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Construction Noise and Vibration Management Plan

Night Finishing Works

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1 INTRODUCTION

Acoustic Logic (AL) has been engaged to prepare a Construction Noise and Vibration Management Plan for the proposed tenant finishes and welding works to be conducted during nighttime (up to 7 am) to support the S4.55 application as part of the *'Atlassian'* commercial development located at 8-10 Lee Street, Haymarket.

This report has been prepared to address the requirements of development consent *SSD 10405* conditions (Dated 15 October 2021), namely:

- *C.6 Temporary Protection Plan.*

  (d) provide a protection strategy for the duration of the construction works detailing how the proposed works will ensure that heritage buildings are to be suitably protected and stabilised during the construction process including from any construction waste, dust, damp, water runoff, vibration or structural disturbance or damage.

- *C.18 Construction Noise and Vibration Management Sub-Plan*

  C18. Prior to the commencement of any demolition or dismantling, the Applicant shall submit to the satisfaction of the Certifier a Construction Noise and Vibration Management Sub-Plan (CNVMP) prepared in consultation with Council. The CNVMSP must address, but not be limited to, the following:

  (a) be prepared by a suitably qualified and experienced noise expert;

  (b) describe procedures for achieving the noise criteria / management levels in the City of Sydney Construction Hours /Noise Code of Practice 1992. Where resultant site noise levels are likely to be in exceedance of this noise criteria then a suitable proposal must be given as to the duration and frequency of respite periods that will be afforded to the occupiers of neighbouring property;

  (c) incorporate the recommendations of the noise reports prepared by Stantec titled 'Atlassian Central Noise & Vibration Impact Assessment Ref: 45474' dated 23 September 2020 as updated by 'Atlassian Central Acoustics, Noise & Vibration Schematic Design Report – 2.0 Ref: 45474' dated 16 April 2021;

  (d) details of non-tonal alarms, materials handling and work site training;

  (e) include strategies that have been developed with the community for managing high noise generating works and describe the community consultation/liaison undertaken to develop the strategies;

  (f) details of any noise mitigation measures that have been outlined by an acoustic consultant or otherwise that will be deployed on site to reduce noise impacts on the occupiers of neighbouring noise sensitive property to a minimum;

  (g) what plant and equipment is to be used on site, the level of sound mitigation measures to be undertaken in each case and the criteria adopted in their selection taking into account the likely noise impacts on the occupiers of neighbouring property and other less intrusive technologies available;

  (h) include a complaints management system that would be implemented for the duration of the construction; and

  (i) include a program to monitor and report on the impacts and environmental performance of the development and the effectiveness of the management measures in accordance with Condition C14.

2 SITE DESCRIPTION

The tenant finishes and welding night works are proposed to be undertaken at higher levels only. Details of the work and proposed locations are presented in the following section.

The closest affected sensitive receivers within the vicinity of the site are as follows:

- **Receiver 1:** *'Adina Hotel'* located at 2 Lee Street, Haymarket to the west. The commercial receiver is multi-storey however proposed finishes and welding work locations are higher than the receiver.
- **Receiver 2:** Central Station *'Platform 1'* to the north-east of the project site.
- **Receiver 3:** Devonshire Street pedestrian tunnel to the south of project site.
- **Receiver 4:** Commercial receiver located at 12-30 Lee Street, Haymarket. The commercial receiver is multi-storey and proposed finishes and welding work locations are higher than the receiver.
- **Receiver 5:** Sydney water pipelines located to the south of the project site, beneath the Devonshire Street tunnel.
- **Receiver 6:** *'Wake Up'* commercial receiver located at 509 Pitt Street, Haymarket. Commercial receiver is multi-storey and proposed finishes and welding work locations are at the roof level or higher than the receiver.
- **Receiver 7:** Commercial receiver located at 815 – 825 George Street, Haymarket. Commercial receiver is multi-storey and proposed finishes and welding work locations are higher than the receiver.
- **Receiver 8:** Residential receiver located at 107-121 Quay Street, Haymarket. Residential receiver is multi-storey.
- **Receiver 9:** Existing heritage structures and assets surrounding the project site.

See an aerial photo in Figure 1 below for detailed sensitive receiver locations.

Figure 1 – Aerial Site Map with Nearest Sensitive Receivers

3 CONSTRUCTION ACTIVITIES

Proposed construction activities associated with the night works are listed below:

1. Internal landscaping to enclosed park areas from L7 to above.
2. Ceiling installation and partitions works in office areas (behind tower façade) from L7 to above.
3. Fixtures and fittings, services, carpentry works, painting and waterproofing.
4. Metal welding and surface preparation for paint application from L11 to above.
5. Deliveries and material movements on ground floor.
6. External hoists to 10pm.
7. Internal hoists & builder's lifts to 7am.

See Appendix E– Proposed work locations for welding locations outside the building envelope and material delivery and hoist locations.

4 HOURS OF WORK

SSDA conditions F.5 to F.8 outlines the hours of work for construction activities, and these are presented below (Ref: *SSD 10405*).

Construction Hours

F5. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:

(a) between 7am and 7pm, Mondays to Fridays inclusive; and

(b) between 7am and 3pm, Saturdays.

No work may be carried out on Sundays or public holidays.

F6. Construction activities may be undertaken outside of the hours in Condition F5 if required:

(a) by TfNSW to prevent significant disruption to public transport, access to public transport or public safety; or

(b) by the Police or a public authority for the delivery of vehicles, plant or materials; or

(c) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm.

F7. Notification of such construction activities as referenced in Condition F6 must be given to affected residents before undertaking the activities or as soon as is practical afterwards.

F8. Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:

(a) 9am to 12pm, Monday to Friday;

(b) 2pm to 5pm Monday to Friday; and

(c) 9am to 12pm, Saturday.

In addition to the above approved SSDA construction hours, given that the proposed finishes and welding works are proposed to be undertaken at higher levels or internally where minimal impact are anticipated, the following out of hours work periods have been requested which will form the basis of this management plan:

1. Monday to Friday: 7:00pm to 7:00am.

2. Saturday: 3:00pm to 7:00am.

5 AMBIENT NOISE SURVEY

5.1 SHORT TERM AMBIENT BACKGROUND NOISE MEASUREMENTS

Short term attended ambient background noise measurements have been undertaken by this office.

5.1.1 Measurement Position

Attended noise measurements were undertaken to validate the background noise levels at nearest sensitive receivers surrounding the site. The measurement locations are visualised within Figure 3 below.

5.1.2 Measurement Period

The attended noise measurements were conducted on Monday, 25th of October 2021 between 10:00am and 2:00pm, Wednesday the 9th of March 2022 between 8:00pm and 10:00pm and on Friday the 11th March 2022 between 2:00am and 4:00am.

5.1.3 Measurement Equipment

The measurement was conducted using a Norsonic 140 Sound Analyser. The analyser was set to fast response and calibrated before and after the measurements using a Norsonic Sound Calibrator type 1251. No significant drift was noted.

5.1.4 Measured Background Noise Levels

The measured background noise levels for the attended measurements are presented in the tables below.

Table 1 – Measured Background Noise Levels at Attended Measurement Locations

Measurement Location (See Figure 3 below)	Time of day	Measured Background Noise Level dB(A)$L_{90(Period)}$
Location 1	Wednesday the 9th of March 2022 8:00pm – 10:00pm	58
Location 2		56
Location 3		59
Location 4		53
Location 5		55
Location 6		54
Location 1	Friday the 11th of March 2022 2:00am – 4:00am	54
Location 2		51
Location 3		54
Location 4		51
Location 5		50
Location 6		49

Table 2 – Measured Background Noise Levels at Attended Measurement Locations

Measurement Location (See Figure 3 below)	Time of day	Measured Background Noise Level dB(A)$L_{90(Period)}$
Location 1	Monday the 25th of October 2021 10:00am – 2:00pm	59
Location 2		60
Location 3		61
Location 4		56
Location 5		61
Location 6		57

5.2 LONG TERM BACKGROUND NOISE MEASUREMENTS

5.2.1 Equipment Used

Unattended noise monitoring was conducted using a Rion NL-42 (Type 2). The monitoring was continuous, with statistical noise levels recorded at 15-minute intervals throughout the monitoring period. Measurements were taken on "A" frequency weighting and fast time response.

All monitoring equipment used retains current calibration - either manufacturers' calibration or NATA certified calibration. The monitors were field calibrated at the beginning and the end of the measurement with no significant drift in calibration noted.

5.2.2 Locations Monitored

The noise monitor was placed in the First Floor carpark at 815 George Street, Haymarket. The microphone was extended and protruded out the louvres in order to capture environmental noise in Bijou Lane.

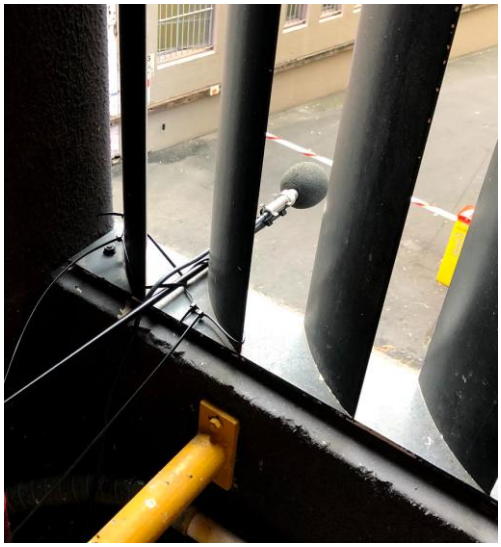


Figure 2 – Noise Monitor Microphone Placement

5.2.3 Calculated Background Noise Levels

Background levels have been calculated from the long term, unattended noise monitoring data in Appendix 1.

The assessment and rating background levels have been determined using based on the methodology in the Noise Policy for Industry Fact Sheet B. Periods affected by adverse weather conditions (as defined by INP Fact Sheet B) or extraneous noise are also indicated. Weather data was obtained from records provided by the Bureau of Meteorology for the weather station located at Observatory Hill.

The day, evening and night periods correspond to the NPfI guideline, being:

- Day - period from 7 am to 6 pm Monday to Saturday or 8 am to 6 pm on Sundays and public holidays
- Evening - period from 6 pm to 10 pm
- Night – 10pm to 7am Monday to Saturday or 10pm to 8am Sundays

The following tables summarise the assessment background noise levels (ABL) for each location. Note that where no ABL is indicated, this is because that period was affected by adverse weather or other extraneous noise.

Table 3 – NPfI Assessment Background Noise Levels

Location	Date	Assessment Background Noise Level dB(A)L_{90}		
		Day	Evening	Night
Receiver 8 (See Figure 1)	09/06/21	-	58	55
	10/06/21	59	59	56
	11/06/21	59	58	57
	12/06/21	58	59	55
	13/06/21	58	58	56
	14/06/21	58	58	54
	15/06/21	59	58	56
	16/06/21	59	59	56
	17/06/21	59	59	58
	18/06/21	59	59	55
	19/06/21	63	63	63
	20/06/21	63	64	63
	21/06/21	-	-	-

The following table summarises the rating background noise levels determined for the day, evening and night periods as defined in the NPfI.

Table 4 – NPfI Rating Background Noise Levels

Location	Rating Background Noise Level dB(A)L_{90}		
	Day	Evening	Night
Receiver 8 (See Figure 1)	59	59	56

The short-term noise measurements during the evening period and night-time period have been referenced against the long-term unattended noise monitoring data undertaken along Bijou Lane by this office being the nearest façade of residential receiver 8. The lowest measured background noise of each time period has been adopted for setting up the noise management level based on the requirements of City of Sydney.

The summarised background noise levels are presented below.

Figure 3 – Attended Background Noise Measurement Locations

5.3 SUMMARISED BACKGROUND NOISE LEVELS

The following table presents the summarised background noise levels for individual sensitive receivers maintained near the project site.

Table 5 - Summarised Rating Background Noise Level

Receiver Location	Time of day	Rating Background Noise Level dB(A)$L_{A90(Period)}$
Receiver 1 (See Figure 1)	Wednesday the 9th of March 2022 8:00pm – 10:00pm	55
Receiver 2 (See Figure 1)		54
Receiver 3 (See Figure 1)		53
Receiver 4 (See Figure 1)		53
Receiver 6 (See Figure 1)		58
Receiver 7 (See Figure 1)		59
Receiver 8 (See Figure 1)		56
Receiver 1 (See Figure 1)	Friday the 11th of March 2022 2:00am – 4:00am	50
Receiver 2 (See Figure 1)		49
Receiver 3 (See Figure 1)		51
Receiver 4 (See Figure 1)		51
Receiver 6 (See Figure 1)		54
Receiver 7 (See Figure 1)		54
Receiver 8 (See Figure 1)		51

Note: Receivers 5 and 9 as presented in Figure 1 have not been included in the above table given that these receiving locations are vibration sensitive structures only.

Table 6 – Summarised Rating Background Noise Level

Receiver Location	Time of day	Rating Background Noise Level dB(A)$L_{A90(Period)}$
Receiver 1 (See Figure 1)	Monday the 25th of October 2021 10:00am – 2:00pm	61
Receiver 2 (See Figure 1)		57
Receiver 3 (See Figure 1)		56
Receiver 4 (See Figure 1)		56
Receiver 6 (See Figure 1)		59
Receiver 7 (See Figure 1)		61
Receiver 8 (See Figure 1)		60

Note: Receivers 5 and 9 as presented in Figure 1 have not been included in the above table given that these receiving locations are vibration sensitive structures only.

6 CONSTRUCTION NOISE AND VIBRATION LIMITS

6.1 SSDA CONDITION

SSDA 10405 Conditions F19 to F27 state the following with regards to construction noise limits and vibration criteria:

Construction Noise Limits

F19. All work, including demolition, excavation and building work, and activities in the vicinity of the site generating noise associated with the preparation for the commencement of work in connection with the development must comply with the City of Sydney Construction Hours/Noise within the Central Business District Code of Practice 1992 and Australian Standard 2436-2010 Guide to Noise Control on Construction, Maintenance and Demolition Sites. All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures identified in the CNVMP required by Condition E18 of this consent.

F20. The Applicant must ensure all construction vehicles do not arrive at the site outside of the construction hours of work outlined under Condition F5.

F21. The Applicant must implement, where practicable and without compromising the safety of construction staff or members of the public, the use audible movement alarms of a type that would minimise noise impacts on surrounding noise sensitive receivers.

F22. Any noise generated during construction of the development must not be offensive noise within the meaning of the Protection of the Environment Operations Act 1997 or exceed approved noise limits for the site.

F23. Where all noise control measures have been implemented and the resultant noise and/ or vibration levels at any sensitive receiver still exceed the Council's applicable criteria stated in the City of Sydney Construction Hours/Noise Code 1992 and are giving rise to sustained complaints then the contractor must provide regular, appropriate and sustained periods of respite in consultation with Council's Health and Building unit. Approval to vary the authorised noise and vibration levels must be received in writing by the proponent from Council prior to activities being undertaken that exceed sanctioned emission levels.

F24. The immediately adjoining neighbours must be given a minimum of 48 hours notice that excavation, shoring or underpinning works or use of high noise emission appliances / plant are about to commence.

Vibration Criteria

F25. Vibration caused by construction at any residence or structure outside the site must be limited to:

a) for structural damage, the latest version of DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures (German Institute for Standardisation, 1999); and

(b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006) (as may be updated or replaced from time to time).

F26. Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in Condition F25.

F27. The limits in Condition F25 and Condition F26 apply unless otherwise outlined in the CNVMP required by Condition E18 of this consent.

As the finishes and welding works are proposed to be undertaken during the night-time period, which is outside of the nominated hours of work identified in Condition F.5 of SSDA 10405, we note that Condition F.20 above is to be revised for the outside of hours night works.

6.2 CONSTRUCTION NOISE LIMITS

6.2.1 City of Sydney Council – Code of Practice for Construction Hours/Noise within the Central Business District 1992

As required by condition F19, assessment of construction noise from the site will be made with reference Code of Practice for Construction Hours/Noise Within the Central Business District 1992.

The City of Sydney code of practice establishes various categories for construction works based on the time of day they are undertaken, as detailed and highlighted below.

Table 7 – Categories of Working Hours and Noise Levels

Day	Time Zone	Category	Noise Criteria dB(A) $L_{Av, Max(15min)}$
Monday to Friday	00.00 – 07.00	4	Background + 0 dB(A)
	07.00 – 08.00	1	Background + 5dB(A)
	08.00 – 19.00	1	Background + 5dB(A) + 5 dB(A) (to be determined on a site basis)
	19.00 – 23.00	2	Background + 3 dB(A)
	23.00 – 24.00	4	Background + 0dB(A)
Saturday	00.00 – 07.00	4	Background + 0dB(A)
	07.00 – 08.00	1	Background + 5dB(A)
	08.00 – 17.00	1	Background + 5dB(A) + 5 dB(A) (to be determined on a site basis)
	17.00 – 23.00	2	Background + 3 dB(A)
	23.00 – 24.00	4	Background + 0dB(A)
Sundays and Public Holidays	00.00 – 07.00	4	Background + 0dB(A)
	07.00 – 17.00	3	Background + 3 dB(A)
	17.00 – 24.00	4	Background + 0dB(A)

6.2.2 Australian Standard AS2436:2010 *Guide to Noise Control on Construction, Maintenance and Demolition Sites*

The Australian Standard AS2436 states that where all reasonable and available measures have been taken to reduce construction noise, mitigation strategies may be put in place to reduce levels noise levels to within a reasonable and acceptable level.

For the control and regulation of noise from construction sites, AS2436 nominates the following:

1. *That reasonable suitable noise criterion is established,*

2. *That all practicable measures be taken on the building site to regulate noise emissions, including the siting of noisy static processes to locations of the site where they can be shielded, selecting less noisy processes, and if required regulating construction hours, and*

3. *The undertaking of noise monitoring where non-compliance occurs to assist in the management and control of noise emission from the construction site.*

The guideline reflects on feasible and reasonable mitigation strategies, management controls and public liaising in the effort to reach realistic comprises between construction sites and potential noise affected receivers.

Based on these criteria the following procedure will be used to assess noise emissions:

Predict noise levels produced by typical construction activities at the sensitive receivers.

Adopt management conditions as per AS2436 in the event of a non-compliance.

6.2.3 Summary of Relevant Construction Noise Limits

A summary is presented below.

