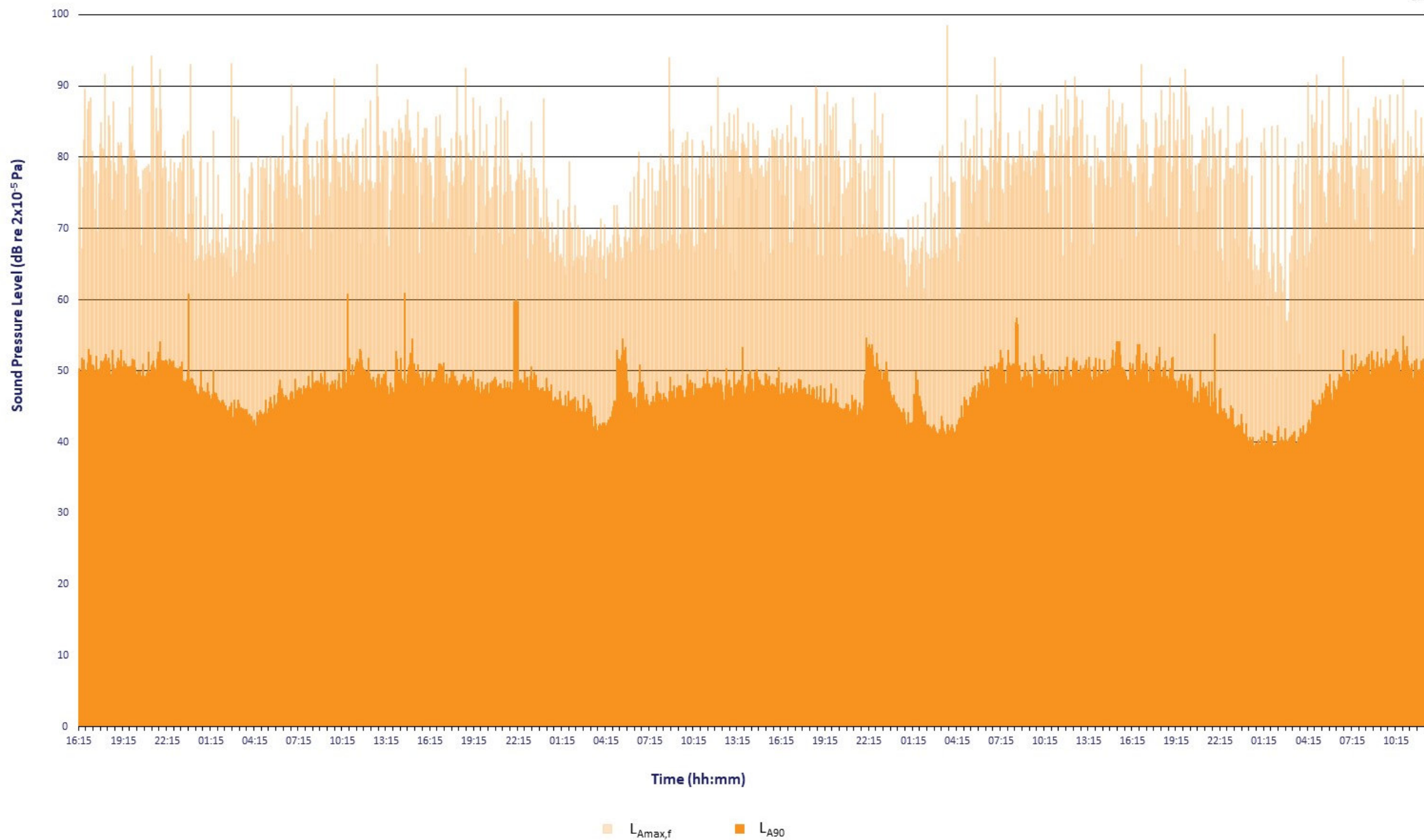
$L_{Amax,f}$ and L_{A90} Time History (5-mins)

