

MEMO

Project:	Downtown Carpark Site Development	Document No.:	Mm 019
To:	Precinct Properties	Date:	20 May 2026
Attention:	c/- Karl Cook	Cross Reference:	
Email/Delivery:	Email	Project No.:	20230126
From:	Shaun King	No. Pages:	10 Attachments:
Subject:	Downtown Carpark Site Development – Response to fast track comments on acoustics		

I have reviewed the comments from invited parties that relate to acoustics. These mainly focus on demolition and construction activities. This memorandum provides my response to these comments and is intended to assist the Panel with the decision.

Auckland Council

I have reviewed the Auckland Council comments from their Specialist Bin Qiu¹ and the Planning Memo by Sarah Wilson².

Bin Qiu is supportive of the application. Sarah Wilson identified two residual issues³ which I have addressed below.

The first residual issue is that relocating MSocial guests is not within Precinct Control. I agree and discuss construction noise effects further below.

The second residual issue is if Kindercare will still operating in the Aon Building. The applicant has confirmed that their lease has an end date before the proposed commencement of demolition. This is addressed in the covering legal memorandum and I understand a condition of consent is proposed to address this issue.

Millennium & Copthorne Hotels New Zealand Limited (MCK)

I have reviewed the MCK comments on the FTAA application. The MCK comments on noise and vibration span across the following statements:

- MCK Corporate Statement
- Statement from Styles Group (Mr Styles)
- Statement from Forme Planning (Kay Panther Knight)

I have summarised the comments across three documents above into the following groups:

1. MSocial is an unusually sensitive noise and vibration sensitive receiver
2. Request for predicted vibration levels and an assessment of effects
3. Various comments on the Conditions of Consent
4. Various comments on the draft Construction Noise and Vibration Management Plan (CNVMP)

I have provided additional information and comments on each grouping below.

¹ Appendix 10 dated 23 April 2026

² Dated 7 May 2026

³ Refer paragraph 402, Auckland Council Planning Memorandum, 7 May 2026

1 – Sensitivity of MSocial to Construction Noise and Vibration

I agree that MSocial is more sensitive to construction noise and vibration compared to a typical office tenancy. This was accounted for in my assessment of effects lodged with the application.

My assessment of effects at MSocial is based on the rooms most exposed to construction noise. The predictions of internal noise levels that formed my assessment of effects are also conservative. I have expanded my predictions and assessment below to show the range of effects across the MSocial building.

I have also prepared figures showing predicted external noise levels at MSocial, which are attached to this memorandum. These show that infringements (in red) of the permitted construction noise limit only occur on a small area of the overall building façade.

In addition to the refined internal noise level predictions, I have broken down the durations of the noise limit exceedances. These are:

Demolition: 7 – 10 weeks

Piling: 4 – 6 weeks

The noise level difference from outside the façade of MSocial to inside the guestrooms will depend on the façade construction⁴. I have presented predicted internal noise levels on a mark-up of the MSocial floor plan to show the range of internal levels across a most exposed floor. The noise sources presented are D-wall/Bored Piling which represents a low frequency noise source and concrete cutting which represents a high frequency noise source.

The mark-up of noise levels across the floor is attached to this document. These results are exact numbers, but in my assessment report⁵ I have rounded these up to the nearest 5 dB to acknowledge the inherent variability of construction resulting in uncertainty in the calculations. I have summarised the results below.

The guestrooms predicted to have the highest internal noise levels are on floors two to seven at both edges of the M Social building. During D-wall/bored piling and concrete cutting, these rooms are predicted to have internal noise levels of up to 45 dB L_{Aeq} for approximately 6 – 8 weeks. I consider this reasonable for occupants during the day. Guests who sleep during the daytime and are light sleepers may find it difficult to sleep. All other rooms are predicted to receive noise levels of 40 dB L_{Aeq} or less, which is typically suitable for sleeping during the day. Therefore, noise levels above 40 dB L_{Aeq} would only occur in approximately three to five guestrooms at any one time during the closest works, which is approximately 2-3% of all guestrooms.