Table 8 – Summarised Construction Noise Requirements During Proposed Hours

Receiver	Period/Time	Background Noise Level	Construction Noise Management Trigger Levels
Receiver 1 (See Figure 1)	Monday – Friday 7.00pm – 11.00pm	55 dB(A) L_{90}	58 dB(A) $L_{10(15min)}$
	Monday – Friday 11.00pm – 12.00am	55 dB(A) L_{90}	55 dB(A) $L_{10(15min)}$
	Monday – Friday 12.00am – 7.00am	50 dB(A) L_{90}	50 dB(A) $L_{10(15min)}$
	Saturday 3:00pm – 5.00pm	61 dB(A) L_{90}	71 dB(A) $L_{10(15min)}$
	Saturday 5.00pm – 11.00pm	55 dB(A) L_{90}	58 dB(A) $L_{10(15min)}$
	Saturday 11.00pm – 12.00am	55 dB(A) L_{90}	55 dB(A) $L_{10(15min)}$
	Saturday 12.00am – 7.00am	50 dB(A) L_{90}	50 dB(A) $L_{10(15min)}$
Receiver 2 (See Figure 1)	Monday – Friday 7.00pm – 11.00pm	54 dB(A) L_{90}	57 dB(A) $L_{10(15min)}$
	Monday – Friday 11.00pm – 12.00am	54 dB(A) L_{90}	54 dB(A) $L_{10(15min)}$
	Monday – Friday 12.00am – 7.00am	49 dB(A) L_{90}	49 dB(A) $L_{10(15min)}$
	Saturday 3:00pm – 5.00pm	57 dB(A) L_{90}	67 dB(A) $L_{10(15min)}$
	Saturday 5.00pm – 11.00pm	54 dB(A) L_{90}	57 dB(A) $L_{10(15min)}$
	Saturday 11.00pm – 12.00am	54 dB(A) L_{90}	54 dB(A) $L_{10(15min)}$
	Saturday 12.00am – 7.00am	49 dB(A) L_{90}	49 dB(A) $L_{10(15min)}$

Table 9 – Summarised Construction Noise Requirements During Proposed Hours

Receiver	Period/Time	Background Noise Level	Construction Noise Management Trigger Levels
Receiver 3 (See Figure 1)	Monday – Friday 7.00pm – 11.00pm	53 dB(A) L_{90}	56 dB(A) $L_{10(15min)}$
	Monday – Friday 11.00pm – 12.00am	53 dB(A) L_{90}	53 dB(A) $L_{10(15min)}$
	Monday – Friday 12.00am – 7.00am	51 dB(A) L_{90}	51 dB(A) $L_{10(15min)}$
	Saturday 3:00pm – 5.00pm	56 dB(A) L_{90}	66 dB(A) $L_{10(15min)}$
	Saturday 5.00pm – 11.00pm	53 dB(A) L_{90}	56 dB(A) $L_{10(15min)}$
	Saturday 11.00pm – 12.00am	53 dB(A) L_{90}	53 dB(A) $L_{10(15min)}$
	Saturday 12.00am – 7.00am	51 dB(A) L_{90}	51 dB(A) $L_{10(15min)}$
Receiver 4 (See Figure 1)	Monday – Friday 7.00pm – 11.00pm	53 dB(A) L_{90}	56 dB(A) $L_{10(15min)}$
	Monday – Friday 11.00pm – 12.00am	53 dB(A) L_{90}	53 dB(A) $L_{10(15min)}$
	Monday – Friday 12.00am – 7.00am	51 dB(A) L_{90}	51 dB(A) $L_{10(15min)}$
	Saturday 3:00pm – 5.00pm	56 dB(A) L_{90}	66 dB(A) $L_{10(15min)}$
	Saturday 5.00pm – 11.00pm	53 dB(A) L_{90}	56 dB(A) $L_{10(15min)}$
	Saturday 11.00pm – 12.00am	53 dB(A) L_{90}	53 dB(A) $L_{10(15min)}$
	Saturday 12.00am – 7.00am	51 dB(A) L_{90}	51 dB(A) $L_{10(15min)}$

Table 10 – Summarised Construction Noise Requirements During Proposed Hours

Receiver	Period/Time	Background Noise Level	Construction Noise Management Trigger Levels
Receiver 6 (See Figure 1)	Monday – Friday 7.00pm – 11.00pm	58 dB(A) L_{90}	61 dB(A) $L_{10(15min)}$
	Monday – Friday 11.00pm – 12.00am	58 dB(A) L_{90}	58 dB(A) $L_{10(15min)}$
	Monday – Friday 12.00am – 7.00am	54 dB(A) L_{90}	54 dB(A) $L_{10(15min)}$
	Saturday 3:00pm – 5.00pm	59 dB(A) L_{90}	69 dB(A) $L_{10(15min)}$
	Saturday 5.00pm – 11.00pm	58 dB(A) L_{90}	61 dB(A) $L_{10(15min)}$
	Saturday 11.00pm – 12.00am	58 dB(A) L_{90}	58 dB(A) $L_{10(15min)}$
	Saturday 12.00am – 7.00am	54 dB(A) L_{90}	54 dB(A) $L_{10(15min)}$
Receiver 7 (See Figure 1)	Monday – Friday 7.00pm – 11.00pm	59 dB(A) L_{90}	62 dB(A) $L_{10(15min)}$
	Monday – Friday 11.00pm – 12.00am	59 dB(A) L_{90}	59 dB(A) $L_{10(15min)}$
	Monday – Friday 12.00am – 7.00am	54 dB(A) L_{90}	54 dB(A) $L_{10(15min)}$
	Saturday 3:00pm – 5.00pm	61 dB(A) L_{90}	71 dB(A) $L_{10(15min)}$
	Saturday 5.00pm – 11.00pm	59 dB(A) L_{90}	62 dB(A) $L_{10(15min)}$
	Saturday 11.00pm – 12.00am	59 dB(A) L_{90}	59 dB(A) $L_{10(15min)}$
	Saturday 12.00am – 7.00am	54 dB(A) L_{90}	54 dB(A) $L_{10(15min)}$

Table 11 – Summarised Construction Noise Requirements During Proposed Hours

Receiver	Period/Time	Background Noise Level	Construction Noise Management Trigger Levels
Receiver 8 (See Figure 1)	Monday – Friday 7.00pm – 11.00pm	56 dB(A) L_{90}	59 dB(A) $L_{10(15min)}$
	Monday – Friday 11.00pm – 12.00am	56 dB(A) L_{90}	56 dB(A) $L_{10(15min)}$
	Monday – Friday 12.00am – 7.00am	51 dB(A) L_{90}	51 dB(A) $L_{10(15min)}$
	Saturday 3:00pm – 5.00pm	60 dB(A) L_{90}	70 dB(A) $L_{10(15min)}$
	Saturday 5.00pm – 11.00pm	56 dB(A) L_{90}	59 dB(A) $L_{10(15min)}$
	Saturday 11.00pm – 12.00am	56 dB(A) L_{90}	56 dB(A) $L_{10(15min)}$
	Saturday 12.00am – 7.00am	51 dB(A) L_{90}	51 dB(A) $L_{10(15min)}$

Note: Receivers 5 and 9 as presented in Figure 1 have not been included in the above table given that these receiving locations are vibration sensitive structures only.

6.3 CONSTRUCTION VIBRATION LIMITS

Vibrations caused by any proposed activities on site, at the façade or incident on the structure of any surrounding sensitive receivers, will be assessed against the following provisions:

- For structural damage vibration, German Standard DIN 4150-3 *Structural Vibration: Effects of Vibration on Structures*.
- For human exposure to vibration, the evaluation criteria presented in NSW Environmental Protection Authority (EPA) *Assessing Vibration: A Technical Guideline* guideline.
- Vibration limit requirements of Sydney Water detailed in the *'Sydney Water Specialist Engineering Assessment'*.
- Vibration limit requirements of TfNSW detailed in the *'NSW Transport Asset Standards Authority Development Near Rail Tunnels'*.

The criteria and the application of these guidelines are discussed in separate sections below.

6.3.1 Structure Borne Vibrations

German Standard DIN 4150-3 (1999-02) provides vibration velocity guideline levels for use in evaluating the effects of vibration on structures. The criteria presented in DIN 4150-3 (1999-02) are presented in Table 3.

It is noted that the peak velocity is the absolute value of the maximum of any of the three orthogonal component particle velocities as measured at the foundation, and the maximum levels measured in the x- and y-horizontal directions in the plane of the floor of the uppermost storey.

Table 12 – DIN 4150-3 (1999-02) Safe Limits for Building Vibration

	TYPE OF STRUCTURE	PEAK PARTICLE VELOCITY (mms^{-1})			
		At Foundation at a Frequency of			Plane of Floor of Uppermost Storey
		< 10Hz	10Hz to 50Hz	50Hz to 100Hz	All Frequencies
1	Buildings used in commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2	Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Lines 1 or 2 and have intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8

= Receivers 4,6,7 **= Receiver 1 & 8** **= Receivers 3 & 9**

6.3.2 Assessing Amenity

The NSW Environment Protection Authority's (EPA) publication "Assessing Vibration: A Technical Guideline" (Feb 2006), outlines vibration criteria to assess the effects on human exposure to vibration from industry, transportation and machinery. This will ensure the amenity of tenants within surrounding residential properties is not adversely impacted.

This document classifies vibrations in buildings into continuous (with magnitudes varying or remaining constant with time), impulsive (such as shocks) or intermittent (with the magnitude of each event being either constant or varying with time). Criteria stipulated in this publication is based on the type of vibrations generated by the source.

Criteria relevant to the proposed excavation and construction activities on site are detailed below.

Table 13 – EPA Recommended Human Comfort Vibration Criteria

		RMS acceleration (m/s^2)		RMS velocity (mm/s)		Peak velocity (mm/s)	
Place	**Time**	**Preferred**	**Maximum**	**Preferred**	**Maximum**	**Preferred**	**Maximum**
Continuous Vibration							
Residences	Daytime	0.01	0.02	0.2	0.4	0.28	0.56
Offices		0.02	0.04	0.4	0.8	0.56	1.1
Workshops		0.04	0.08	0.8	1.6	1.1	2.2
Residences	Night-time	0.007	0.014	0.14	0.28	0.20	0.40
Offices		0.02	0.04	0.4	0.8	0.56	1.1
Workshops		0.04	0.08	0.8	1.6	1.1	2.2
Impulsive Vibration							
Residences	Daytime	0.3	0.6	6.0	12.0	8.6	17.0
Offices		0.64	1.28	13.0	26.0	18.0	36.0
Workshops		0.64	1.28	13.0	26.0	18.0	36.0
Residences	Night-time	0.10	0.20	2.0	4.0	2.8	5.6
Offices		0.64	1.28	13.0	26.0	18.0	36.0
Workshops		0.64	1.28	13.0	26.0	18.0	36.0

6.3.3 Requirements of Sydney Water *'Sydney Water Specialist Engineering Assessment'*

The vibration limits presented below are detailed within the *'Sydney Water Specialist Engineering Assessment'* document for threshold vibration limits of pipe assets. It has been identified to this office that there are three (3) Sydney Water pipework assets underground nearby the Atlassian construction site.

Table 6: Threshold Vibration Limits

Asset type	Threshold values for velocity (PPV) measured on the asset in mm/s
Brittle Pipe assets – RC, VC/ EW, CICL	Maximum PPV for intermittent vibrations 10mm/s Maximum PPV for continuous vibrations 5mm/s
Ductile Pipe assets – SCL, DI, PVC, PE, PP, GRP	Maximum PPV for intermittent vibrations 20mm/s Maximum PPV for continuous vibrations 10mm/s
Masonry	3 mm/s
Unreinforced concrete	3 mm/s

Note: Table 6 is applicable for buried assets, in sound condition, and laid in a typical soil trench in stable ground. Alternative criteria shall be developed for other asset types, above ground assets, concrete encased pipes, pipes on piled/ special supports and pipes in tunnels or of other unusual construction or ground conditions.

Given the above vibration limits outlined in the *'Sydney Water Specialist Engineering Assessment'* and the information provided to this office in the *'Structural Monitoring Alert and Response Plan'* prepared by TTW (Ref: 191797) dated 22 November 2021, the following vibration limits are applicable:

- Platform 1 Stormwater Pipe – A05b assumed to be constructed from unreinforced concrete: 3mm/s (PPV).
- Sewer Pipe – A08b identified to be a vitrified clay pipe: 5mm/s (PPV).
- Stormwater Pipe – A08c identified to be a reinforced concrete pipe: 10mm/s (PPV).

6.3.4 Requirements of TfNSW 'NSW Transport Asset Standards Authority Development Near Rail Tunnels'

The vibration limits presented below are detailed within the TfNSW *'NSW Transport Asset Standards Authority Development Near Rail Tunnels'*. The below vibration limits are applicable to rail tunnels, and it is recommended this vibration limit be applied to the Platform 1 TfNSW asset.

9.4.1. Effects of development on rail tunnels

Any development that occurs within a distance of 25 m horizontally from first reserve shall assess the vibration on the rail tunnels. The assessment criteria shall be a maximum peak particle velocity (PPV) of 15 mm/s at the tunnel lining for brick or mass concrete in good condition or a maximum PPV of 20 mm/s at the tunnel lining for cast iron, steel or concrete segment lining.

6.3.5 Recommended Vibration Limits

The recommended vibration limit at the nearest vibration sensitive receivers are summarised below:

1. **Receiver 1**- Adina Hotel: Heritage items ≤3mm/s PPV; Remaining items ≤5mm/s PPV.
2. **Receiver 2:** Central Station 'Platform 1': ≤15mm/s PPV.
3. **Receiver 3:** Devonshire Street pedestrian tunnel: ≤3mm/s PPV.
4. **Receiver 4:** Commercial receiver located at 12-30 Lee Street, Haymarket: ≤20mm/s PPV.
5. **Receiver 5:** Sydney water pipelines.
    1) Platform 1 Stormwater Pipe – A05b assumed to be constructed from unreinforced concrete: 3mm/s (PPV).
    2) Sewer Pipe – A08b identified to be a vitrified clay pipe: 5mm/s (PPV).
    3) Stormwater Pipe – A08c identified to be a reinforced concrete pipe: 10mm/s (PPV).
6. **Receiver 6:** 'Wake Up' commercial receiver located at 509 Pitt Street, Haymarket: ≤20mm/s PPV.
7. **Receiver 7:** Commercial receiver located at 815 – 825 George Street, Haymarket: ≤20mm/s PPV.
8. **Receiver 8:** Residential receiver located at 107-121 Quay Street, Haymarket: ≤5mm/s PPV.
9. **Receiver 9:** Existing heritage structures and assets surrounding the proposed construction site: ≤3mm/s PPV.

7 NOISE EMISSION ASSESSMENT

7.1 PROPOSED CONSTRUCTION ACTIVITIES

An assessment of the principal sources of noise emissions has been undertaken to identify the activities that may produce noise and/or vibration impacts so that appropriate ameliorative measures can be formulated. In addition, SoundPLAN noise modelling has been conducted based on information provided to this office of construction methodology and activity scenarios likely to be undertaken and presents the cumulative predicted external noise levels to the nearest surrounding receivers. These modelled construction scenarios are presented below:

- **Scenario 1:** Welding at the building envelop at level 11. Welding blanket will be used all the time when welding works are conducted. AL note that this scenario represents the worst-case scenario as noise impact will reduce when work is progressed to higher levels.
- **Scenario 2:** Internal finishes and internal landscape work with 1 Maeda mini electric mobile crane, 1 internal hoist, 2 hand tools (façade installed) at level 7. AL note that this scenario represents the worst-case scenario as noise impact will reduce when work is progressed to higher levels.
- **Scenario 3:** Material delivery with 1 semi-trailer and 1 forklift on ground level.

Noise levels from construction works have been predicted at the nearby development and assessed with reference to the City of Sydney - Code of Practice for Construction Hours/Noise Within the Central Business District 1992.

With regard to the noise level generated at the nearest receivers, noise levels will vary depending where on the construction site the work in undertaken. To address this, a range of predicted noise levels is provided. Predicted noise levels are presented below.

The predicted noise levels are based on the assumption that the recommendations in Section 8 have implemented/observed.

7.2 ASSOCIATED NOISE SOURCES

Noise impacts will be determined from primary processes and equipment. The sound power levels of these activities are presented below.

Table 14 – Sound Power Levels of the Proposed Equipment

Stage	Equipment/Process	Sound Power Level dB(A)
Finishes and Welding Night Works	Welding machine	95
	Hoist (internal)	95
	Forklift	106
	Semi-Trailer	105
	Mini Mobile Crane (electric)	95
	General Hand Tools	95

The noise levels presented in the above table are derived from the following sources, namely:

- Table A1 of Australian Standard 2436-2010.
- Data held by this office from other similar studies.

7.3 SOUNDPLAN MODELLING

Noise levels have been predicted at the receiver locations using SoundPlan™ 9.1 modelling software implementing the ISO 9613-2:1996 "Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation" noise propagation standard.

Noise enhancing meteorological effects have been adopted as recommended by the NPfI, noting that the ISO 9613 modelling approach assumes that all receivers are 'downwind' (i.e., that noise enhancing wind conditions are in effect at all times).

Ground absorption was conservatively calculated with a ground factor of 0 for all areas except for localised lawns and greenery with a ground factor of 0.6 as recommended in *Engineering Noise Control* (Bies & Hanson).

In line with Factsheet C of the NPfI, penalties for annoying noise characteristics should be applied at the receiver, where applicable. Based on the predicted noise levels, no penalty should be applied (either for tonality, intermittency, or otherwise).

Predicted external noise levels results are summarised in Table 15 and Table 16 below. Detailed SoundPlan modelling results are presented in Appendix C– Soundplan Modelling Results.

7.4 PREDICTED NOISE LEVELS AT SENSITIVE RECEIVERS

The predicted external noise levels at nearest sensitive receivers are presented in the tables below.

Table 15 – Predicted External Noise Levels at R1-R4 During Night Works

Receiver Location	Predicted External Noise Level dB(A) $L_{eq(15\ min)}$	City of Sydney (COS) Construction Noise Management Trigger Level dB(A) $L_{10\ (15min)}$	Recommendations
R1	Scenario 1: 34-50 Scenario 2: 30-41 Scenario 3: 35-45	Monday – Friday (7.00pm – 11.00pm) = **58** Monday – Friday (11.00pm – 12.00am) = **55** Monday – Friday (12.00am – 3.00am) = **50** Saturday (3:00pm – 5.00pm) = **71** Saturday (5.00pm – 11.00pm) = **58** Saturday (11.00pm – 12.00am) =**55** Saturday (12.00am – 7.00am) =**50**	Predicted to be below the COS construction noise level limit all the time
R2	Scenario 1: 20-30 Scenario 2: 27-37 Scenario 3: 20-39	Monday – Friday (7.00pm – 11.00pm) = **57** Monday – Friday (11.00pm – 12.00am) = **54** Monday – Friday (12.00am – 3.00am) = **49** Saturday (3:00pm – 5.00pm) = **67** Saturday (5.00pm – 11.00pm) = **57** Saturday (11.00pm – 12.00am) = **54** Saturday (12.00am – 7.00am) =**49**	Predicted to be below the COS construction noise level limit all the time.
R3	Scenario 1: 20-44 Scenario 2: 30-35 Scenario 3: 20-25	Monday – Friday (7.00pm – 11.00pm) = **56** Monday – Friday (11.00pm – 12.00am) = **53** Monday – Friday (12.00am – 3.00am) = **51** Saturday (3:00pm – 5.00pm) = **66** Saturday (5.00pm – 11.00pm) = **56** Saturday (11.00pm – 12.00am) = **53** Saturday (12.00am – 7.00am) = **51**	Predicted to be below the COS construction noise level limit all the time
R4	Scenario 1: 33-46 Scenario 2: 25-39 Scenario 3: 20-31	Monday – Friday (7.00pm – 11.00pm) = **56** Monday – Friday (11.00pm – 12.00am) = **53** Monday – Friday (12.00am – 3.00am) = **51** Saturday (3:00pm – 5.00pm) = **66** Saturday (5.00pm – 11.00pm) = **56** Saturday (11.00pm – 12.00am) = **53** Saturday (12.00am – 7.00am) = **51**	Predicted to be below the COS construction noise level limit all the time

Table 16 – Predicted External Noise Levels at R6 – R8 During Night Works

Receiver Location	Predicted External Noise Level dB(A) $L_{eq(15\ min)}$	City of Sydney (COS) Construction Noise Management Trigger Level dB(A)$L_{10\ (15min)}$	Recommendations
R6	Scenario 1: 34-36	Monday – Friday (7.00pm – 11.00pm) = **61** Monday – Friday (11.00pm – 12.00am) = **58** Monday – Friday (12.00am – 3.00am) = **54** Saturday (3:00pm – 5.00pm) = **69** Saturday (5.00pm – 11.00pm) = **61** Saturday (11.00pm – 12.00am) = **58** Saturday (12.00am – 7.00am) = **54**	Predicted to be below the COS construction noise level limit all the time.
	Scenario 2: 28-35		
	Scenario 3: 25-33		
R7	Scenario 1: 30-38	Monday – Friday (7.00pm – 11.00pm) = **62** Monday – Friday (11.00pm – 12.00am) = **59** Monday – Friday (12.00am – 3.00am) = **54** Saturday (3:00pm – 5.00pm) = **71** Saturday (5.00pm – 11.00pm) = **62** Saturday (11.00pm – 12.00am) = **59** Saturday (12.00am – 7.00am) = **54**	Predicted to be below the COS construction noise level limit all the time.
	Scenario 2: 30-39		
	Scenario 3: 25-34		
R8	Scenario 1: 25-34	Monday – Friday (7.00pm – 11.00pm) = **59** Monday – Friday (11.00pm – 12.00am) = **56** Monday – Friday (12.00am – 3.00am) = **51** Saturday (3:00pm – 5.00pm) = **70** Saturday (5.00pm – 11.00pm) = **59** Saturday (11.00pm – 12.00am) = **56** Saturday (12.00am – 7.00am) = **51**	Predicted to be below the COS construction noise level limit all the time.
	Scenario 2: 30-38		
	Scenario 3: 20-27		

A summary of above predicted noise levels is presented below:

- Predicted noise results are conservative assuming cumulative noise levels with all equipment in operation in each scenario.
- Scenarios 1 and 2 represent the worst-case scenario as when work progressed to upper levels, additional noise reduction can be obtained due to distance attenuation and barrier effect.
- Predicted noise levels will comply at all receivers during the proposed extended hours.

In particular, in response to DPHI's RFI (dated 11 September 2025) regarding cumulative noise impact, Table below presents the cumulative noise levels of all the proposed equipment being used.