Measurement Position 1 (North - Railway), Friday 4th to Tuesday 8th July 2025



Project: 2151

Graph 2



RGRE, PBSA, Plot H, Charles Street, Manchester

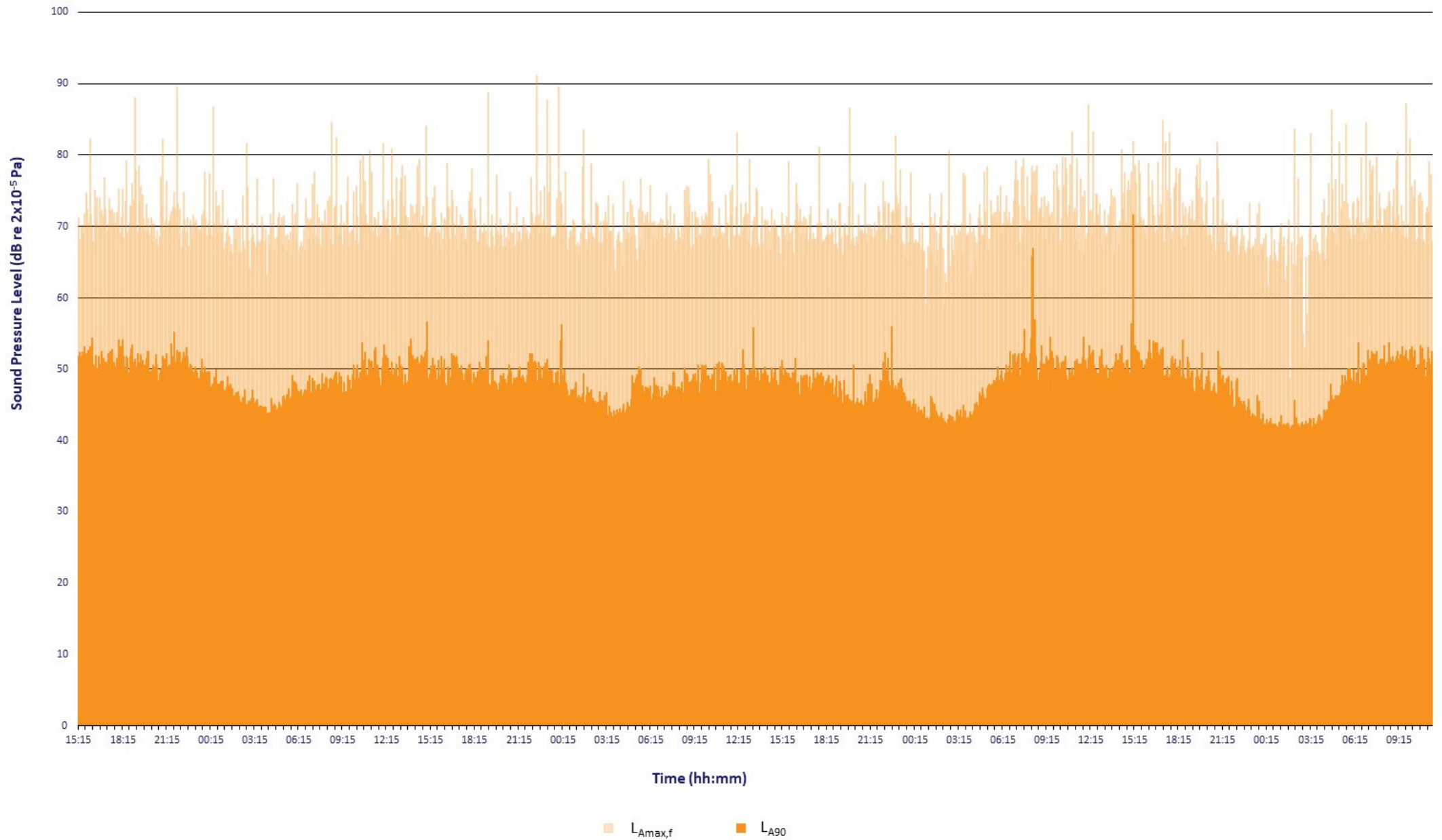
$L_{Amax,f}$ and L_{A90} Time History (5-mins)

Measurement Position 2 (South-East - Sackville St), Friday 4th to Tuesday 8th July 2025