As part of my assessment I also investigated if shielding D-wall/bored piling works with a noise barrier would be an effective and practical method of mitigating effects for the three to five guestrooms at MSocial. A noise barrier would need to be 20m high to effectively shield MSocial and ensure internal noise levels in all guestrooms during the daytime are less than 40 dB L_{Aeq} . A 20m high noise barrier would require a significant supporting structure which during its construction would generate similar noise effects to the main construction works. A 20m high noise barrier is considered impractical and has therefore been discounted.

I have considered the methodology, equipment selection, mitigation and management measures proposed and have concluded that all practical steps have been taken to minimise the construction noise effects on MSocial. I consider the construction noise effects at MSocial to be reasonable.

⁴ Resource Consent drawings dated 20 November 2014 (0000-09685729 - R_LUC_2014_4868 - Resource Consents - Land use consent - Plan - Architectural.pdf) show that the MSocial façade facing Downtown Carpark is constructed from fibre cement cladding with small areas of double glazing.

⁵ Rp 006 r02 dated 6 November 2025

2 – Predicted Vibration Levels and Effects Assessment

All construction methodologies proposed are considered low vibration, except for excavator mounted concrete breakers and sheet piling. It is uncommon to undertake measurements of low vibration activities, which makes it difficult to accurately predict vibration low vibration activities such as dwall and bored piling.

Based on the measurements I do have available, all representative demolition and construction activities can comply with the daytime vibration amenity limit of 2 mm/s at MSocial where equipment is operated considerably. I note that this is covered in Section 5.4 of the CNVMP.

I have provided predictions for the activities that are likely to generate the highest levels of vibration on the ground floor of MSocial. Vibration levels will reduce on higher floors. I note that predicting vibration levels below 1 mm/s comes with a higher range of uncertainty.

- Dwall/Bored Piling < 0.3 mm/s
- Concrete breaking existing foundations 10t < 0.7 mm/s
- Concrete breaking existing foundations 5t < 0.2 mm/s
- Sheet piling < 0.5 mm/s

Once the demolition, piling and excavation is complete (programmed to take 21 months), vibration is expected to be imperceptible.

Vibration levels between 0.5 mm/s and 0.7 mm/s may be noticeable during the day, but are unlikely to stop typical daytime hotel activities from occurring. In my experience, only the concrete breaking (with a 10t excavator) has the potential to generate complaints from hotel guests. This will be monitored through the complaints process and with the vibration monitoring proposed in the updated conditions. The alternative is to break existing foundations using a small 5t excavator, however, this is likely to extend the duration of breaking. In my experience, receivers would generally prefer a shorter duration than a marginally lower level of construction noise and vibration effects.

In my experience, the vibration effects at MSocial can be mitigated (equipment selection) and managed (considerate use and monitoring) so that the effects are reasonable.

3 – Updated Conditions of Consent

Mr Styles has proposed a three-tier approach to the Schedule process (proposed conditions 70 -72). He has proposed that the third tier apply to activities that haven't yet been assessed and has stated that these activities could be authorised by a schedule process provided that *"additional steps are taken (beyond those required by tier 2) to add rigour to the process and ensure that the effects can be managed to avoid unreasonable disruption"*.

In my opinion the schedule process proposed (which covers all works predicted or measured to exceed the permitted noise/vibration criteria) should already ensure that noise effects are minimised as far as practicable (proposed condition 70 requires the BPO). Adding another schedule process adds unnecessary complexity to the conditions. My recommendation is that the consent conditions be updated to ensure the process for all Schedules is rigorous and is worded to ensure effects are minimised as far as practicable. The conditions have been updated to reflect this.

I do not consider it necessary to include a reference to Clause G4 in Consent Condition 76. Building Code Clause G4 is a building consent matter and will apply regardless. Reference to AS / NZS 2107:2016 has been made as it contains an appropriate method for measurement of internal noise levels.