Table 17 – Predicted Cumulative External Noise Levels

Receiver Location	Predicted Cumulative External Noise Levels dB(A) $L_{eq(15\ min)}$	City of Sydney (COS) Construction Noise Management Trigger Level dB(A) $L_{10\ (15min)}$	Recommendations
R1	38-51*	Monday – Friday (12.00am – 3.00am) = **50** Saturday (12.00am – 7.00am) =**50**	Predicted to be below the COS construction noise level limit for the majority of the time. 1 dB exceedance may occur when all equipment are in operation at the same time.
R2	28-40	Monday – Friday (12.00am – 3.00am) = **49** Saturday (12.00am – 7.00am) =**49**	Predicted to be below the COS construction noise level limit all the time.
R3	30-44	Monday – Friday (12.00am – 3.00am) = **51** Saturday (12.00am – 7.00am) = **51**	Predicted to be below the COS construction noise level limit all the time
R4	33-46		Predicted to be below the COS construction noise level limit all the time
R6	35-42	Monday – Friday (12.00am – 3.00am) = **54** Saturday (12.00am – 7.00am) = **54**	Predicted to be below the COS construction noise level limit all the time.
R7	33-44	Monday – Friday (12.00am – 3.00am) = **54** Saturday (12.00am – 7.00am) = **54**	Predicted to be below the COS construction noise level limit all the time
R8	31-41	Monday – Friday (12.00am – 3.00am) = **51** Saturday (12.00am – 7.00am) = **51**	Predicted to be below the COS construction noise level limit all the time

*1 dB(A) exceedance is marginally acceptable. The 1dB(A) exceedance for R1 may occur when all equipment is in operation at the same time at the lowest proposed working levels. As welding and fitout work proceed to higher levels, cumulative noise levels will be gradually reduced.

Predicted cumulative noise levels are below the COS construction noise level limit all the time for receivers R2-R8.

8 AMELIORATIVE MEASURES

8.1 SITE SPECIFIC RECOMMENDATIONS

- Welding works – Welding blankets are to be used to provide additional noise attenuation. Examples are provided in Appendix D– Welding Methodology.
- Vehicle Noise – Trucks must turn off their engines to reduce impacts on nearby receivers. Minimise truck reversing. Plant and equipment should be off when not in use.
- Deliveries should use straps in place of chains for handling materials wherever possible. Deliveries should be scheduled during less sensitive time periods (before 10pm) wherever practical.
- When selecting construction equipment to be used on the project, the noise levels of plant and equipment should be considered, whereby equipment selected has an equivalent or lower sound power level than the predictive sound power levels of equipment maintained within this report.
- A conscientious effort should be made to avoid works near the nearest sensitive receivers wherever feasible.
- All employees, contractors and sub-contractors are to undergo an environmental induction which outlines noise management techniques.
- Unnecessary shouting should be avoided on site, and appropriate signage should be installed to remind workers of their responsibility to reduce noise impacts where feasible. Loud music from radios and stereos is not permitted.
- Materials should be placed gently and not thrown to avoid making crashing noises.
- Non-tonal reversing beepers should be implemented on all construction equipment and mobile plant used.
- An Out of hours permit will be implemented in advance of activities to further detail reasonable and feasible measures for specific works.

In the event of a complaint, noise management procedure identified in Section 11 of this report are to be followed. Notwithstanding above, general management techniques and acoustic treatments are included below which may be implemented on a case-by-case basis to reduce noise emissions to surrounding receivers.

8.2 GENERAL RECOMMENDATIONS

Other noise management practices which may be adopted are discussed below. In addition, notification, reporting and complaints handling procedures should be adopted as recommended in section in this report.

8.2.1 Noise Attenuation from Building Façade and Structure

Where internal works are proposed, the building façade and structure will provide significant noise attenuation for the construction activities. It is recommended that all façade windows remain closed on the work level during the proposed construction activities.

8.2.2 Silencing Devices

Where construction process or appliances are noisy, the use of silencing devices may be possible. These may take the form of engine shrouding, or special industrial silencers fitted to exhausts.

8.2.3 Material Handling

The installation of rubber matting over material handling areas can reduce the sound of impacts due to material being dropped by up to 20dB(A).

8.2.4 Treatment of Specific Equipment

In certain cases, it may be possible to specially treat a piece of equipment to reduce the sound levels emitted. These may take the form of engine shrouding, or special industrial silencers fitted to exhausts.

8.2.5 Establishment of Site Practices

This involves the formulation of work practices to reduce noise generation. This includes locating fixed plant items as far as possible from residents as well as rotating plant and equipment to provide respite to receivers.

Construction vehicles accessing the site should not queue in residential streets and should only use the designated construction vehicle routes. Loading of these vehicles should occur as far as possible from any sensitive receiver.

8.2.6 Out of Hours Permit

Due to surrounding operating environment and need to maintain operation of the site and the transport network, out-of-hours activities are required. When conducting works outside standard construction hours, an OOHW application would be developed.

The permit would be developed in conjunction with the site team to ensure notifications, Road Occupancy Licences (where required) have all been considered and clear justification provided for night works.

The permit will also confirm plant and equipment, and if required, additional controls as detailed in Section 8.2.

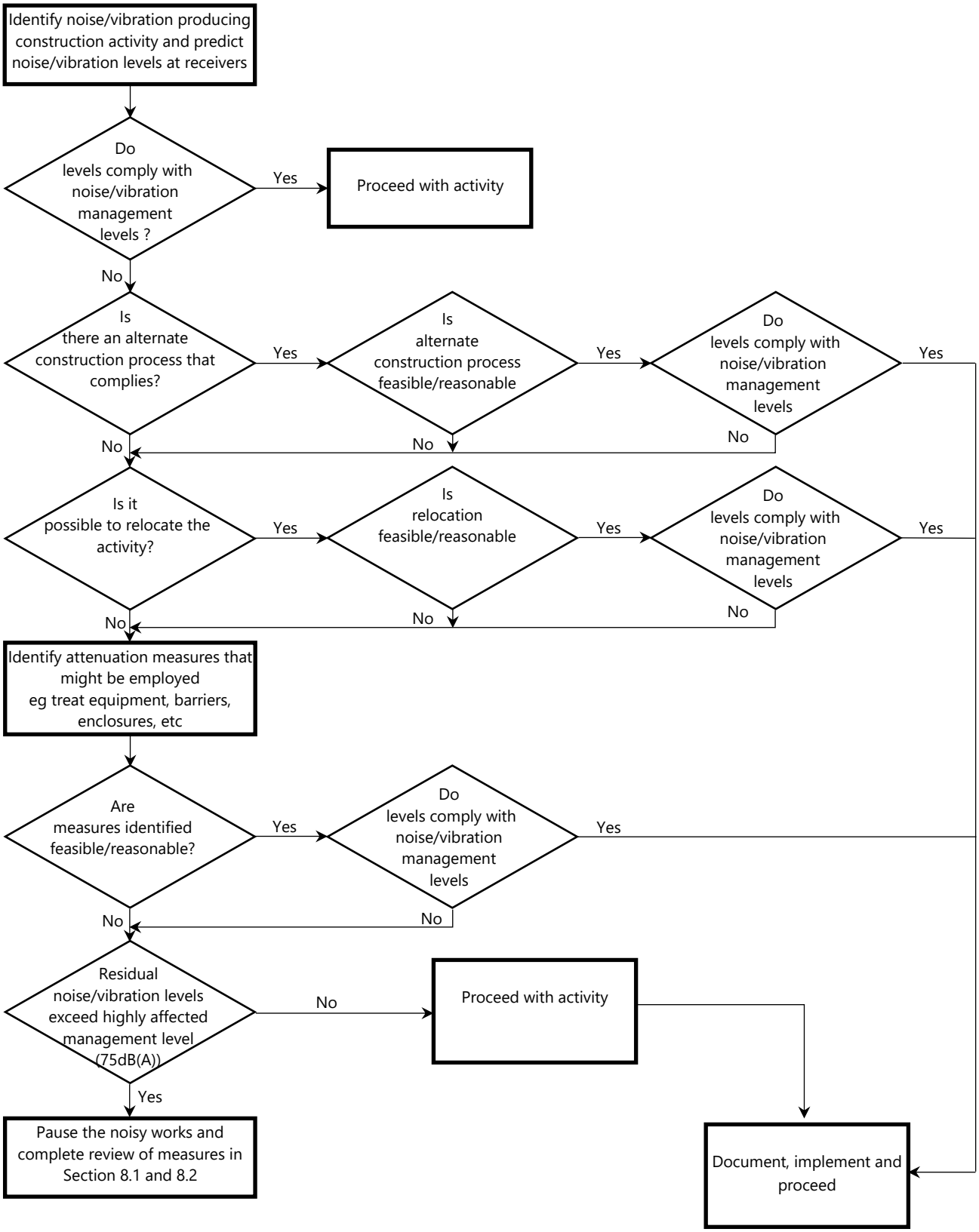
9 VIBRATION ASSESSMENT

AL note that proposed night work are unlikely to generate any vibration impact to nearby receivers.

10 ASSESSMENT METHODOLOGY AND MITIGATION METHODS

The flow chart that follows illustrates the process to be followed to minimise the impact associated with these activities.

Noise sources with the potential to exceed the criteria set out in section 6 have been identified and discussed in section 8.



11 COMMUNITY INTERACTION AND COMPLAINTS HANDLING

11.1 ESTABLISHMENT OF DIRECT COMMUNICATION WITH AFFECTED PARTIES

In order for any construction noise management programme to work effectively, communication is required between; parties which may be potentially impacted upon, the builder and the regulatory authority. This establishes a dynamic response process which allows for the adjustment of control methods and criteria for the benefit of all parties.

The objective in undertaking a consultation process is to:

- Inform and educate the groups about the project and the noise controls being implemented.
- Increase understanding of all acoustic issues related to the project and options available.
- Identify group concerns generated by the project, so that they can be addressed.
- Ensure that concerned individuals or groups are aware of and have access to the Site Complaints Register which will be used to address any construction noise related problems should they arise.

To ensure that this process is effective, regular scheduled meetings may be required for a finite period, until all issues have been addressed and the evidence of successful implementation is embraced by all parties.

An additional step in this process is to produce a newsletter informing nearby residents of upcoming activities that are likely to generate higher noise/vibration levels.

11.2 DEALING WITH COMPLAINTS

Should ongoing complaints of excessive noise or vibration occur, immediate measures shall be undertaken to investigate the complaint, the cause of the exceedances and identify the required changes to work practices. In the case of exceedances of the vibration limits, all work potentially producing vibration shall cease until the exceedance is investigated. The effectiveness of any changes shall be verified before continuing. Documentation and training of site staff shall occur to ensure the practices that produced the exceedances are not repeated.

If a noise complaint is received the complaint should be recorded on a Noise Complaint Form. The complaint form should be in line with the *Atlassian Central Construction Communications Strategy* prepared by URBIS, dated 10 June 2022.

A permanent register of complaints should be held.

- All complaints received should be fully investigated and reported to management. The complainant should also be notified of the results and actions arising from the investigation.
- The investigation of a complaint shall involve where applicable.
- noise measurements at the affected receiver.
- an investigation of the activities occurring at the time of the incident.
- inspection of the activity to determine whether any undue noise is being emitted by equipment; and
- Whether work practices were being carried out either within established guidelines or outside these guidelines.

Where an item of plant is found to be emitting excessive noise, the cause is to be rectified as soon as possible. Where work practices within established guidelines are found to result in excessive noise being generated then

the guidelines should be modified so as to reduce noise emissions to acceptable levels. Where guidelines are not being followed, the additional training and counselling of employees should be carried out.

Measurement or other methods shall validate the results of any corrective actions arising from a complaint where applicable.

12 CONTINGENCY PLANS

Where non-compliances or noise complaints are raised the following methodology will be implemented.

1. Determine the offending plant/equipment/process.

2. Locate the plant/equipment/process further away from the affected receiver(s) if possible.

3. Implement additional acoustic treatment in the form of localised barriers, silencers etc where practical.

4. Selecting alternative equipment/processes where practical.

5. Setup real-time noise monitoring devices at locations representing the nearest noise/vibration affected receivers. Alarm message/emails should be sent to the project manager/acoustic engineer once highly noise management level is triggered.

6. In the case that construction noise recorded at the closest receiver is exceeding the highly noise affected management level (75dB(A)), the highly noise affected work is to be stopped immediately, investigations should be conducted on site to work out appropriate noise mitigation treatments.

Complaints associated with noise and vibration generated by site activities shall be recorded on a Complaint Form. The person(s) responsible for complaint handling and contact details for receiving of complaints shall be established on site prior to construction works commencing. A sign shall be displayed at the site indicating the Site Manager to the general public and their contact telephone number.

13 CONCLUSION

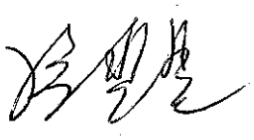
This report presents a Construction Noise and Vibration Management Plan for the associated tenant finishes and welding night works to be undertaken at the *'Atlassian Central Development'* project site located at 8-10 Lee Street, Haymarket.

Provided that the practices and recommendations in this report are implemented, the noise and vibration impacts during the night works will be minimised.

In the case that construction noise recorded at the closest receiver is exceeding the highly noise affected management level (75dB(A)), the highly noise affected work is to be stopped immediately. Investigations should be conducted on site to work out appropriate noise mitigation treatments.

Please contact us should you have any further queries.

Yours faithfully,



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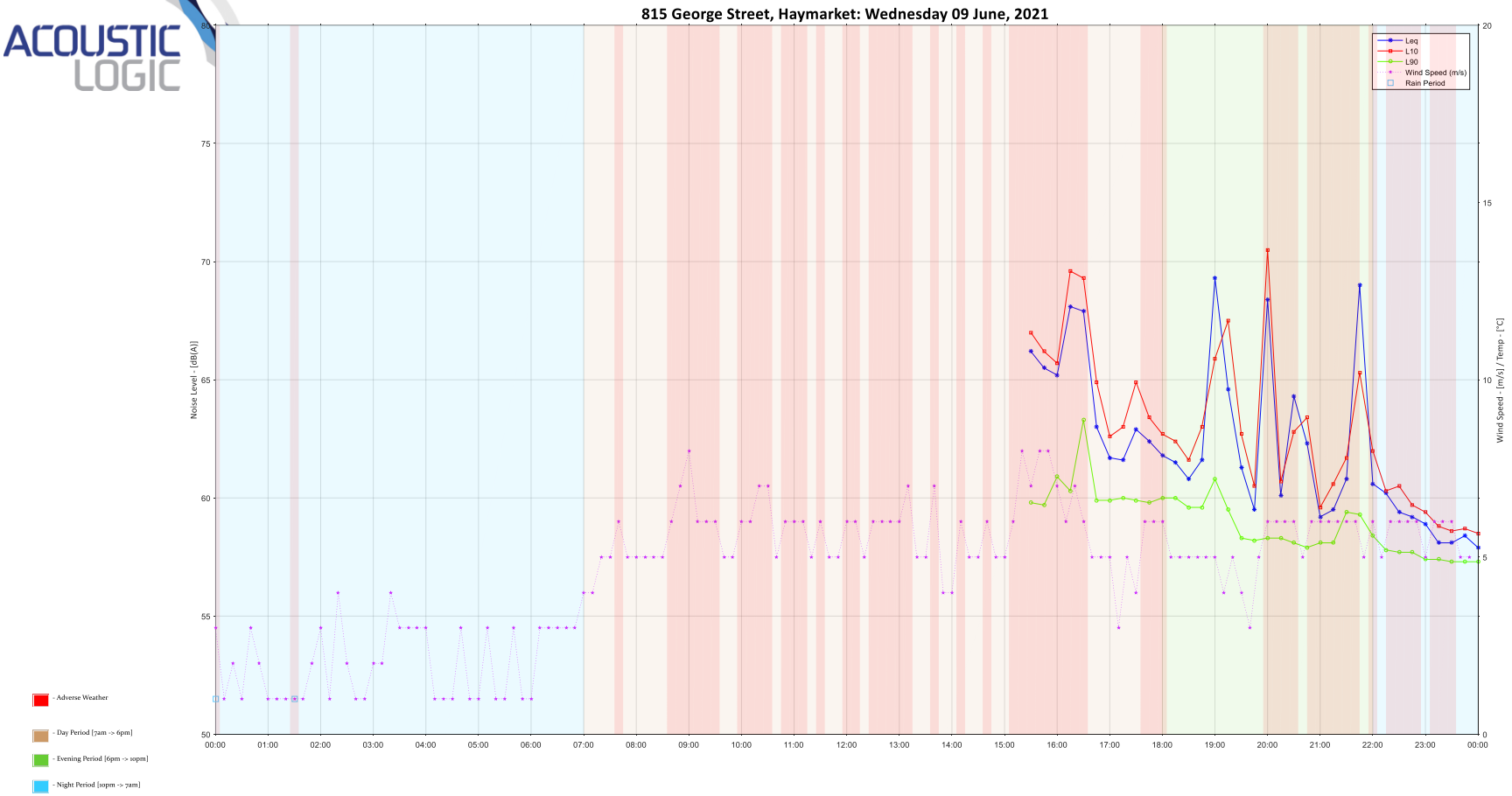
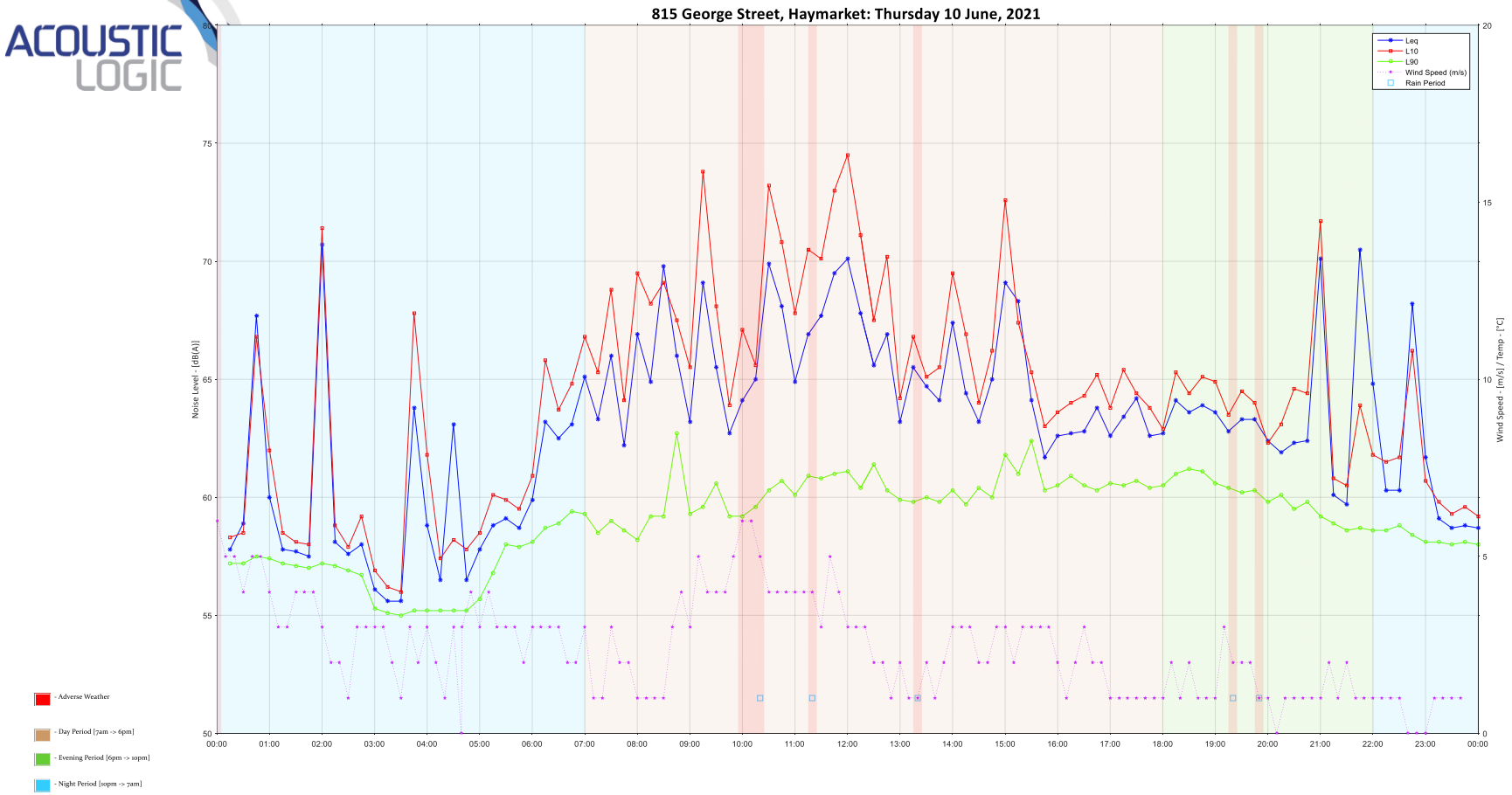
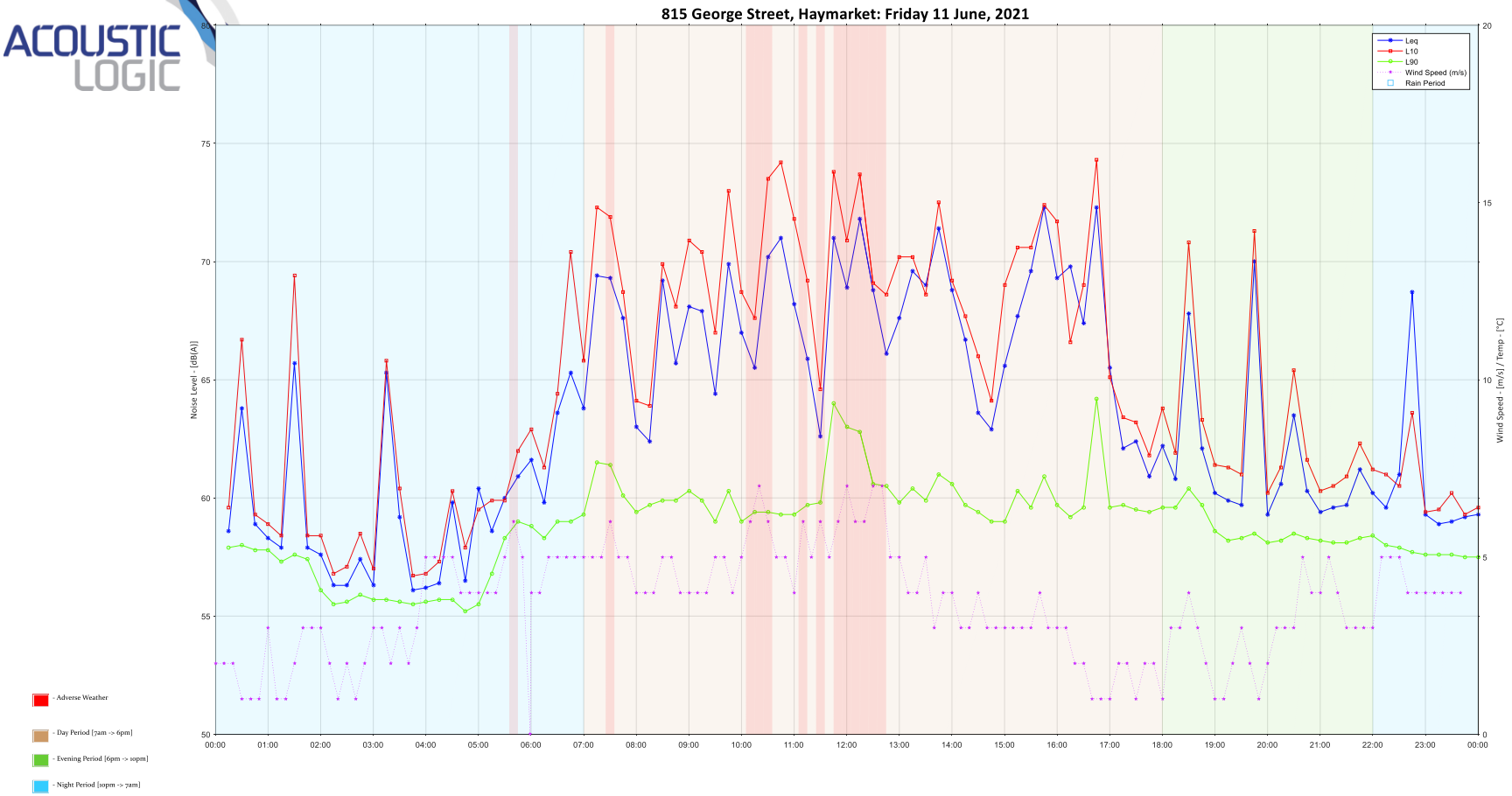
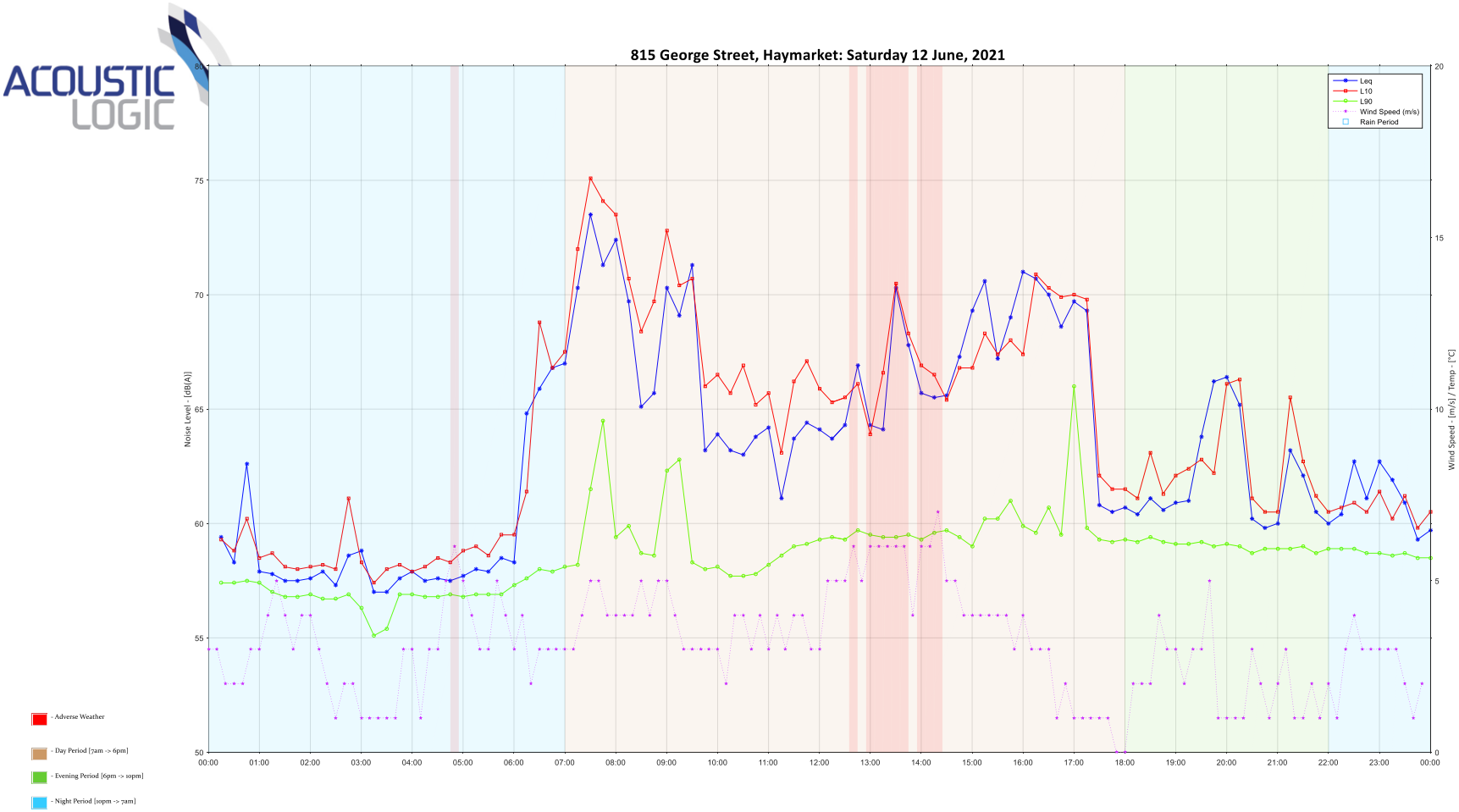
PeiPei Feng