Project: 2151

Graph 4



RGRE, PBSA, Plot H, Charles Street, Manchester

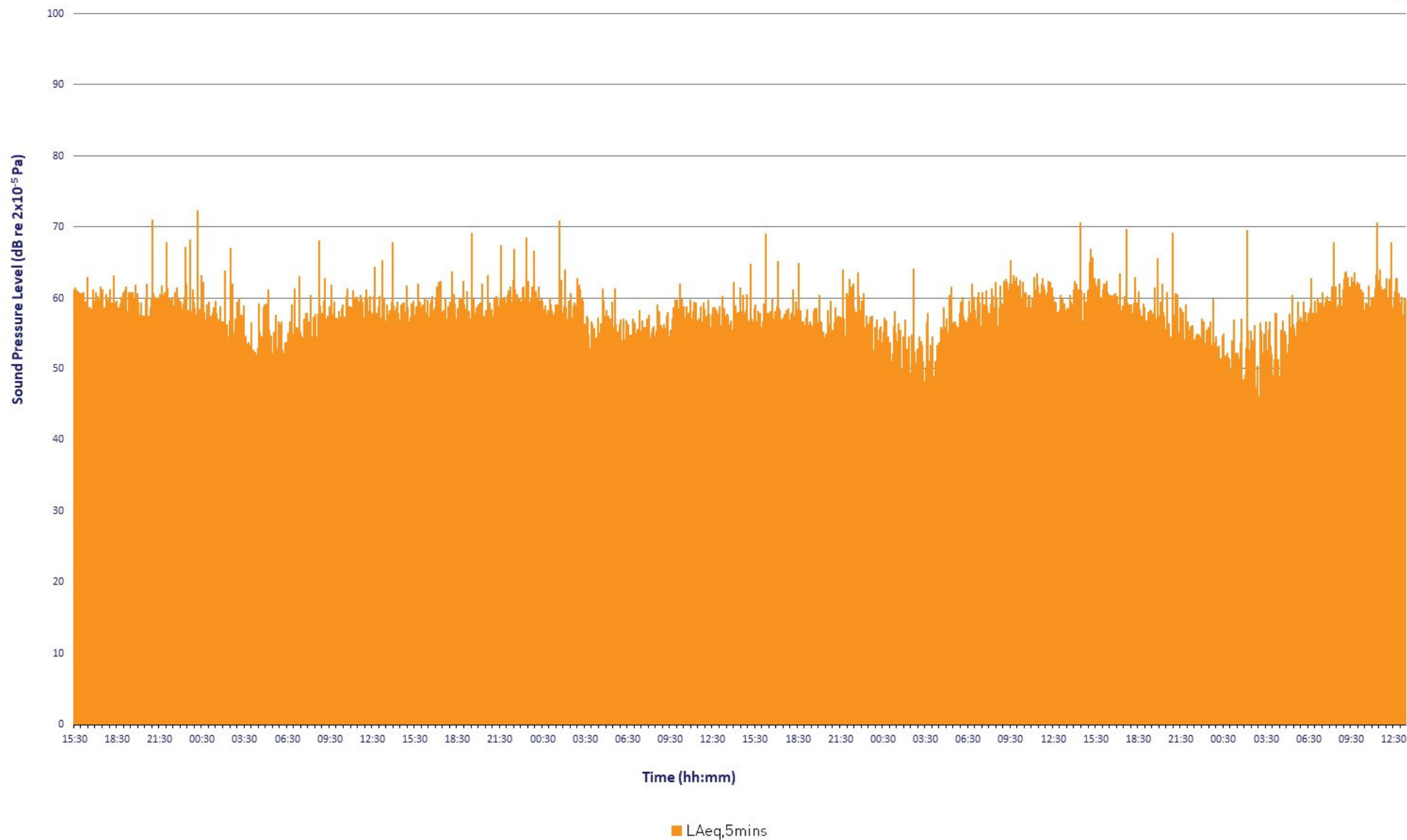
L_{Aeq} Time History (5-mins)

Measurement Position 3 (South-West - Charles St), Friday 4th to Tuesday 8th July 2025