I have summarised the updates to the noise and vibration conditions of consent below:

1. A definition has been provided for "Activities Sensitive to Noise";
2. Condition 67A has been inserted to make it clear that vibration amenity can only be exceeded at the Aon Building;

3. An update to Condition 70 has been made that requires a schedule for night works. An advice note has been drafted to state that this does not apply to quiet works (ie painting);
4. Condition 70A has been inserted to provide a more rigorous process for the Schedules;
5. Condition 71(f) has been updated to require monitoring as part of a schedule;
6. Condition 72 has been updated so the schedules are certified by Council, and clarified that works can proceed where not undertaking the activity would have health and safety or adjacent property damage risk; and
7. Condition 134 has been updated. A new trigger of building occupation as been provided and updates to wording have been made to reflect that the buildings will be complete.

3 – Updated CNVMP

The draft CNVMP has been updated with the following changes to address the MCK comments:

1. Updated the objective to reflect Condition 30
2. “Proposed” and “will be” language has been updated, but some has been retained where contractor finalisation may change the outcome of the statement. “Consented” and “must be” language has only been used where it relates to a Condition of Consent. I note that the CNVMP is in draft and will not become implemented/active until certified by Auckland Council;
3. The CNVMP has been updated to refer to the CLG and the requirements of Conditions 4 to 8;
4. A definition of BPO has been provided in Appendix A including a reference to the RMA definition; and
5. Section 7.0 – Monitoring has been updated. Section 5.11 has also been updated to be clear that all Schedules must have a monitoring component.

Body Corporate 199380 (The Sebel), Jayanti and Wendy Jan Keshaw, Lucas Bonne, Michael Tololi, Kieren Wilkie, Liz DiFiore & Michael Blink (Sebel individual occupants)

I have reviewed the comments from the above parties. The Sebel Body Corporate has also engaged Styles Group (Mr Styles) to prepare a statement. I note that there is significant cross over with Mr Styles' comments. My responses below cover the aspects unique to The Sebel.

I acknowledge that that The Sebel is a more sensitive receiver compared to a typical office tenancy. This was accounted for in my assessment of effects where I considered it "Hotel and Apartment" accommodation.

I note that all demolition and construction activities are predicted to comply with the construction noise and vibration limits at the Sebel. The exception to this is noise from sheet piling. There seems to be confusion around timing, levels and effects from sheet piling. I have clarified below.

I have predicted external noise levels, when vibratory sheet piling is the closest, on the façade of The Sebel using SoundPlan. The figure is attached to this letter. These show that infringements (in red) of the construction noise limit only occur on a reduced area of the overall building façade.

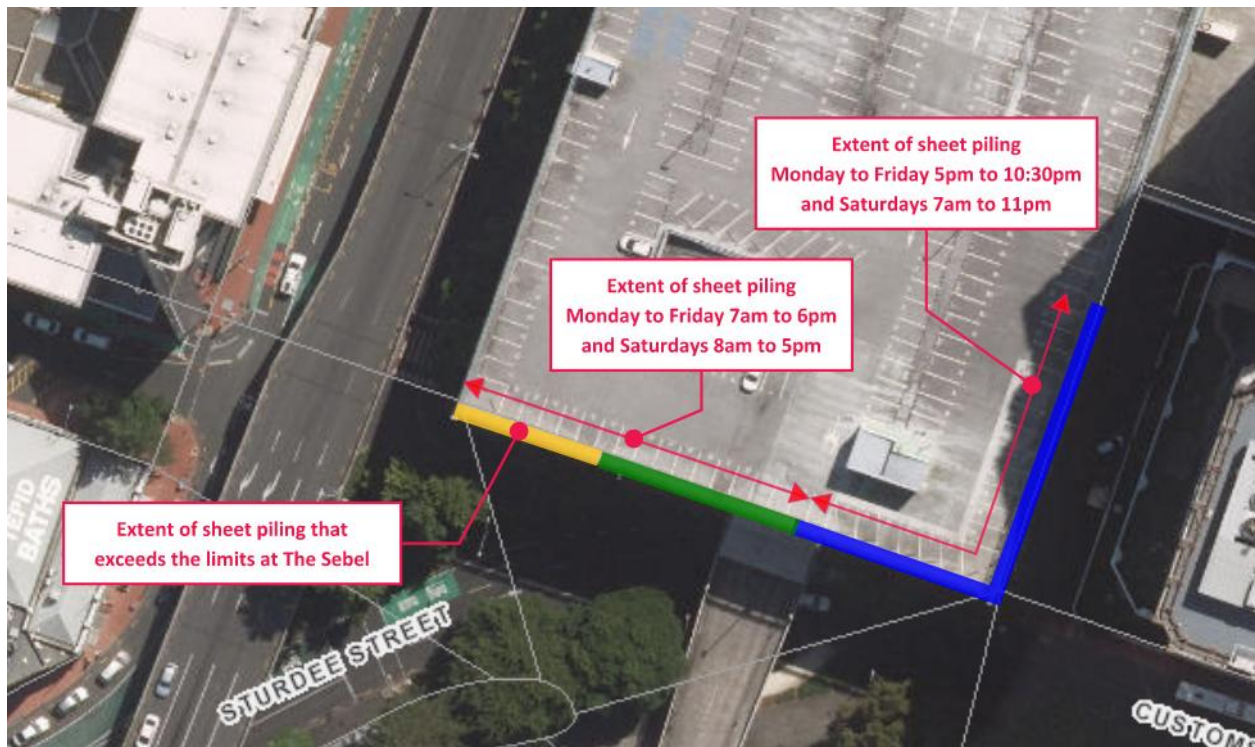
Vibratory sheet piling will typically occur Monday to Friday 7am to 6pm and Saturdays 8am to 5pm. The hours of sheet piling will be 5pm and 10:30pm Monday to Friday or 7am to 11pm Saturdays when within 40m of the Aon building to manage the effects on Aon building occupants (being typical office receivers).