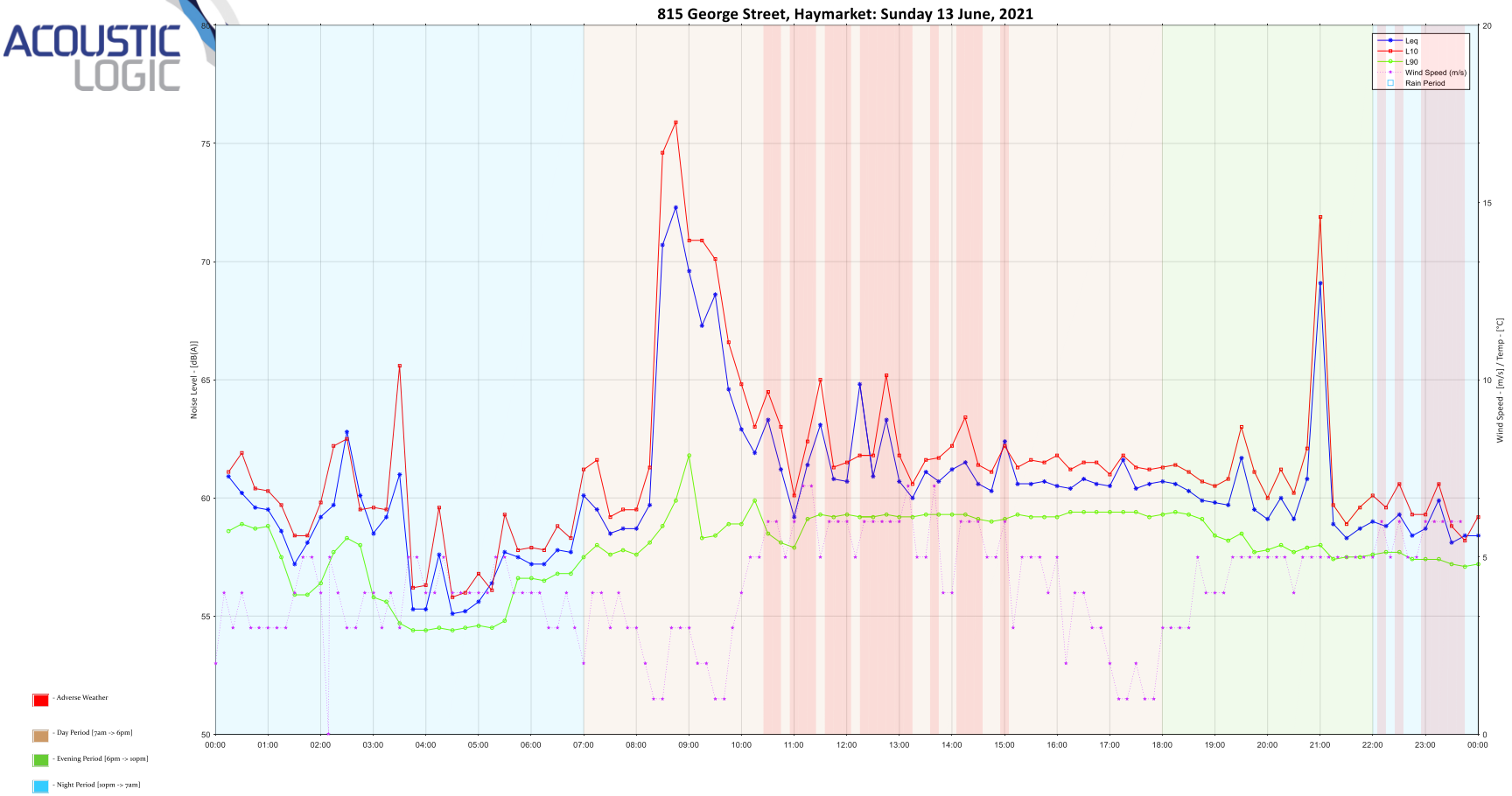
APPENDIX A– UNATTENDED NOISE MONITORING DATA

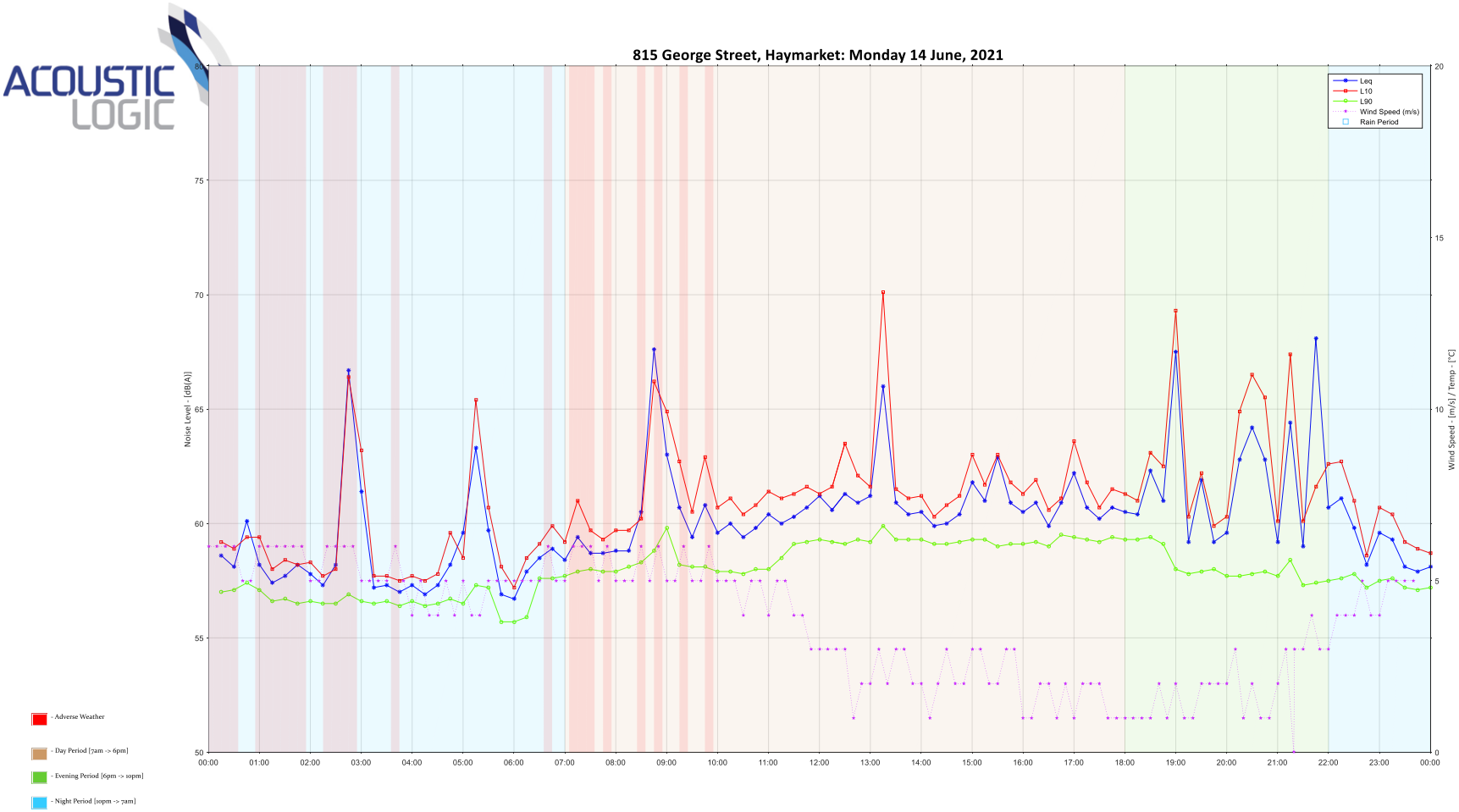

815 George Street, Haymarket: Wednesday 09 June, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]

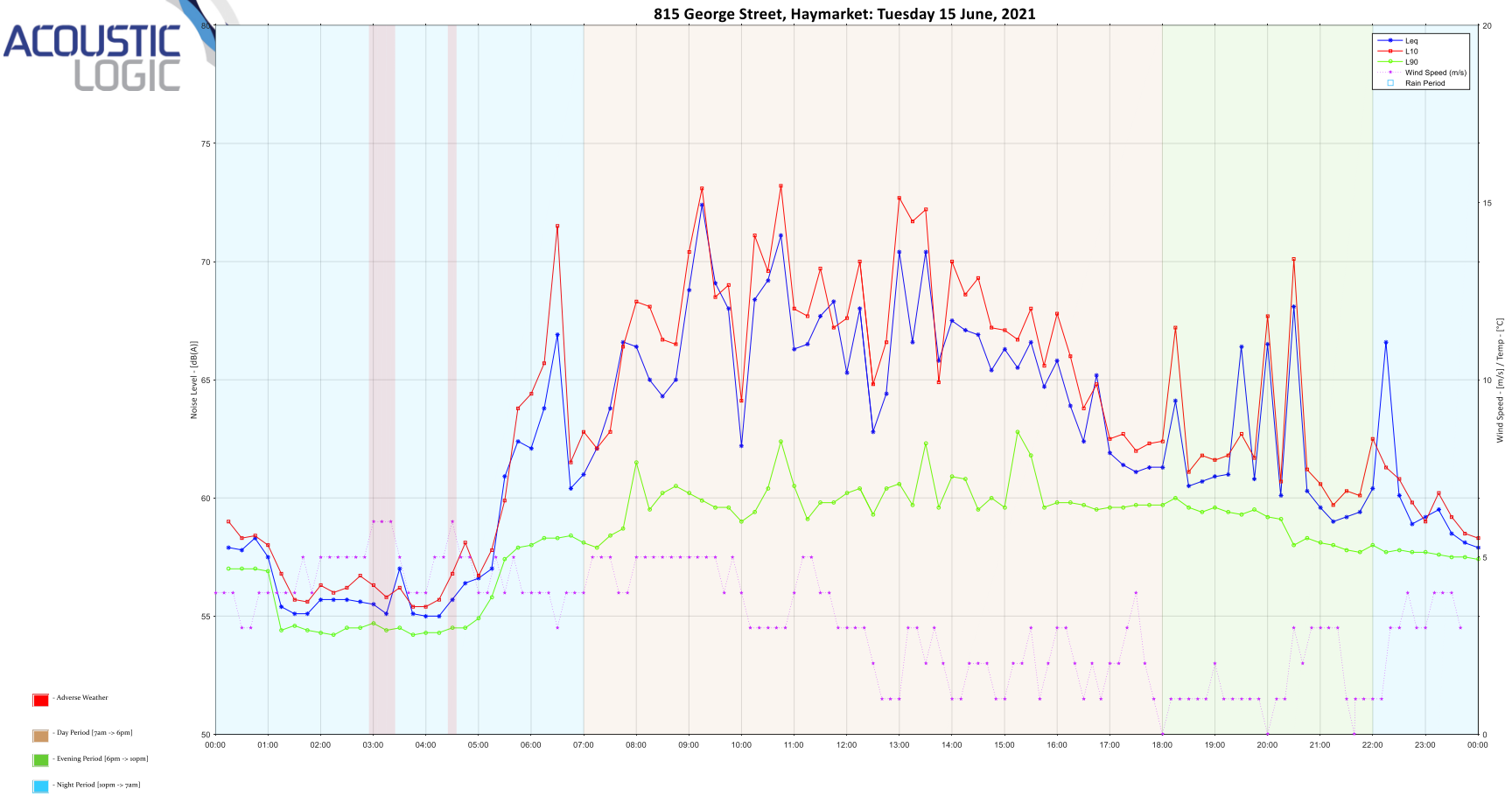

815 George Street, Haymarket: Thursday 10 June, 2021
Leq
L10
L90
Wind Speed (m/s)
Rain Period
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]