Project: 2151

Graph 5



RGRE, PBSA, Plot H, Charles Street, Manchester

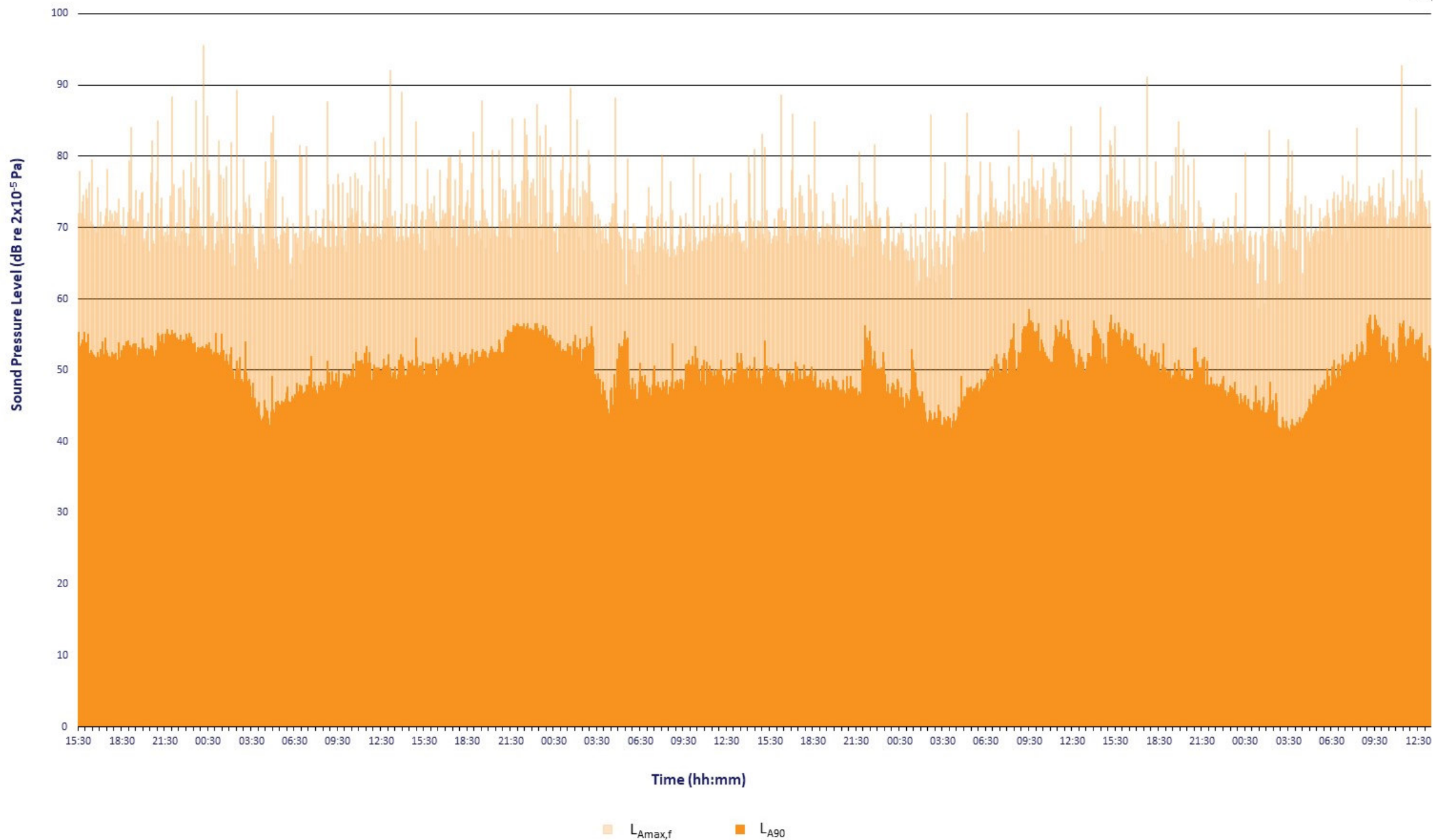
$L_{Amax,f}$ and L_{A90} Time History (5-mins)

Measurement Position 3 (South-West - Charles St), Friday 4th to Tuesday 8th July 2025