The vibratory piling closest to The Sebel will only occur Monday to Friday 7am to 6pm and Saturdays 8am to 5pm. Internal noise levels over this period are predicted to range between 35 dB L_{Aeq} and 45 dB L_{Aeq} ⁶. I consider this reasonable for occupants during the day. Guests who are light sleepers may find it difficult to sleep when noise levels are between 40 – 45 dB L_{Aeq} . Noise levels in this range will occur in approximately 20

⁶ Section 5.6.2 of my report incorrectly stated 50 dB L_{Aeq} worst case.

hotel rooms / apartments. It is expected that sheet piling above the construction noise limit at The Sebel will take 1 week to complete.

Internal noise levels at the Sebel are predicted to be less than 35 dB L_{Aeq} when sheet pile driving within 40m of the Aon building (~80m from The Sebel). This is when the working hours are 5pm to 10:30pm Monday to Friday or 7am to 11pm Saturdays. This level is likely to be reasonable for most occupants even if sleeping. This is expected to take 1.5 weeks to complete.



I have considered the methodology, equipment selection, mitigation and management (including adjacent neighbour effects) measures proposed and have concluded that all practical steps have been taken to minimise the construction noise effects on The Sebel. I consider the construction noise effects at The Sebel to be reasonable.

I have focused predictions on the activities that are likely to generate the highest levels of vibration on the ground floor of The Sebel. Vibration levels will reduce on higher floors. I note that predicting vibration levels below 1 mm/s comes with a higher range of uncertainty. All demolition and construction activities can comply with the daytime vibration amenity limit of 2 mm/s at The Sebel where equipment is operated considerably:

- Dwall/Bored Piling < 0.3 mm/s
- Concrete breaking existing foundations 10t < 0.3 mm/s
- Concrete breaking existing foundations 5t < 0.3 mm/s
- Sheet piling < 0.5 mm/s

Vibration levels of 0.5 mm/s may be just noticeable during the day, but are unlikely to stop typical daytime hotel and apartment activities from occurring. Vibration from sheet piling could be disturbing for some guests who are light sleepers.

Vibration at other times should be generally imperceptible.

In my experience, the vibration effects at The Sebel will be reasonable.

Quattro RE Limited

Quattro RE Limited has also engaged Styles Group (Mr Styles) to prepare a statement. I note that there is significant cross over with the MCK and The Sebel comments. My comment below covers the aspects unique to Kyndryl Tower.