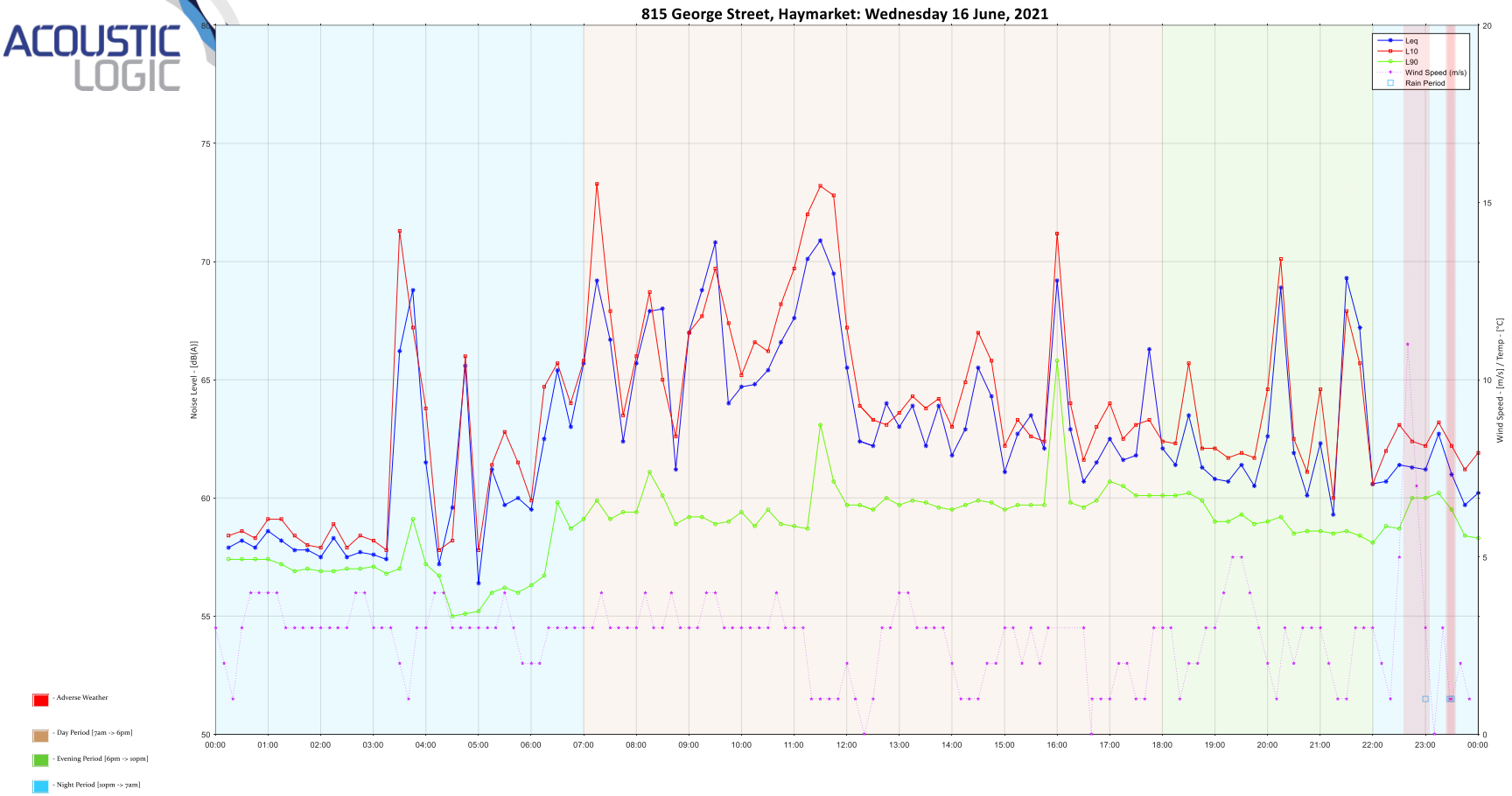

815 George Street, Haymarket: Friday 11 June, 2021
Leq
L10
L90
Wind Speed (m/s)
Rain Period
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]

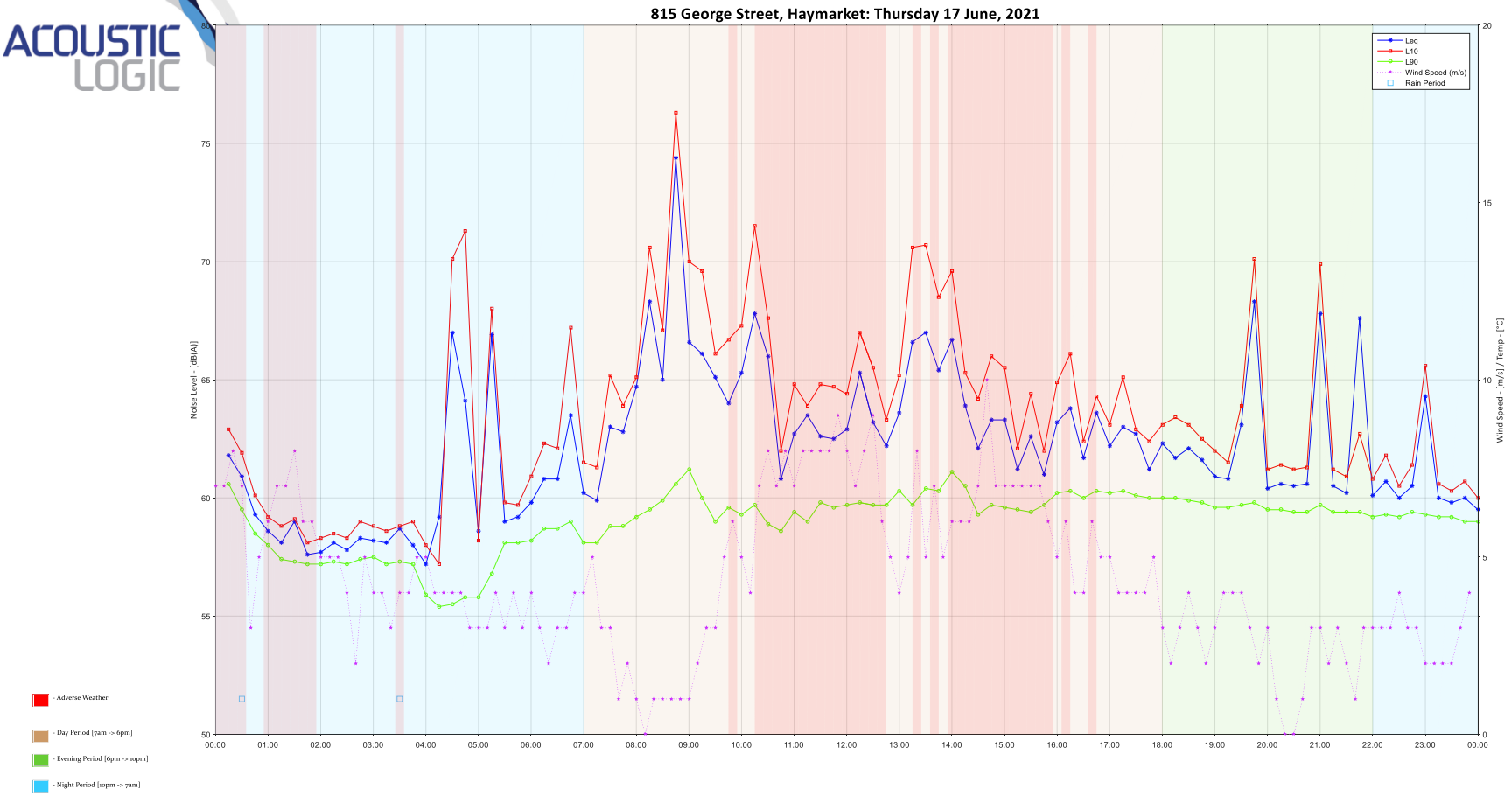

815 George Street, Haymarket: Saturday 12 June, 2021
Leq
L10
L90
Wind Speed (m/s)
Rain Period
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]

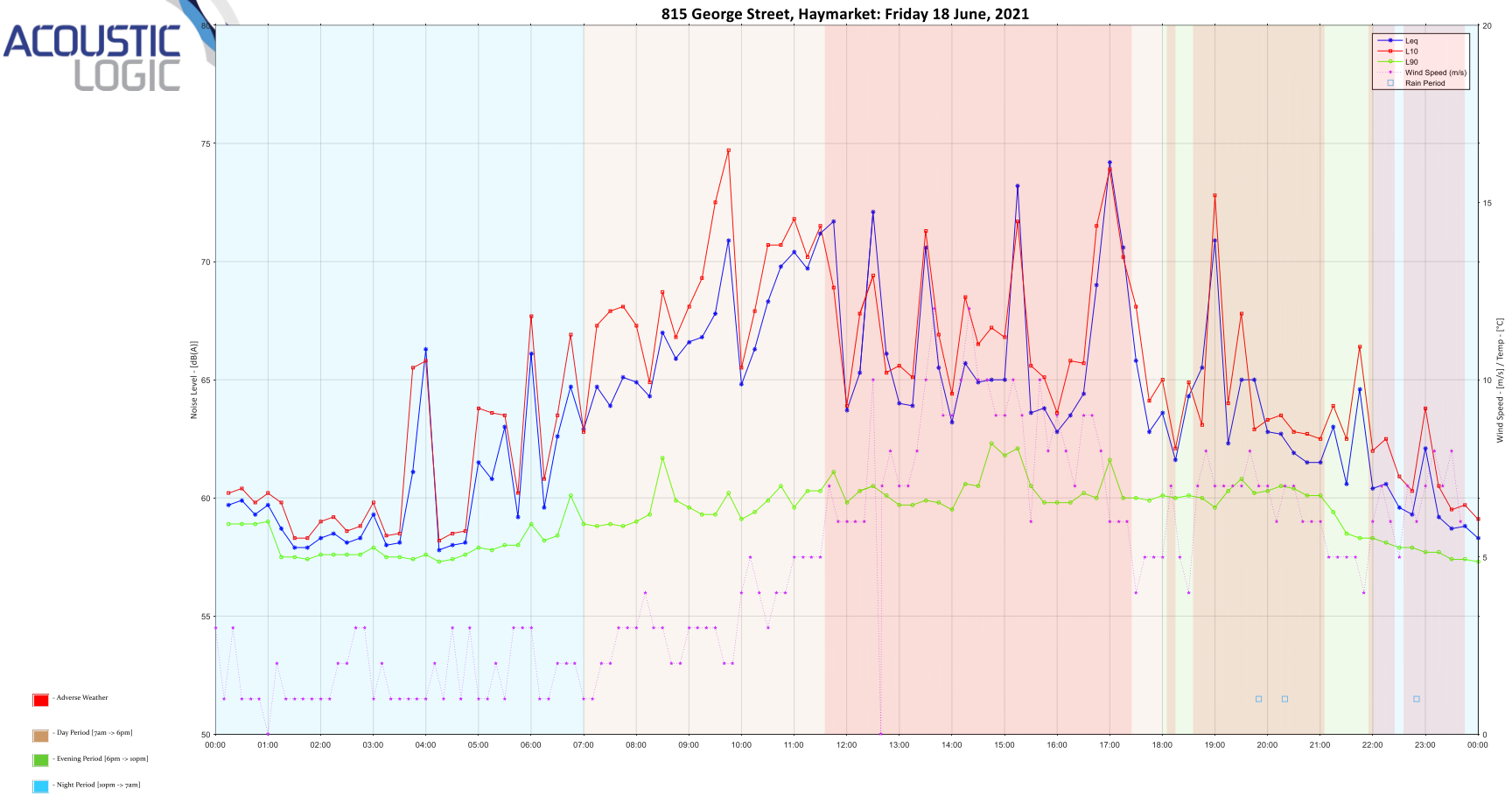

815 George Street, Haymarket: Sunday 13 June, 2021
Leq
L10
L90
Wind Speed (m/s)
Rain Period
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]

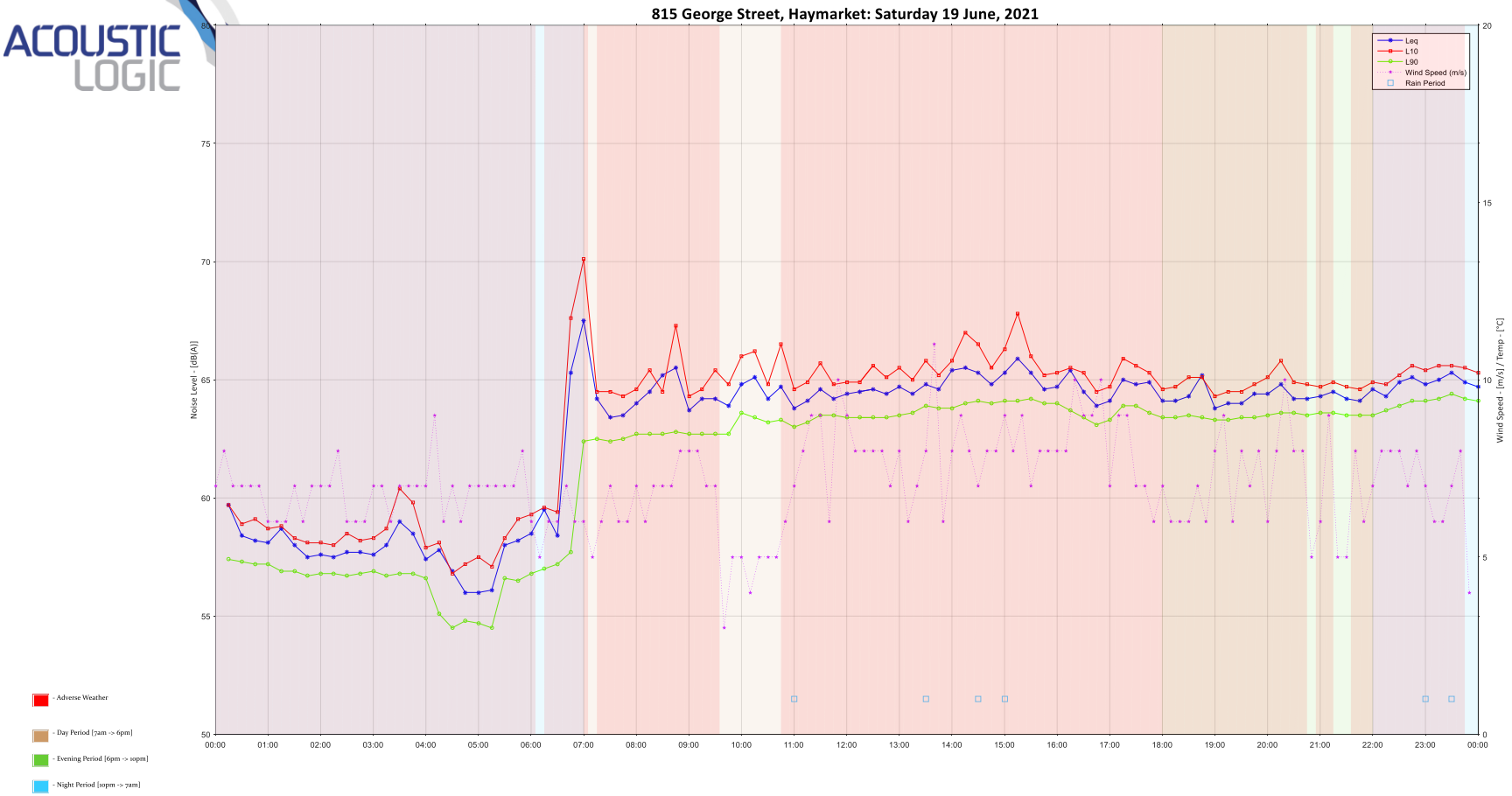

815 George Street, Haymarket: Monday 14 June, 2021
Leq
L10
L90
Wind Speed (m/s)
Rain Period
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]

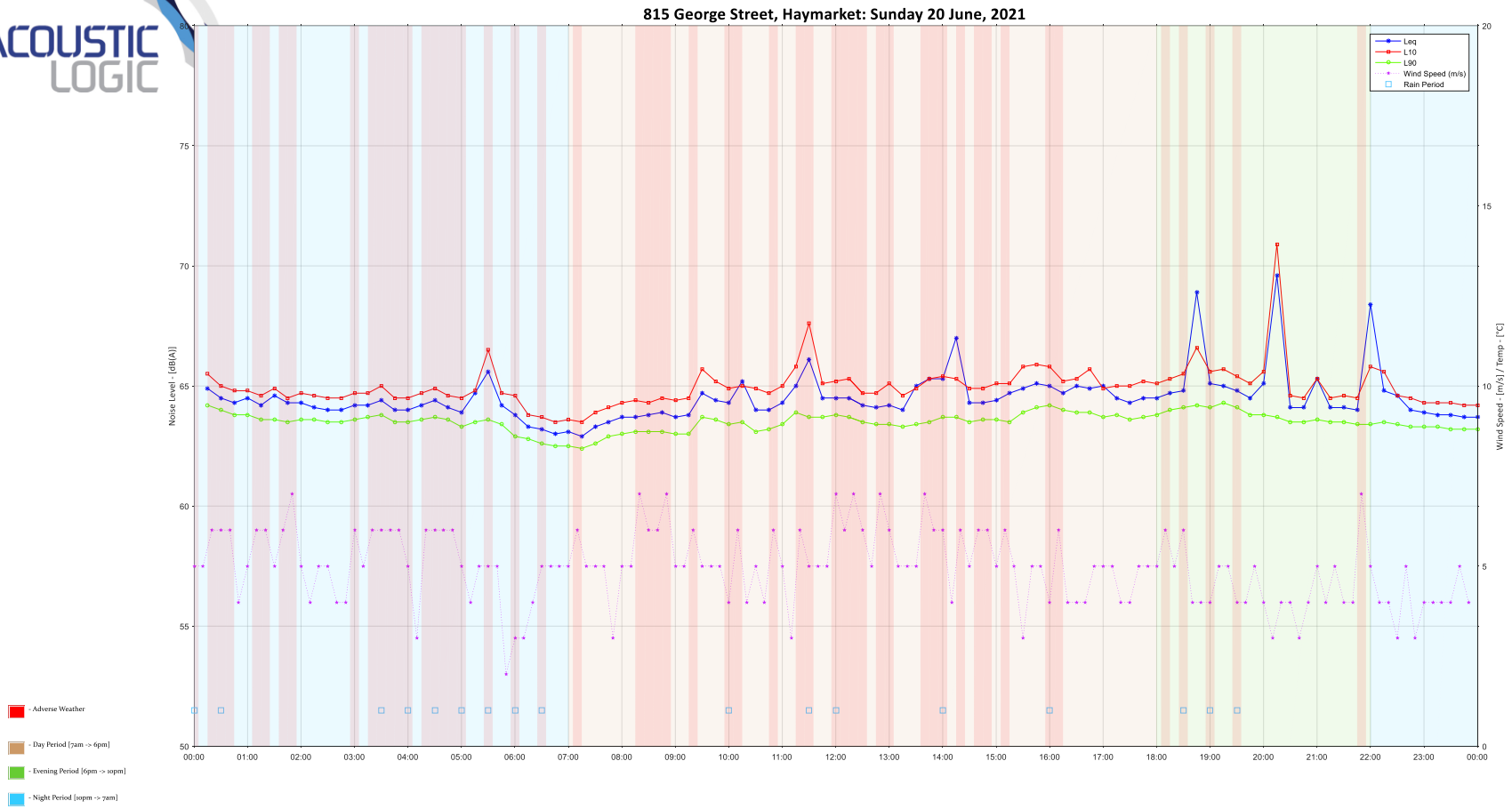

815 George Street, Haymarket: Tuesday 15 June, 2021
Leq
L10
L90
Wind Speed (m/s)
Rain Period
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]

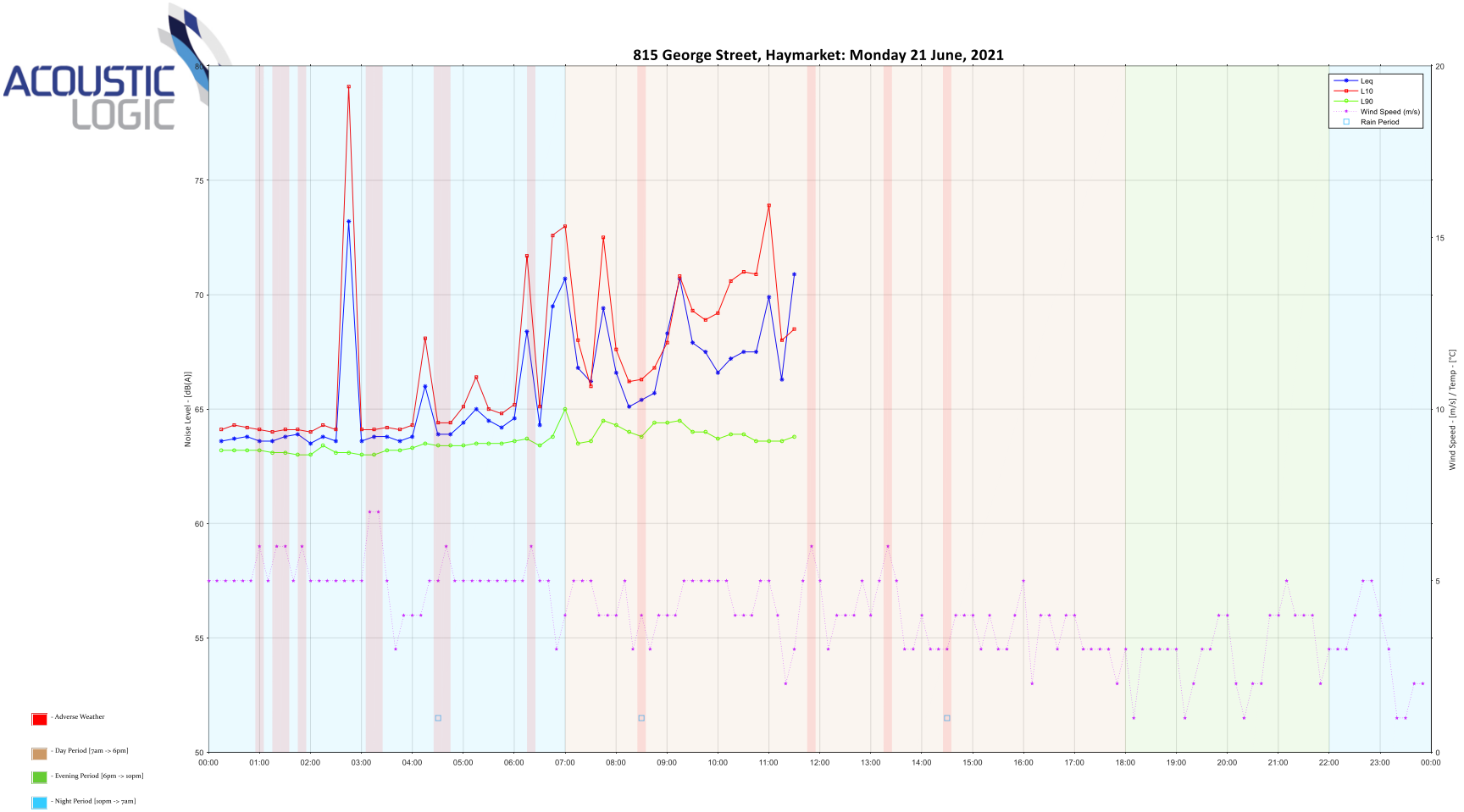

815 George Street, Haymarket: Wednesday 16 June, 2021
Leq
L10
L90
Wind Speed (m/s)
Rain Period
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]