Project: 2151

Graph 6



RGRE, PBSA, Plot H, Charles Street, Manchester

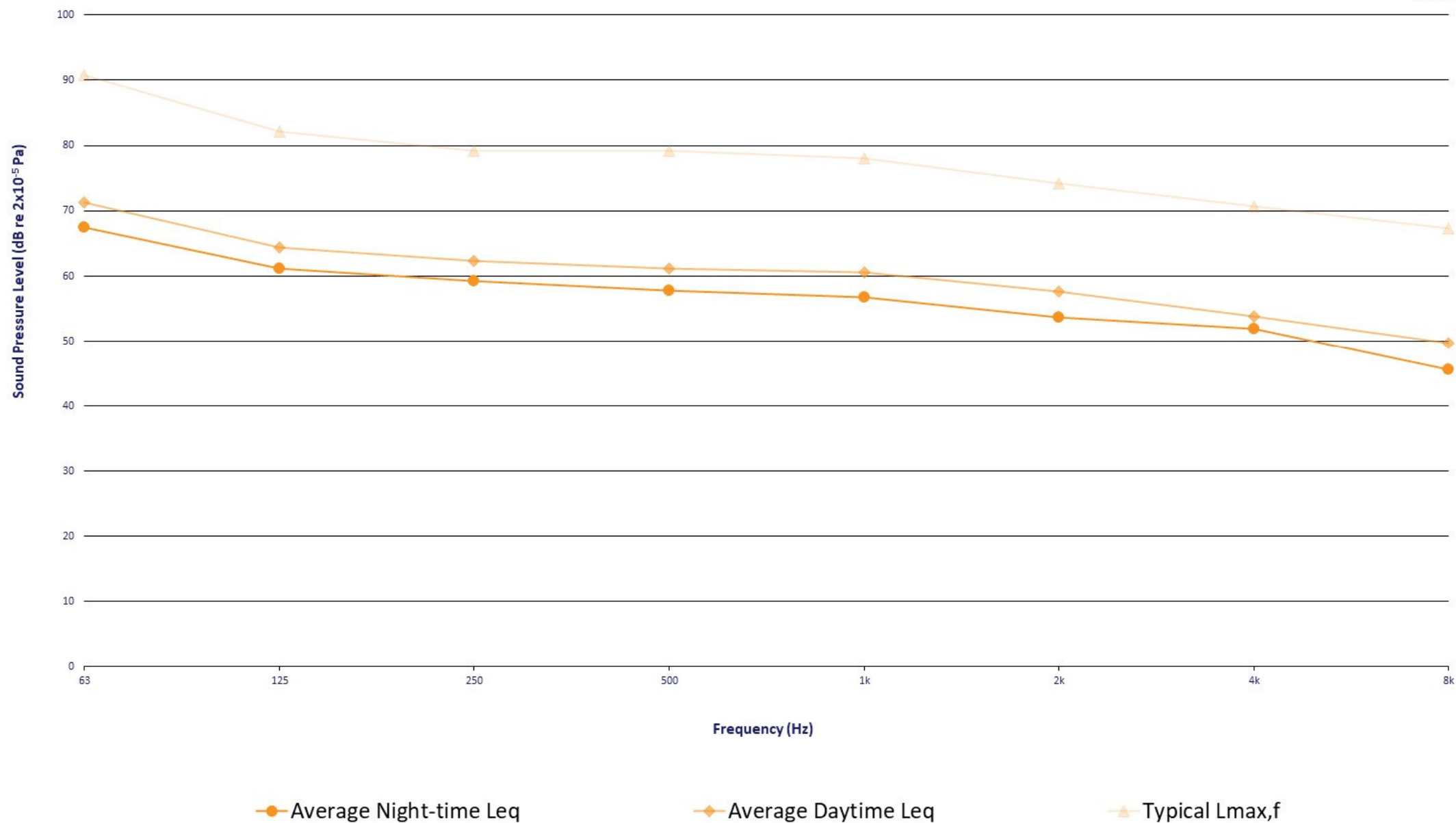
Spectral Noise Levels

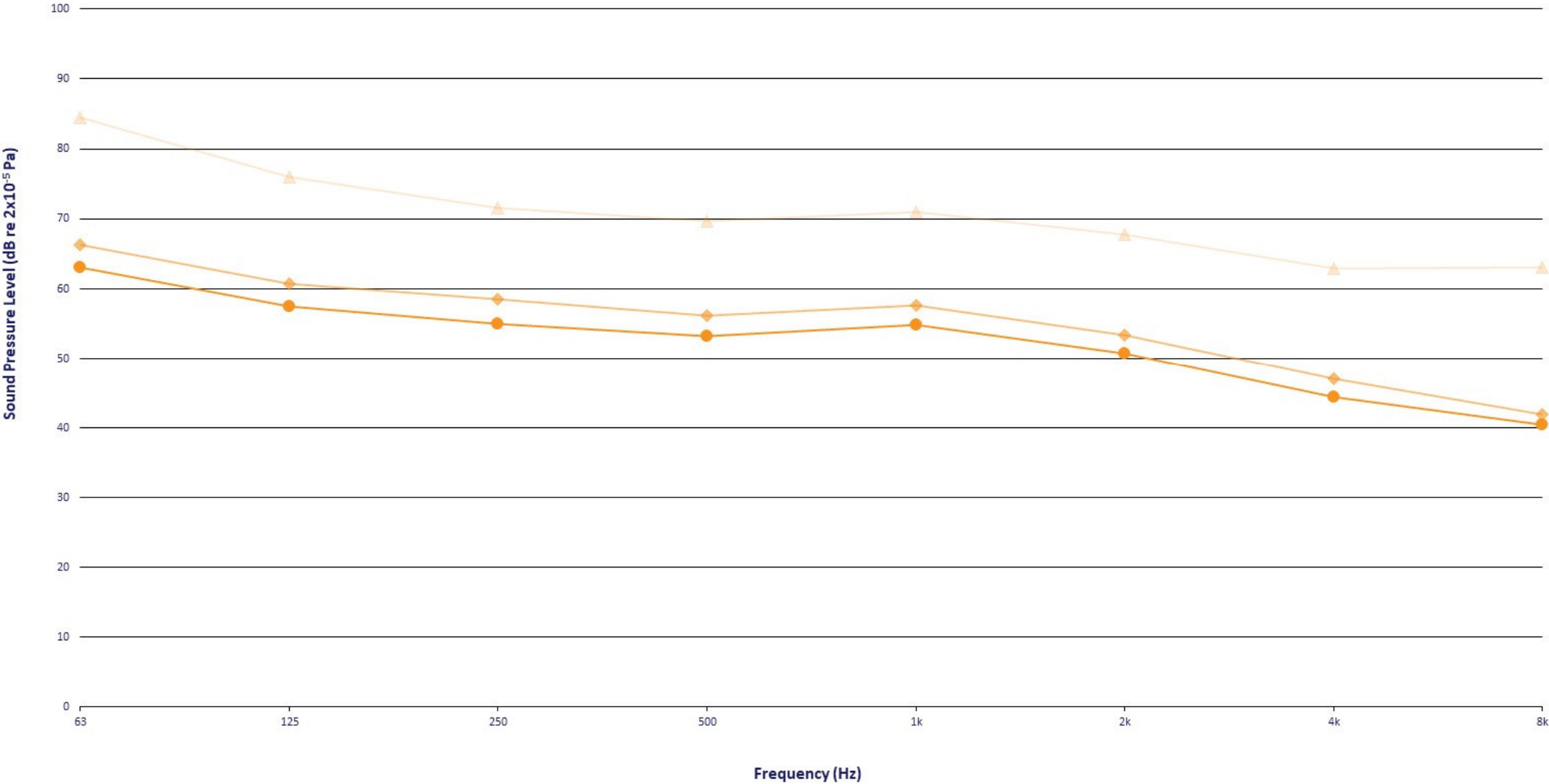
Measurement Position 1 (North - Railway), Friday 4th to Tuesday 8th July 2025



Project: 2151

Graph 7





● Average Night-time Leq

◆ Average Daytime Leq

▲ Typical Lmax,f