The highest vibration activity that will impact the Kyndryl Tower is sheet piling. This is predicted to generate a vibration level of less than 0.5 mm/s. This may be just noticeable during the day and unlikely to impact typical retail, food and beverage and office activities, but acceptable with prior communication.

Vibration at other times should be generally imperceptible.

I consider the construction noise and vibration effects at the Kyndryl tower reasonable.

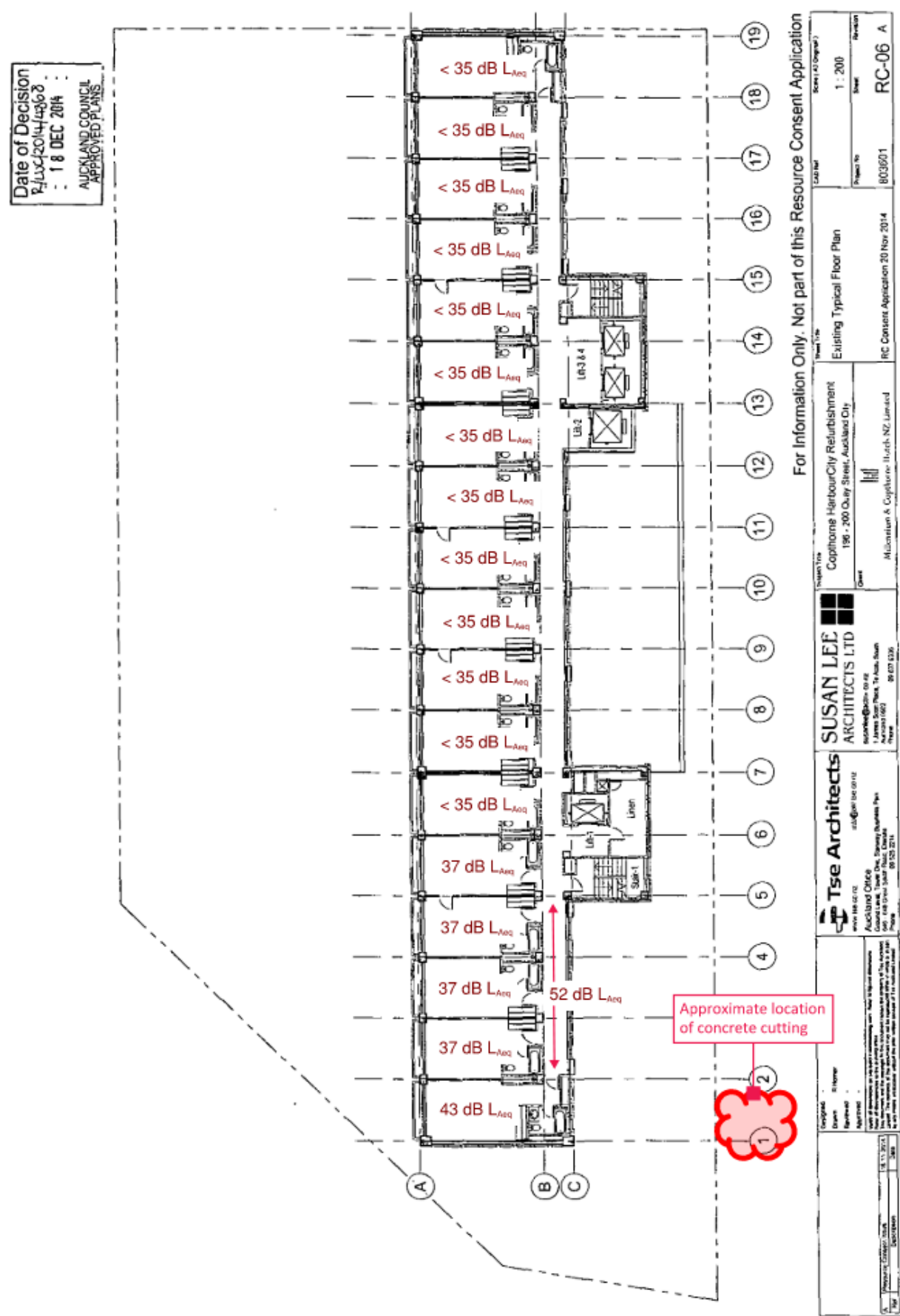
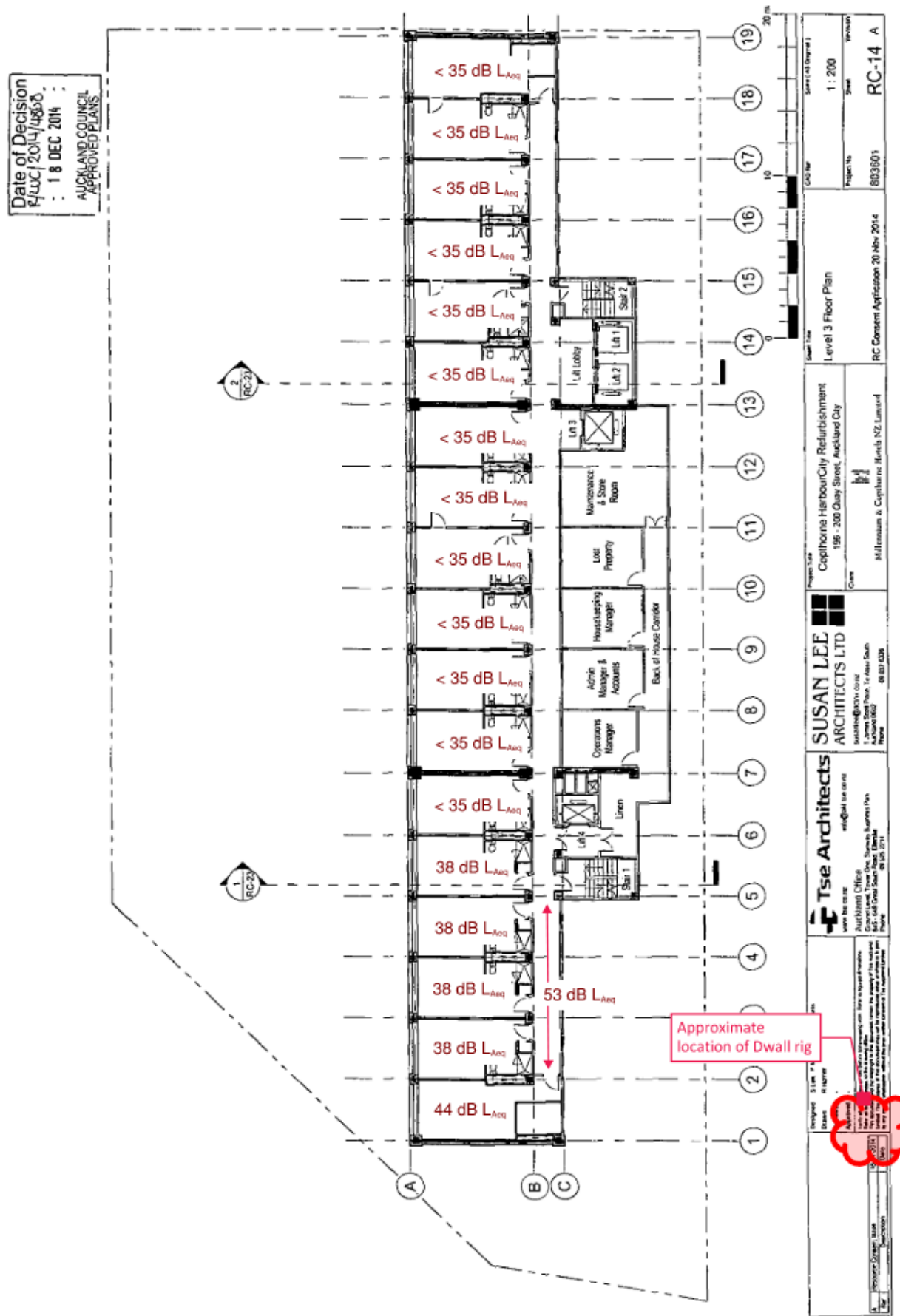
Yours faithfully