815 George Street, Haymarket: Thursday 17 June, 2021
Leq
L10
L90
Wind Speed (m/s)
Rain Period
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]


815 George Street, Haymarket: Friday 18 June, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]


815 George Street, Haymarket: Saturday 19 June, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]


815 George Street, Haymarket: Sunday 20 June, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]

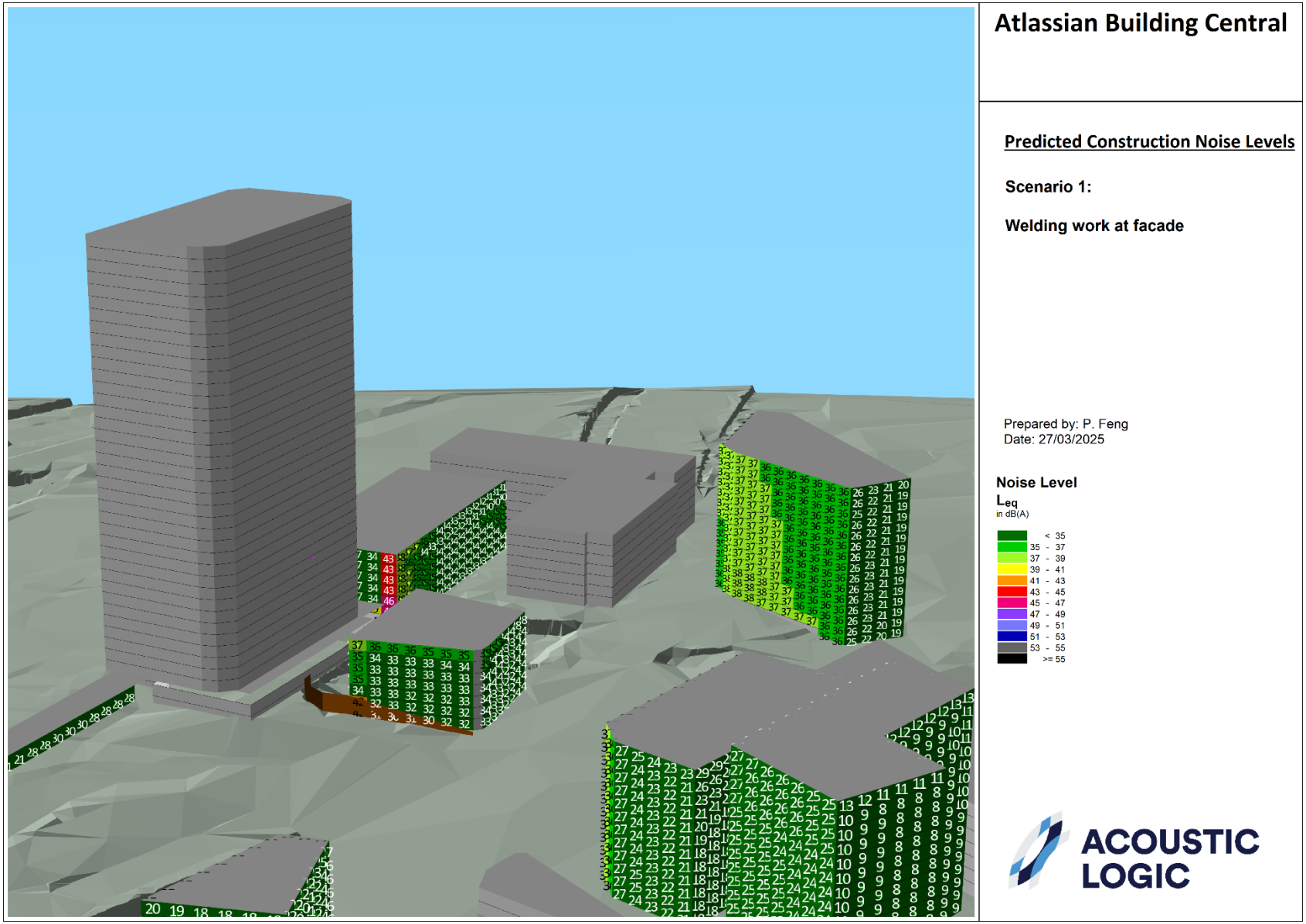

815 George Street, Haymarket: Monday 21 June, 2021
Noise Level - [dB(A)]
Wind Speed - [m/s] / Temp - [°C]
Leq
L10
L90
Wind Speed (m/s)
Rain Period
- Adverse Weather
- Day Period [7am -> 6pm]
- Evening Period [6pm -> 10pm]
- Night Period [10pm -> 7am]

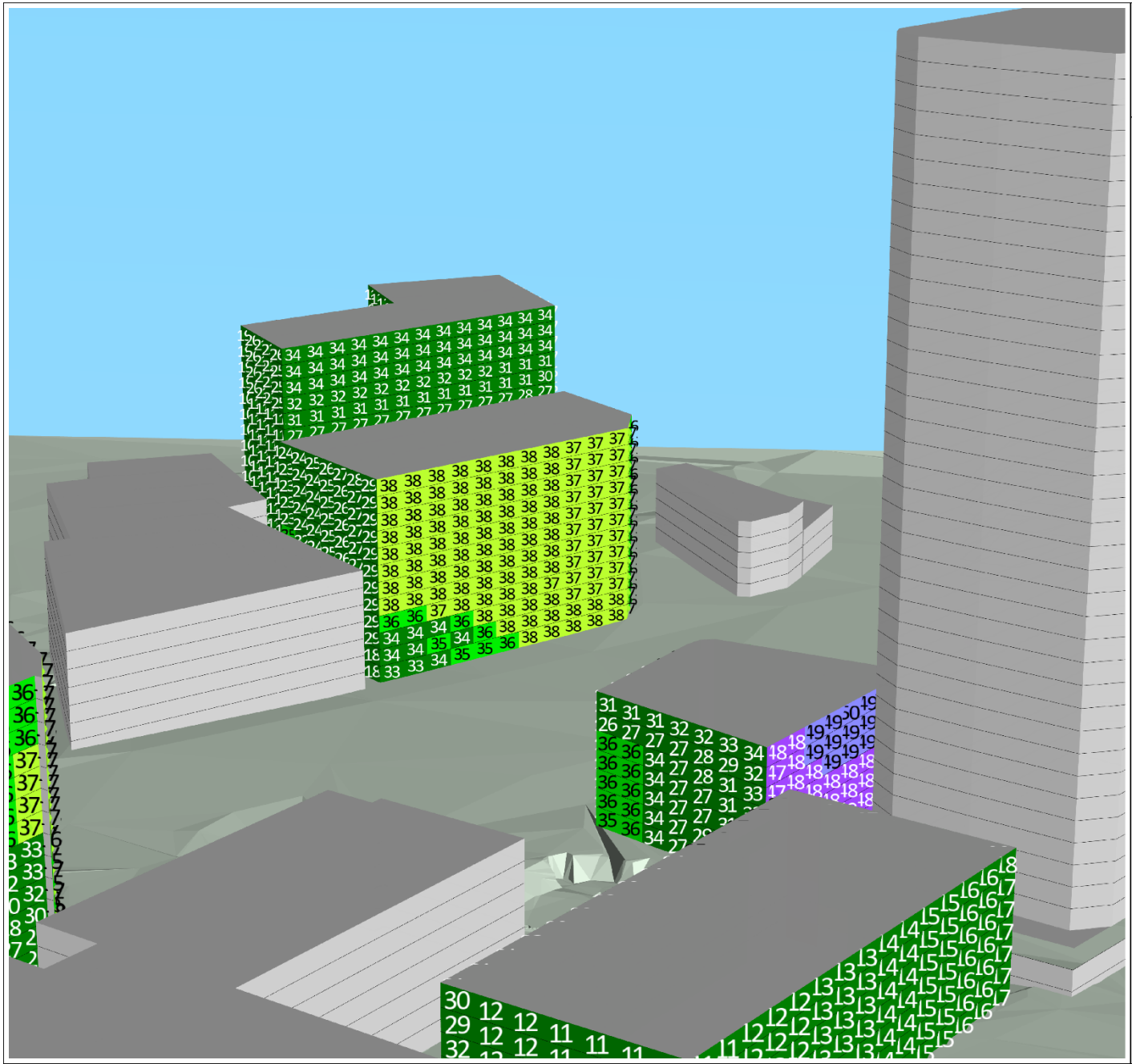
APPENDIX B– CONSTRUCTION PLANT NOISE SOURCES DATA

Construction works Machinery Effective Sound Power Levels based on Continuous operation (100% duty)

Equipment	Approx. Size/ Weight/Model	Sound Power Level (dBA) 100% Duty (inc Penalties)	Duty	Unweighted Octave Band Sound Power Levels, dB (includes Applicable Penalties)							
				63	125	250	500	1000	2000	4000	8000
Crane - Mobile	-	104	25%	115	114	108	109	108	108	99	90
Semi-Trailer Truck	20 tonne	105	10%	109	107	101	99	96	94	97	89
Hand tool	-	95	50%	86	80	81	89	99	106	102	102
Forklift	-	106	50%	-	-	-	-	-	-	-	-
Welding machine	-	95	100%	-	-	-	-	-	-	-	-
Hoist	-	95	25%	-	-	-	-	-	-	-	-

APPENDIX C– SOUNDPLAN MODELLING RESULTS





Atlassian Building Central

Predicted Construction Noise Levels

Scenario 1:

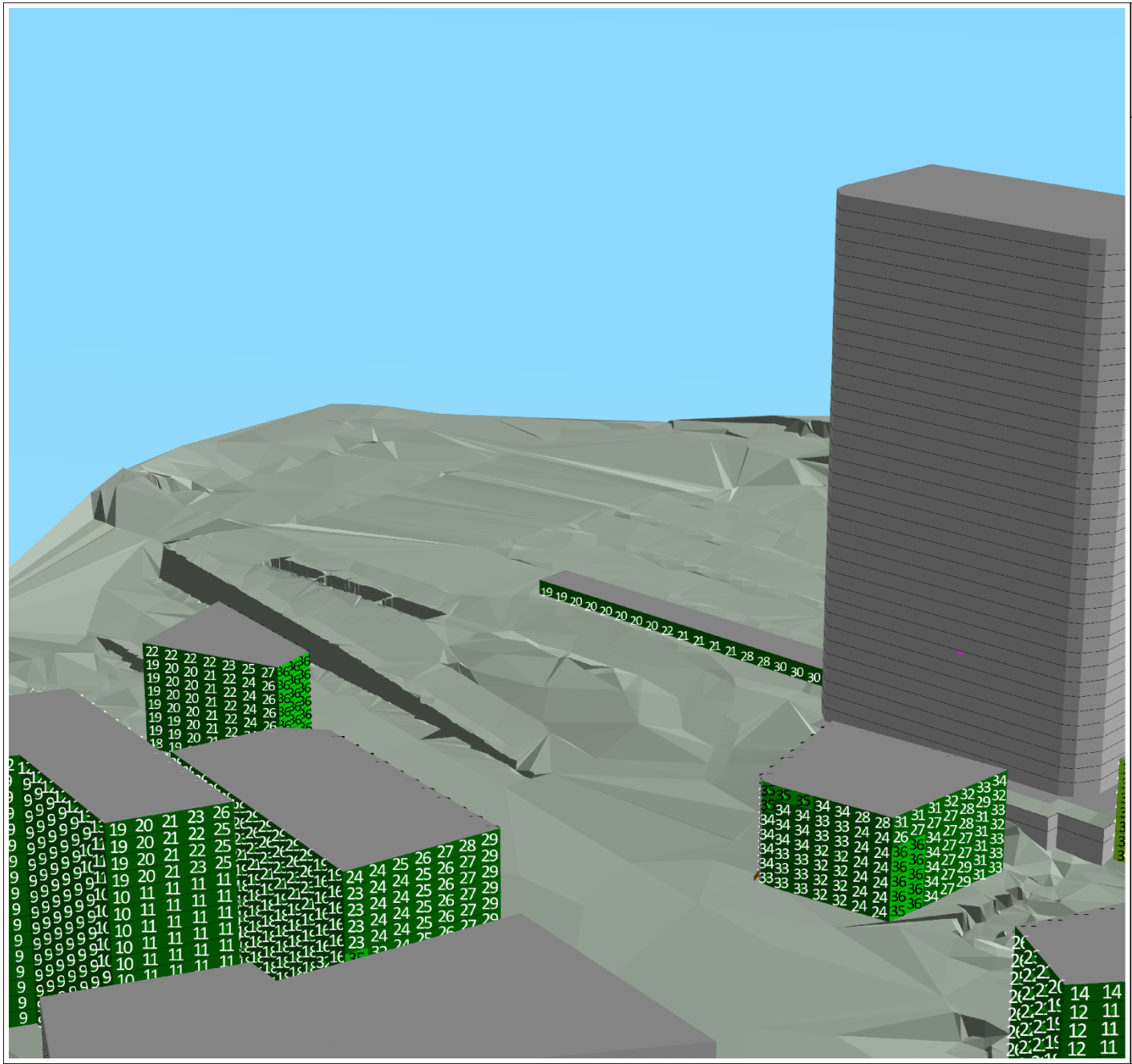
Welding work at facade

Prepared by: P. Feng
Date: 27/03/2025

Noise Level
L_{eq}
in dB(A)

< 35
35 - 37
37 - 39
39 - 41
41 - 43
43 - 45
45 - 47
47 - 49
49 - 51
51 - 53
53 - 55
>= 55

ACOUSTIC LOGIC



Atlassian Building Central

Predicted Construction Noise Levels

Scenario 1:

Welding work at facade

Prepared by: P. Feng
Date: 27/03/2025

Noise Level
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in dB(A)

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	35 - 37
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	43 - 45
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	47 - 49
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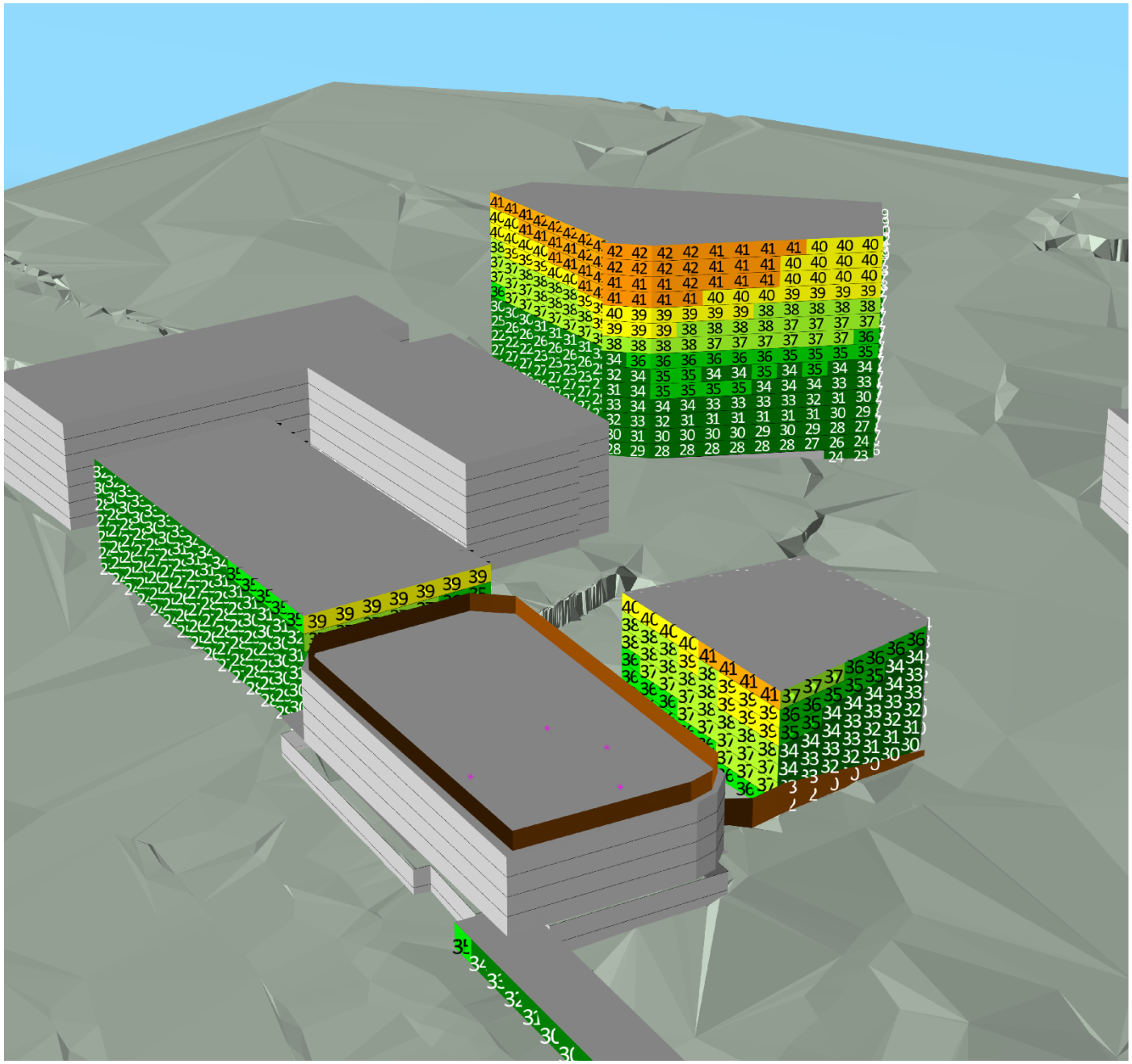
	>= 55

ACOUSTIC LOGIC



Atlassian Building Central

Predicted Construction Noise Levels

Scenario 2:

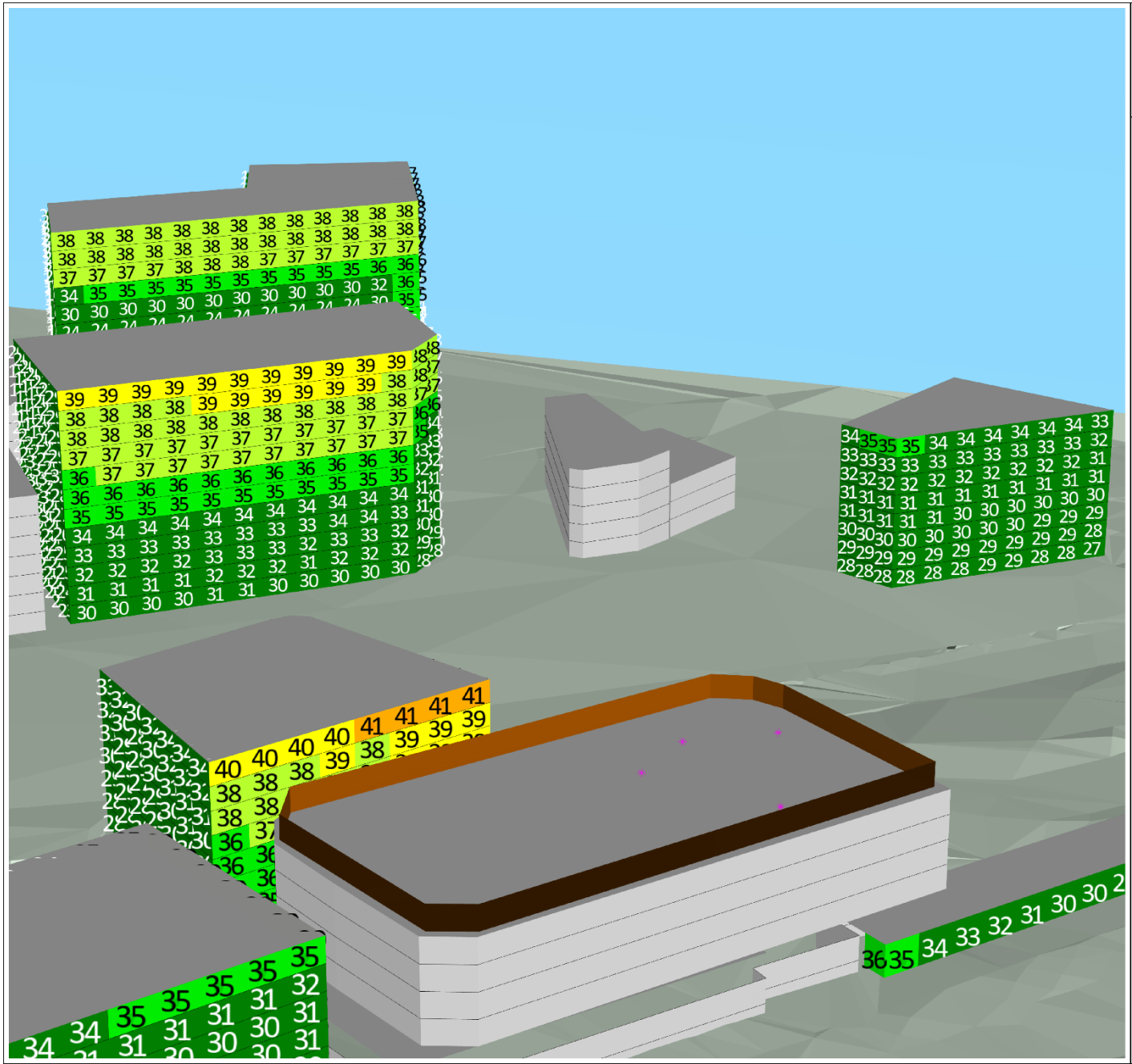
Finishes work

Prepared by: P. Feng
Date: 27/03/2025

Noise Level
L_{eq}
in dB(A)

	< 35
	35 - 37
	37 - 39
	39 - 41
	41 - 43
	43 - 45
	45 - 47
	47 - 49
	49 - 51
	51 - 53
	53 - 55
	>= 55

ACOUSTIC LOGIC



Atlassian Building Central

Predicted Construction Noise Levels

Scenario 2:

Finishes work

Prepared by: P. Feng
Date: 27/03/2025

Noise Level
L_{eq}
in dB(A)

	< 35
	35 - 37
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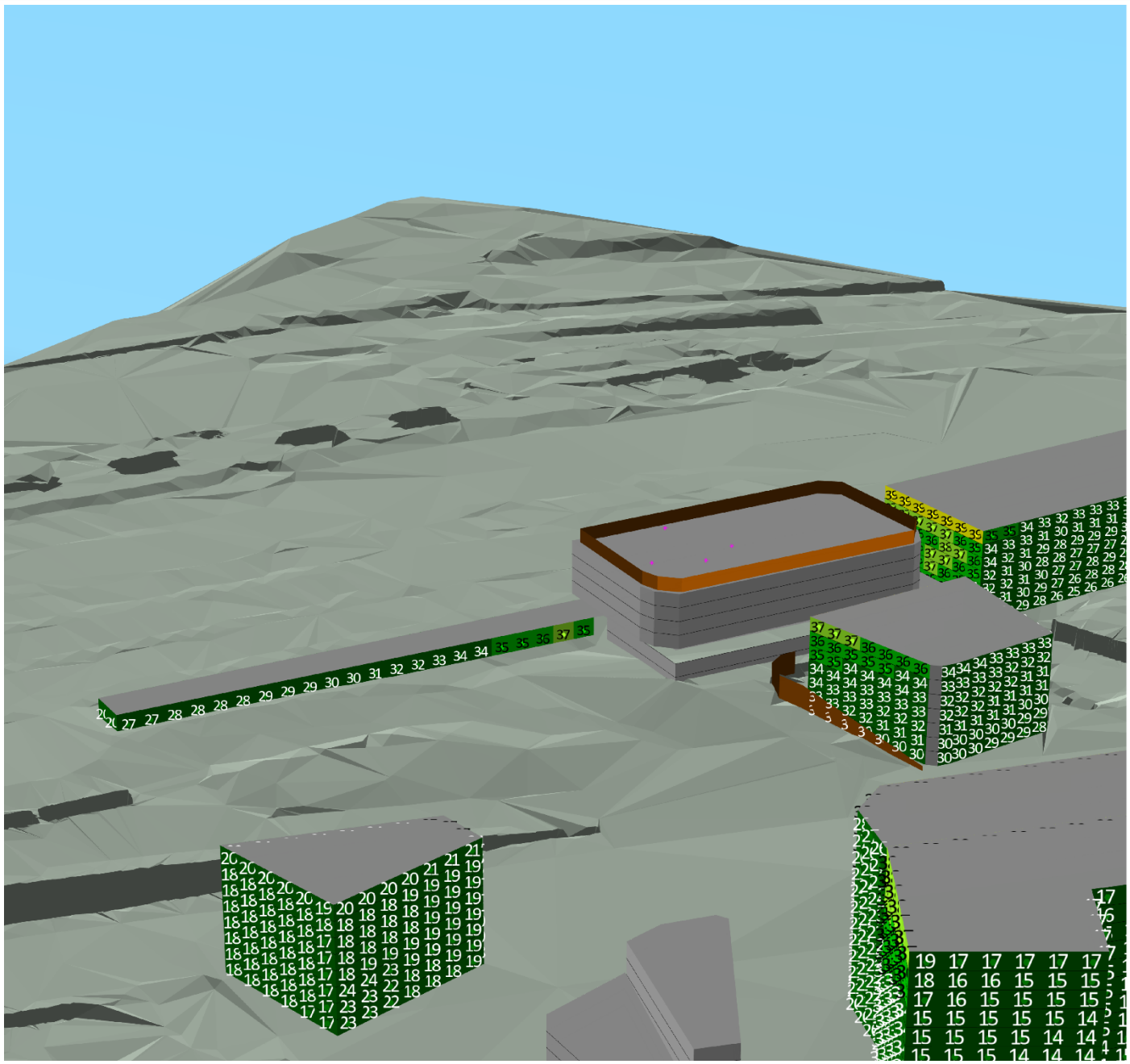
	>= 55

ACOUSTIC LOGIC



Atlassian Building Central

Predicted Construction Noise Levels

Scenario 2:

Finishes work

Prepared by: P. Feng
Date: 27/03/2025

Noise Level
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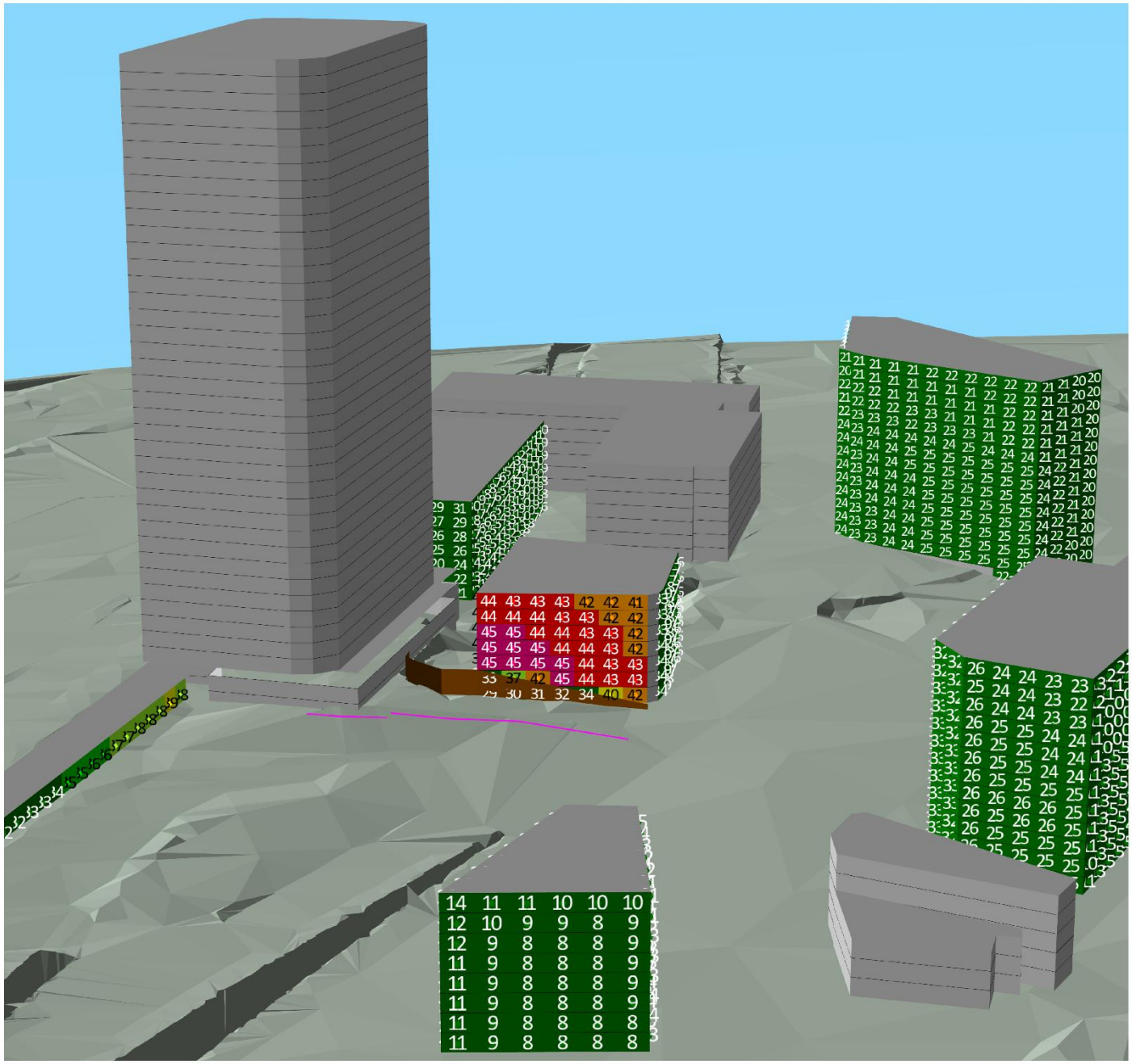
ACOUSTIC LOGIC



Atlassian Building Central

Predicted Construction Noise Levels

Scenario 3:

Material Delivery

Prepared by: P. Feng
Date: 27/03/2025

Noise Level
L_{eq}
in dB(A)

< 35
35 - 37
37 - 39
39 - 41
41 - 43
43 - 45
45 - 47
47 - 49
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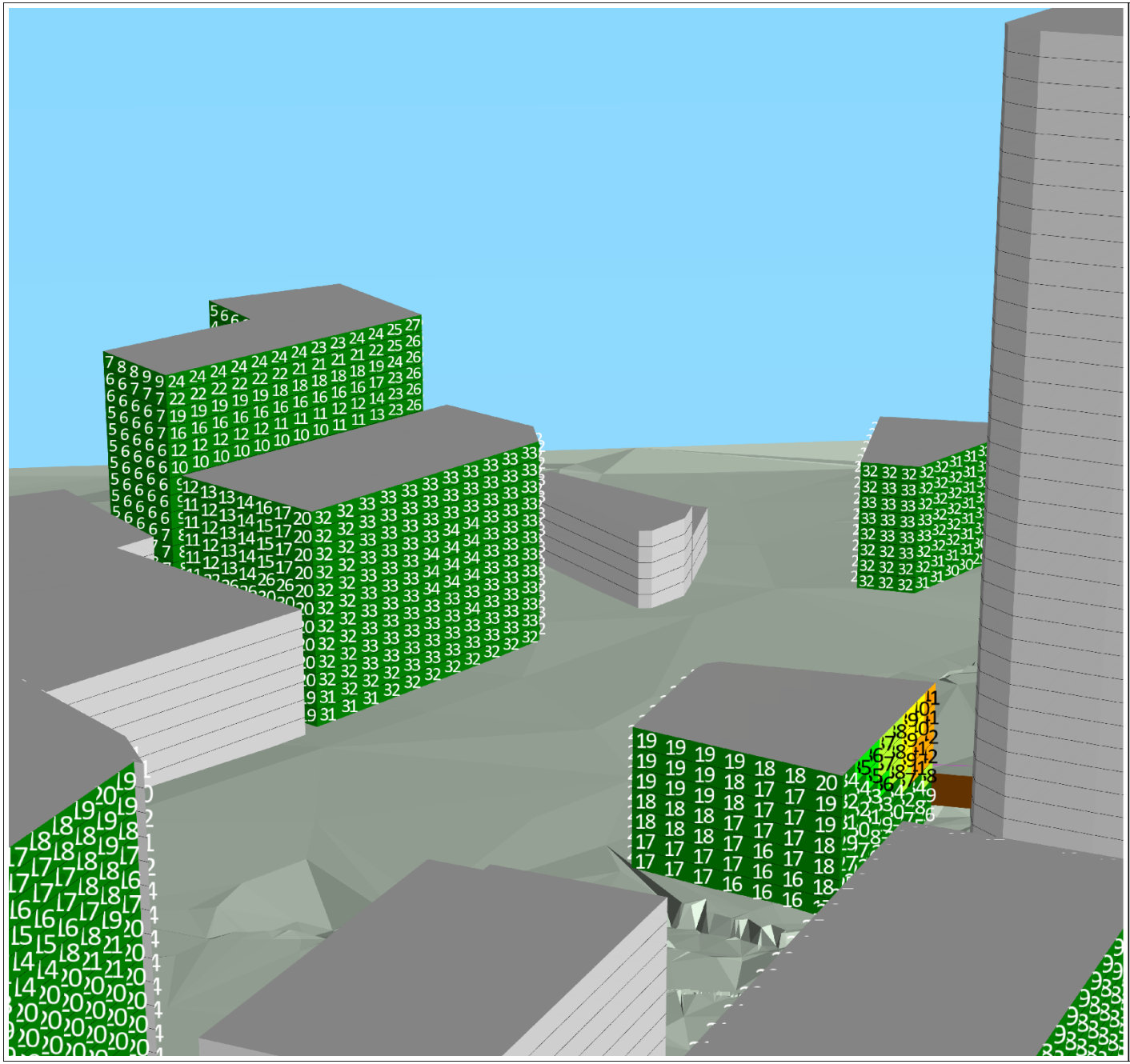
>= 55

ACOUSTIC LOGIC



Atlassian Building Central

Predicted Construction Noise Levels

Scenario 3:

Material Delivery

Prepared by: P. Feng
Date: 27/03/2025

Noise Level
L_{eq}
in dB(A)

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35 - 37
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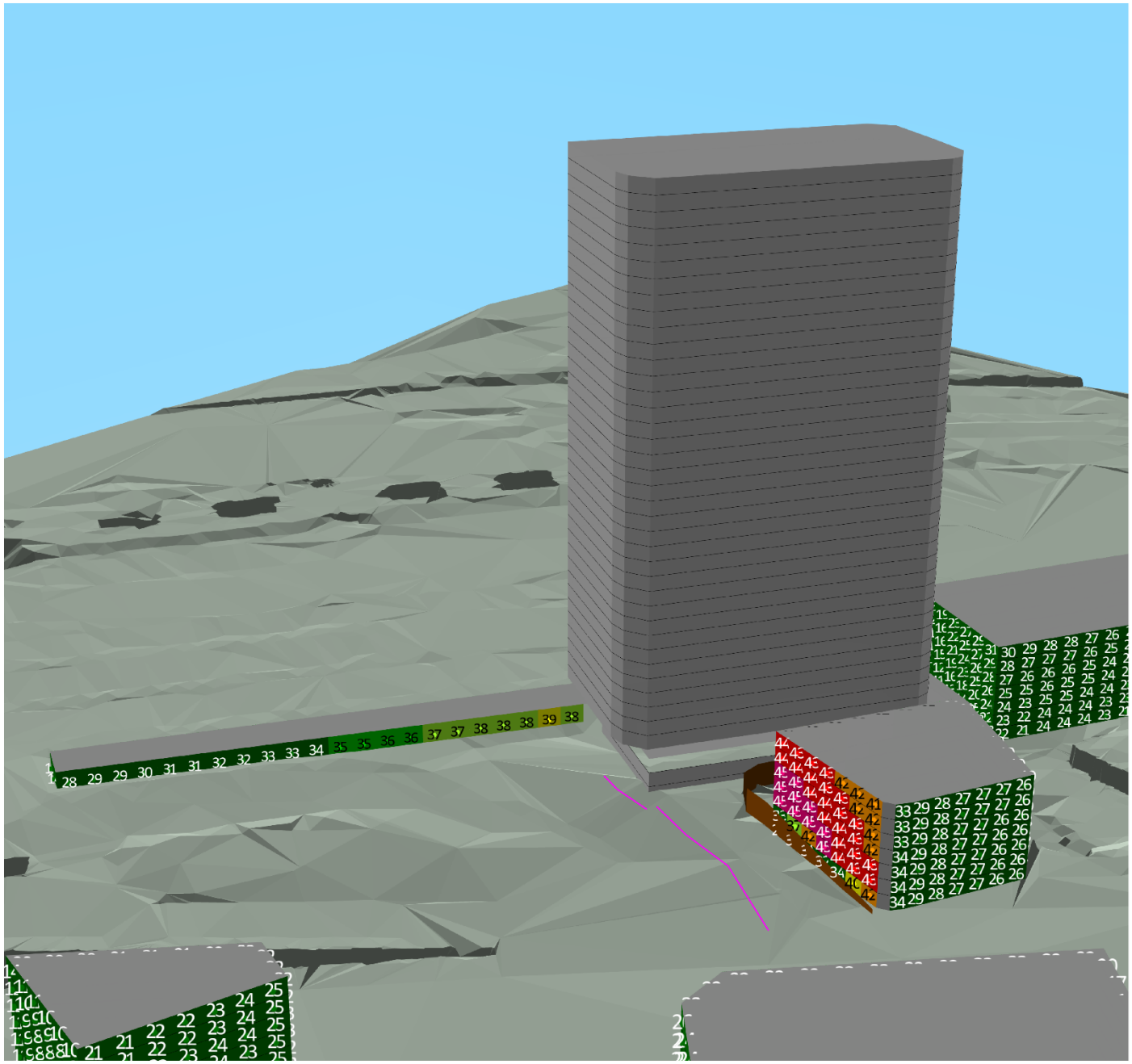
ACOUSTIC LOGIC



Atlassian Building Central

Predicted Construction Noise Levels

Scenario 3:

Material Delivery

Prepared by: P. Feng
Date: 27/03/2025

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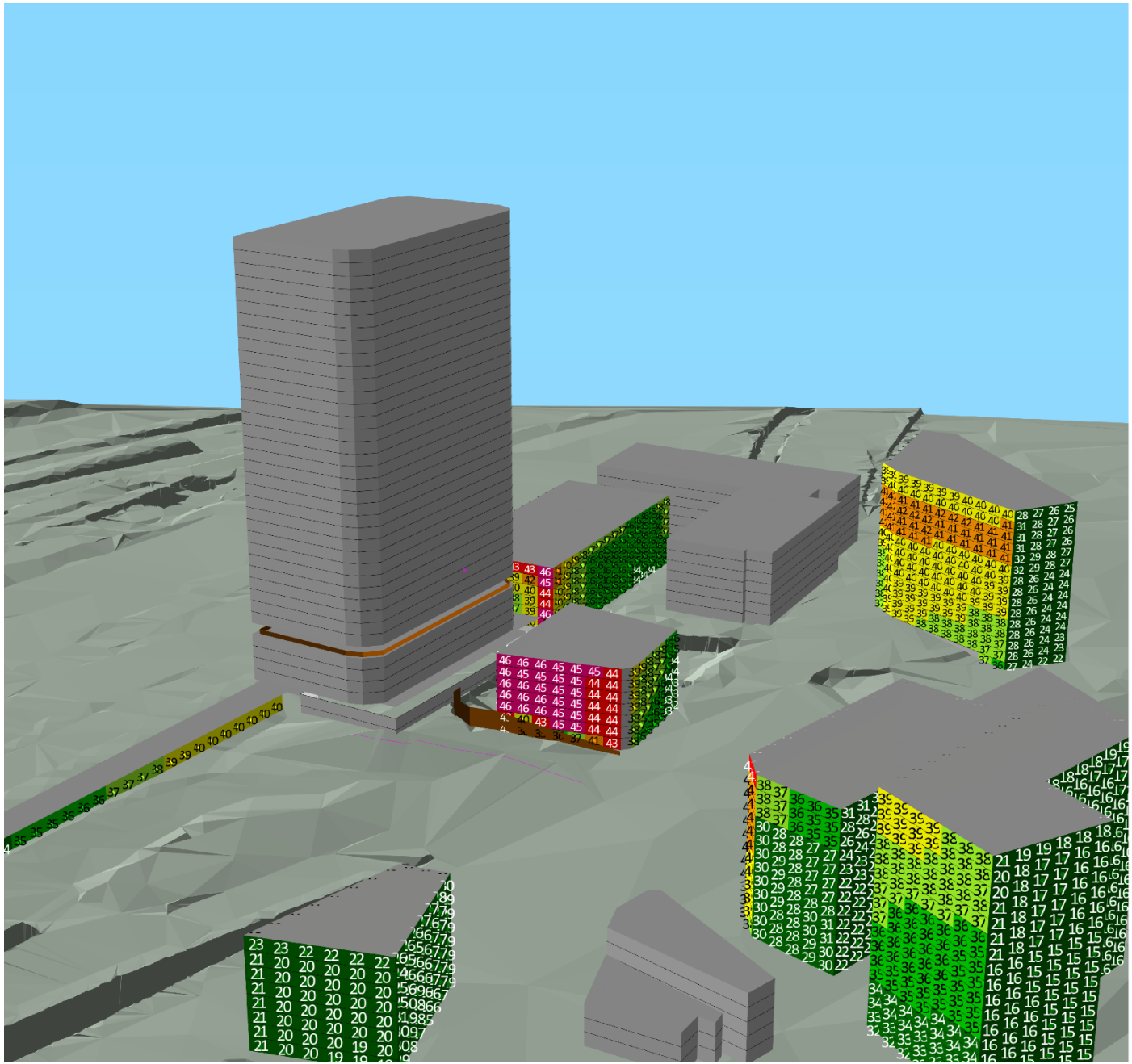
ACOUSTIC LOGIC