MARSHALL DAY ACOUSTICS LIMITED

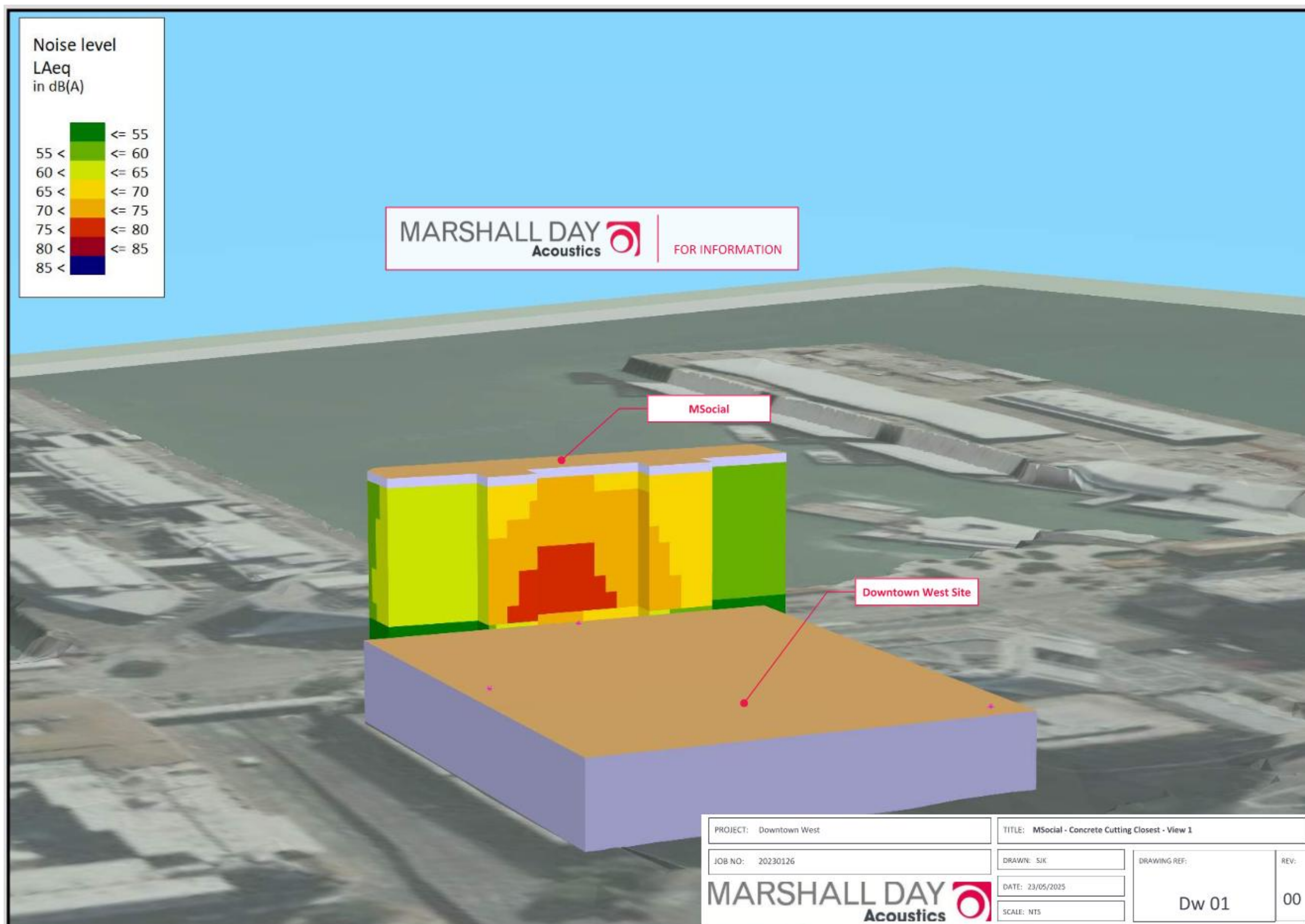
Shaun King

Acoustic Consultant

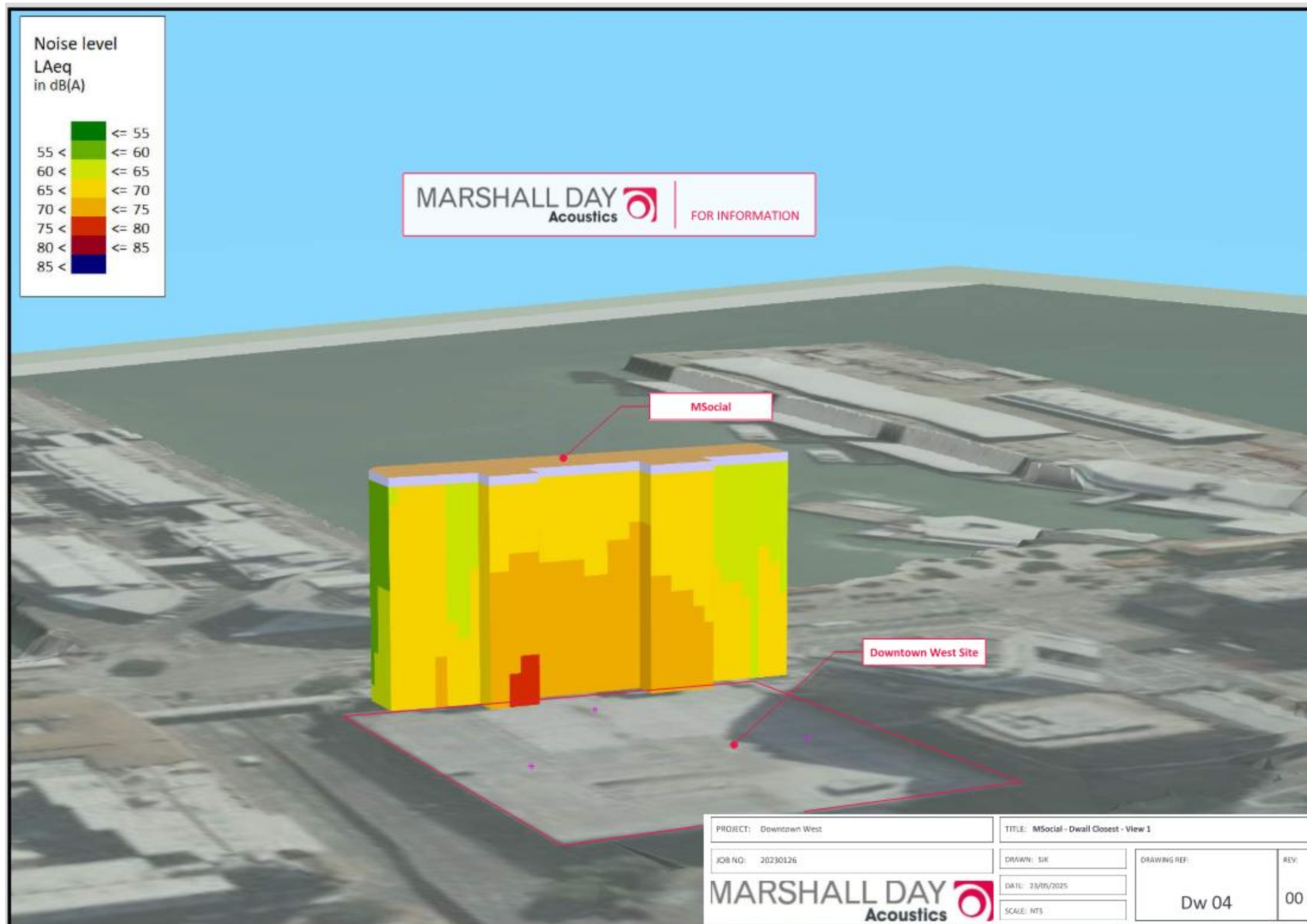
MSocial Internal Noise Levels



Concrete Cutting Closest to MSocial



DWall / Bored Piling Closest to MSocial



Sheet Piling Closest to The Sebel