Atlassian Building Central

Predicted Construction Noise Levels

Combined Noise:

Scenarios 1, 2 & 3:

Welding work
Finishes work
Truck delivery
Forklift

Prepared by: P. Feng
Date: 23/09/2025

Noise Level
L_{eq}
in dB(A)

< 35
35 - 37
37 - 39
39 - 41
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47 - 49
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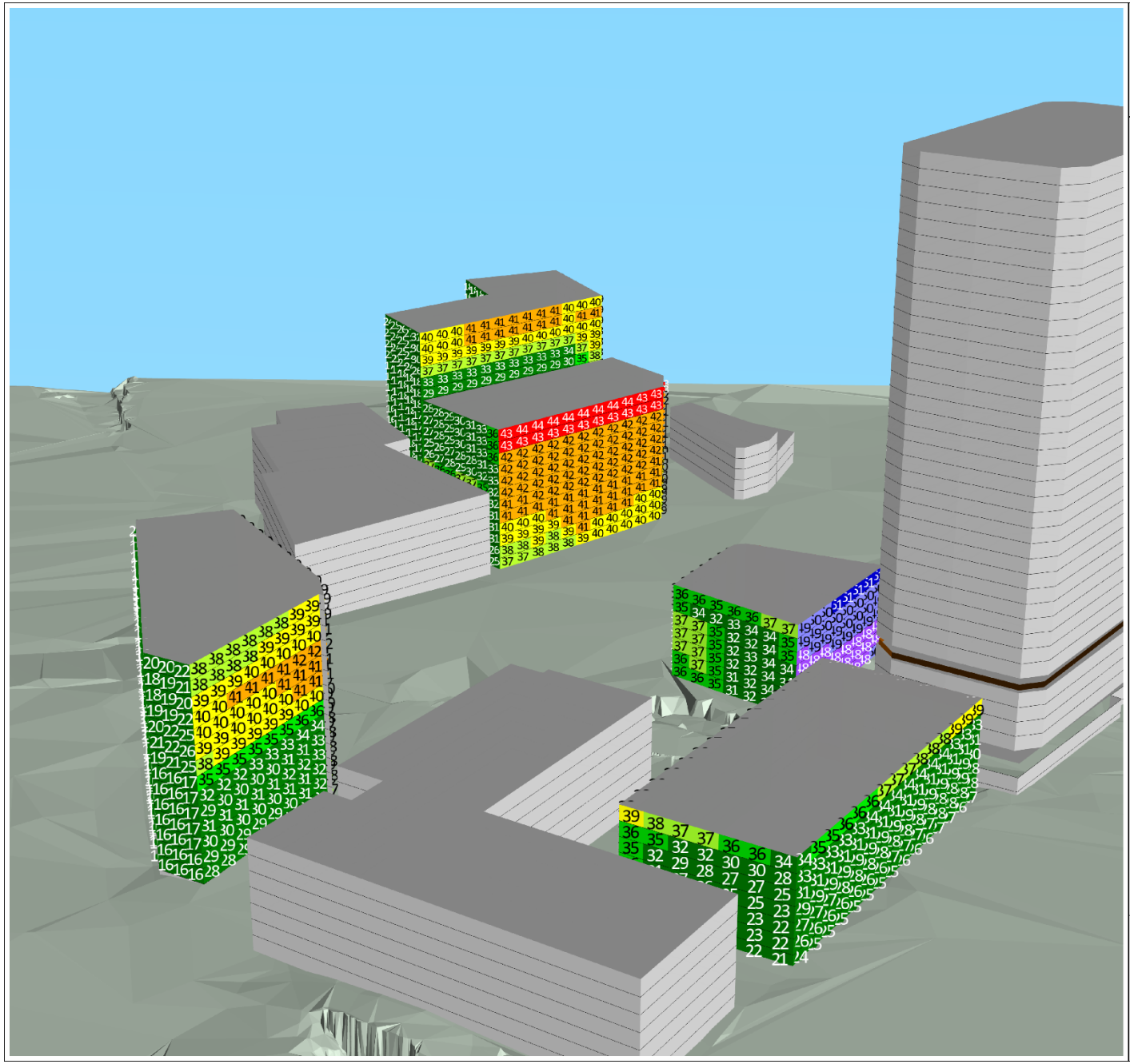
ACOUSTIC LOGIC



Atlassian Building Central

Predicted Construction Noise Levels

Combined Noise:

Scenarios 1, 2 & 3:

Welding work
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Truck delivery
Forklift

Prepared by: P. Feng
Date: 23/09/2025

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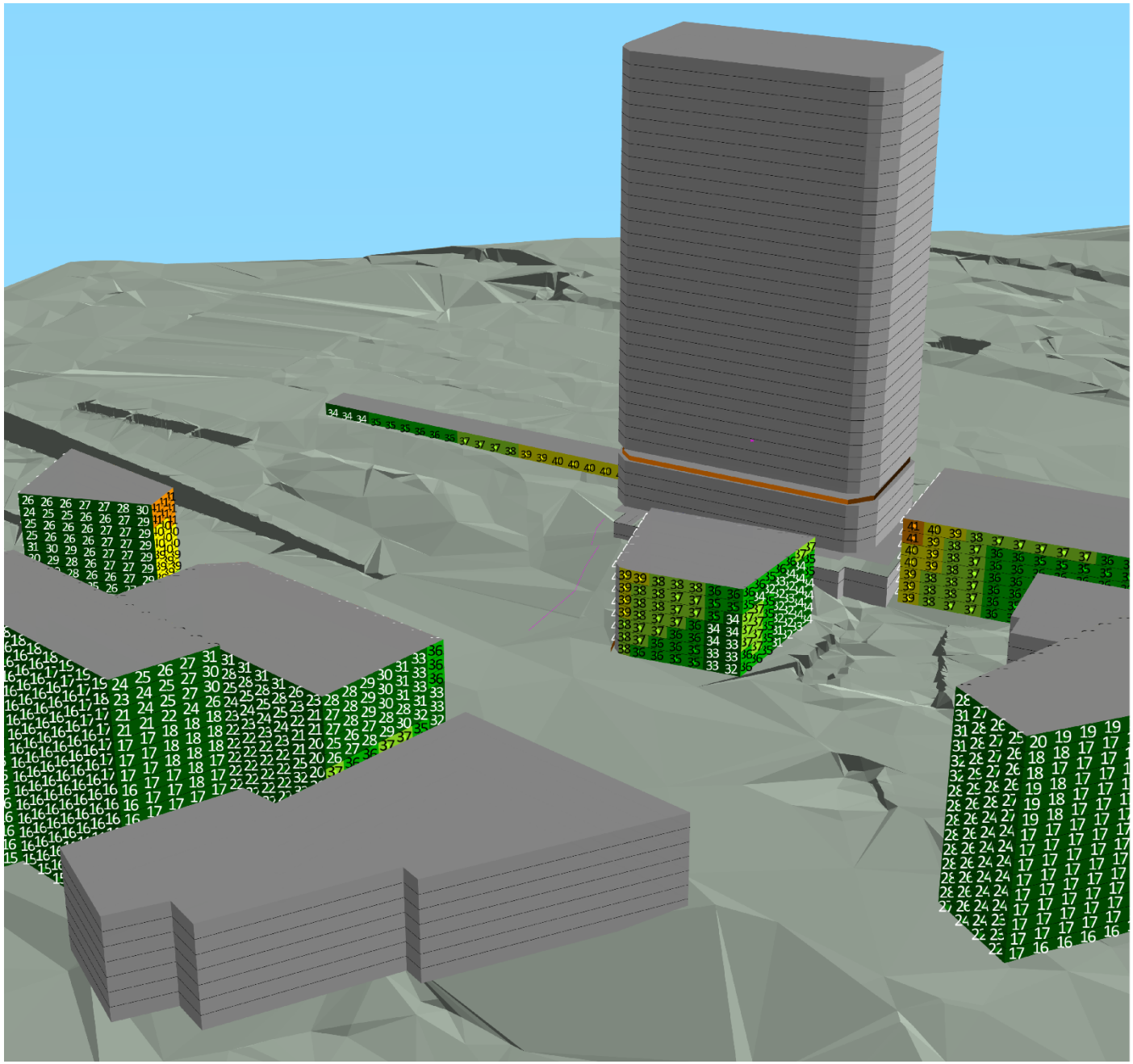
ACOUSTIC LOGIC



Atlassian Building Central

Predicted Construction Noise Levels

Combined Noise:

Scenarios 1, 2 & 3:

Welding work
Finishes work
Truck delivery
Forklift

Prepared by: P. Feng
Date: 23/09/2025

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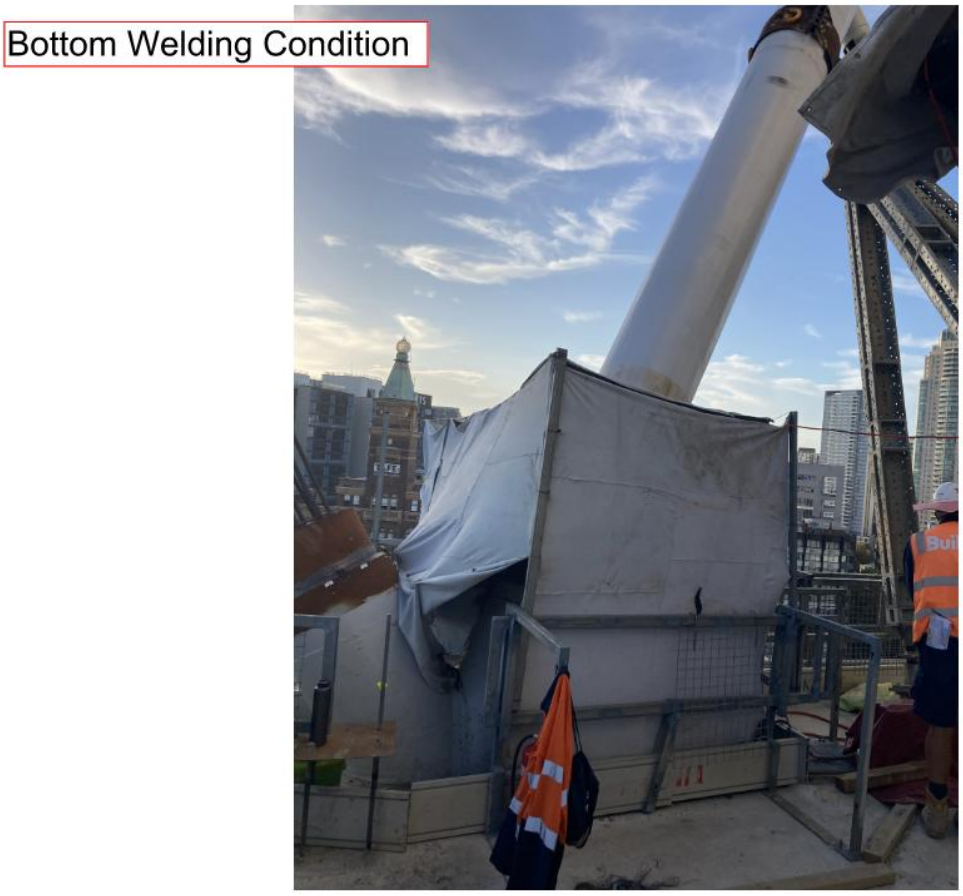
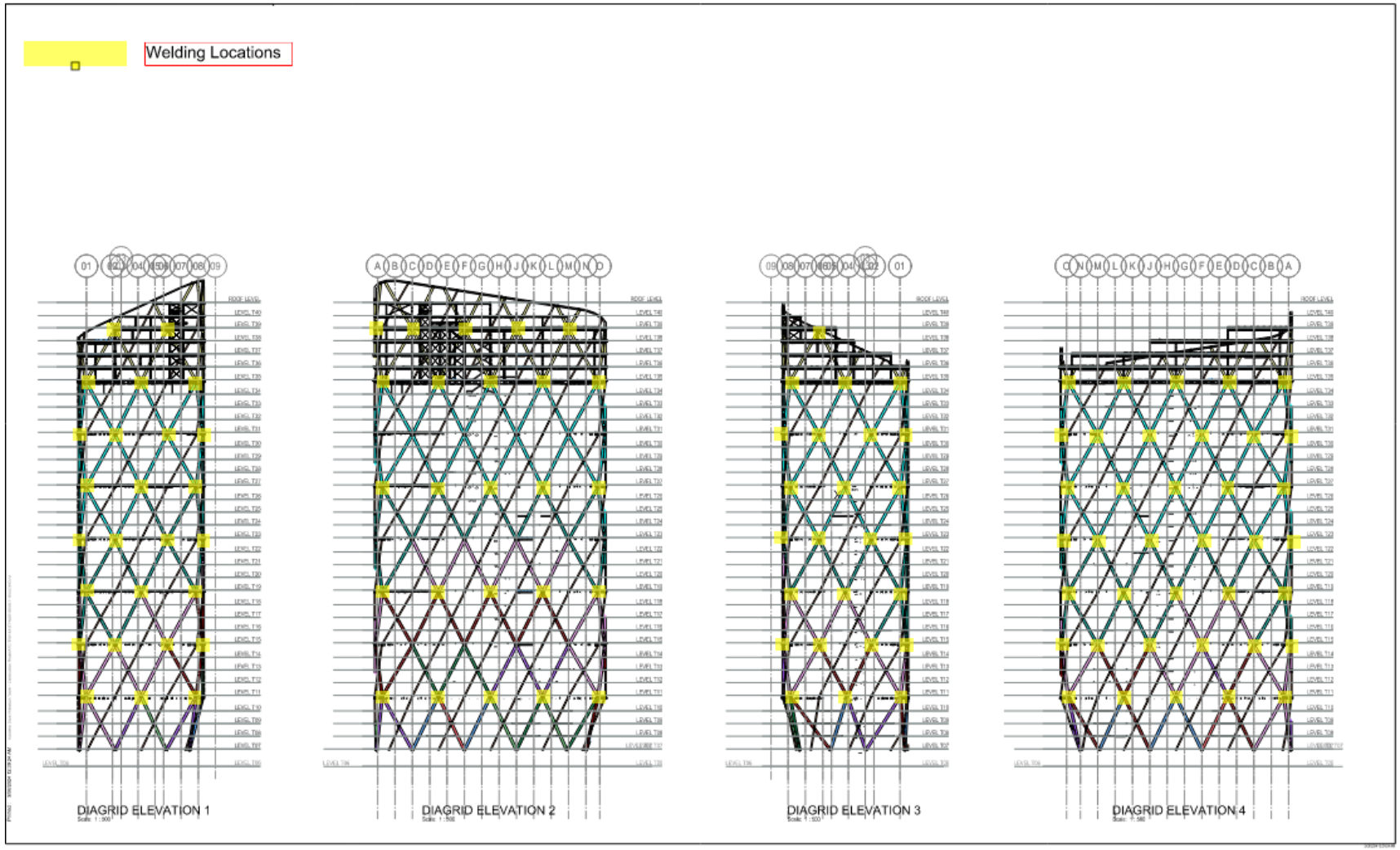
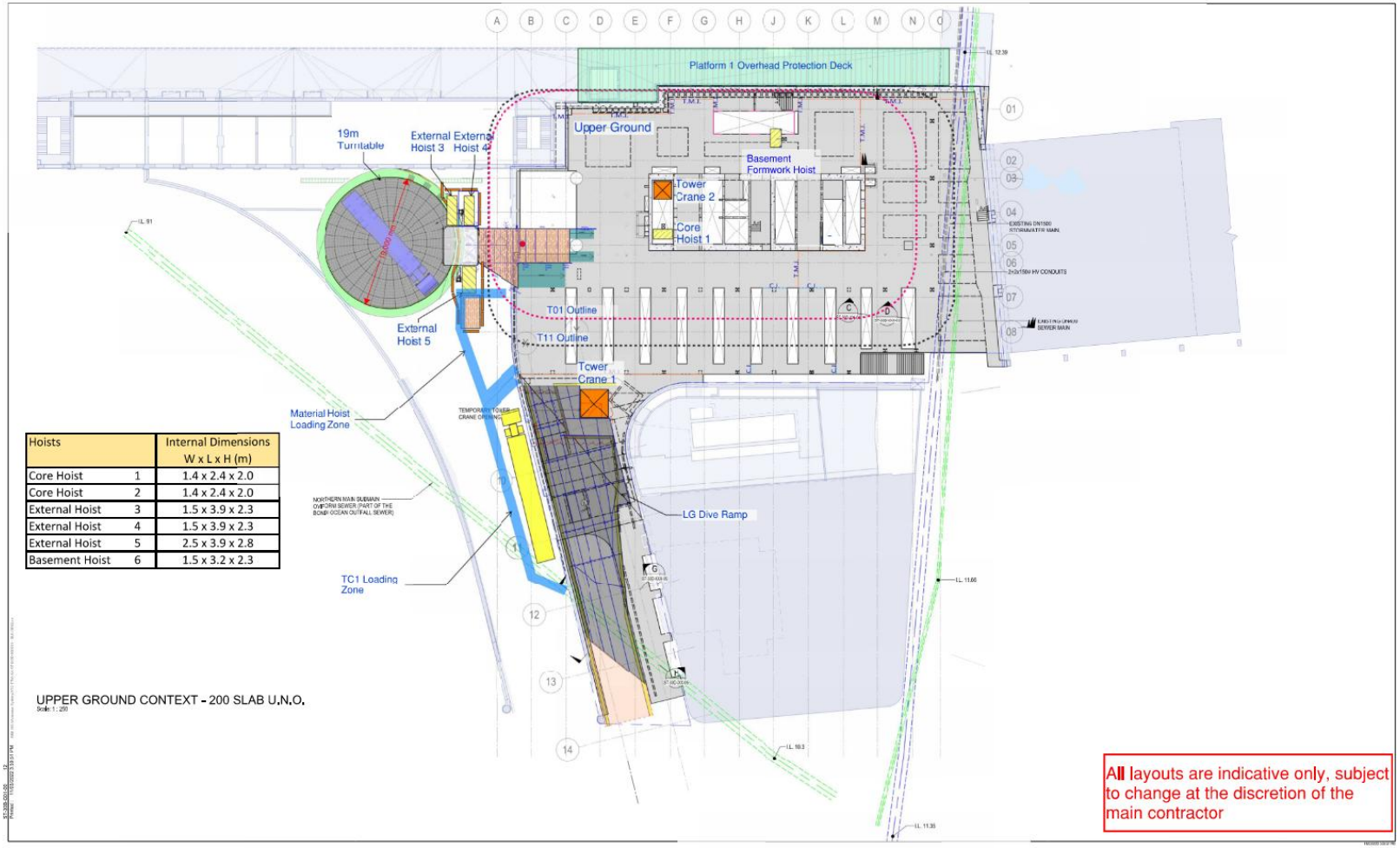
ACOUSTIC LOGIC

APPENDIX D– WELDING METHODOLOGY



APPENDIX E– PROPOSED WORK LOCATIONS





Hoists		Internal Dimensions W x L x H (m)
Core Hoist	1	1.4 x 2.4 x 2.0
Core Hoist	2	1.4 x 2.4 x 2.0
External Hoist	3	1.5 x 3.9 x 2.3
External Hoist	4	1.5 x 3.9 x 2.8
External Hoist	5	2.5 x 3.9 x 2.8
Basement Hoist	6	1.5 x 3.2 x 2.3

Site Logistic Plan

Upper Ground - Access to Common Tower