

Consulting Advice Note

Date	6 May 2026
From	Jon Styles
To	Millennium & Copthorne Hotels New Zealand Limited
Project	Precinct Properties - Downtown West 2 nd Application
Re	Comments on noise and vibration

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1.0 Introduction

Styles Group has been engaged by Millennium & Copthorne Hotels New Zealand Limited (**MCK**) to review the relevant application documents, technical reports and proposed conditions for the 2nd substantive application for consent for the Downtown West project under the Fast Track Approvals Act.

These comments have been prepared following my initial review of the 2nd proposal, meetings with the applicants' project team and a meeting with the author of the relevant noise and vibration reports and the applicant's planner.

This advice includes a very brief summary of the initial issues I raised, the responses from the applicant and the current areas of disagreement.

I have reviewed the relevant reports, plans and proposed conditions available at <https://www.fasttrack.govt.nz/projects/the-downtown-carpark-redevelopment-te-pumanawa-o-tamaki/substantive-application2>. The most relevant documents are:

- Marshall Day Acoustics (**MDA**), *Downtown Carpark Site Development — Assessment of Effects*, 6 November 2025 (the **MDA Report**)
- MDA, *Downtown Carpark Site Development — Construction Noise and Vibration Management Plan*, 6 November 2025 (the **CNVMP**)
- Proposed Consent Conditions, Appendix 24 to the Application (the **Proposed Conditions**)
- MDA, *Acoustic Assessment Addendum*, 1 April 2026 (the **MDA Addendum**)

2.0 The sensitivities of the MCK Hotel

I have worked closely with MCK in preparing my advice to them and in preparing these comments. In general terms, the MCK Hotel is sensitive to construction noise and vibration in the same general ways as other hotels I have worked with in similar situations. I describe the general nature of their sensitivity to construction noise and vibration as follows:

- a) MCK is generally able to allocate quieter rooms (away from the construction works) when occupancy is low. I understand from MCK that occupancy is generally high and the flexibility to allocate quieter rooms is often very limited.
- b) There will be no flexibility to allocate guests to quieter rooms when occupancy is high or at 100%. This is likely when there are events nearby such as concerts or sailing events, when large conferences are being held and over popular holidays and holiday weekends.
- c) There will be many guests that choose to sleep during the day either by choice or because they are airline crew or similar. I understand that is not always easy for MCK to determine whether guests are likely to want or need to sleep during the day. This will make it difficult to allocate 'day sleepers' to quieter rooms of the hotel.
- d) If construction noise and vibration effects are clear and noticeable for guests, the hotel are likely to receive complaints. If nothing can be done to reduce noise or vibration in response to the complaint, the guest is likely to remain displeased. I understand that this can often lead to the guest not returning to the same hotel and the potential for negative reviews on websites such as Trip Advisor, Google Reviews and so-on. This has obvious negative effects on the hotel's reputation and business.
- e) The ability for MCK to plan around high construction noise and vibration events will be important. Advance warning of high construction noise and vibration events will enable the most sensitive of guests to be allocated to rooms where the construction noise or vibration effects will be lowest, if occupancy is low enough for that to occur.
- f) My experience is that it will also be important for MCK to be able to inform the consent holder when full occupancies are expected perhaps during events or other sensitive times so that the consent holder can plan high construction noise and vibration works around those times. I expect that this is likely to be important for other hotels and hospitality venues in the general area as well (including the Sebel Hotel).

The MDA Report adopts the construction noise and vibration standards for permitted activities in E25.6.28 and E25.6.30 as a 'benchmark' for managing effects. In general terms, the MDA Report treats works that are compliant with the noise and vibration limits in those standards as being permitted with general and minimal oversight and management from the CNVMP. Work that generates noise and vibration levels higher than those standards will be subject to a more rigorous degree of management and control by the CNVMP and by the proposed Schedule process.

This approach is quite orthodox for large construction and infrastructure projects. However, it does not mean that the effects of construction noise and vibration that comply with the standards in E25 (set out above) are automatically reasonable or acceptable.

I expect that **construction noise** that complies with the standards in E25 will be largely reasonable for MCK. I expect that construction noise up to 75dB L_{Aeq} on weekdays and 80dB L_{Aeq} on Saturdays will be clearly audible in the hallways on the south side of the MCK building, and audible at low levels in the hotel rooms. I expect that construction noise at compliant levels will only be of concern to more sensitive guests.

Construction noise at levels higher than the permitted standards (that will require a Schedule to authorise) have the potential to create a more serious level of disruption and will need to be managed carefully.

However, I expect that **construction vibration** at up to the permitted level of 2mm/s PPV at the MCK building has the potential to seriously disrupt guest activities during the day, including sleep, relaxation and working. This level is easily high enough to be noticeable and disruptive for guests, especially those in the lobby, restaurant, conference facilities and rooms in the lower floors of the hotel.

Compounding the acute effects of felt-vibration in the building is the fact that the guests cannot be easily informed that the vibration might only be short term, that the level is being monitored and that there is no risk of damage to the multi-storey building. These are all very typical and important mitigation measures for managing construction vibration on residential receivers that are often / mostly impracticable for hotels to implement. My experience is that the hotel will often face complaints and negative reviews from vibration levels between approx. 0.5mm/s and the daytime permitted level of 2mm/s PPV. I expect that various construction processes are likely to generate vibration levels of this magnitude from time to time – especially d-wall piling, excavation and other activities involving heavy tracked plant operating near to the MCK building. These activities will need to be carefully managed by the CNVMP.

2.1 Management of effects

I consider that these factors mean that it is critical that the conditions of consent, the CNVMP and the Schedule process are very clear about how the construction noise and vibration effects will be mitigated to the greatest extent practicable, and how MCK can manage the residual / unavoidable effects as best they can.

I consider that even if the conditions, CNVMP and Schedule process are best-practice and complied with throughout the development, there will still be adverse effects on MCK such as disruption to guests, complaints and negative reviews. I consider that minimising these adverse effects will be critical. This can be achieved by:

- 1) Attaching clear, certain and enforceable conditions to the consent that limit the effects to generally what has been described in the application material;
- 2) Requiring a clear and certain CNVMP that will be an effective tool for the contractor(s) to identify and adopt the BPO to drive down construction noise and vibration levels as far as practicable;
- 3) Setting out a clear, certain and enforceable Schedule process for managing and adopting the BPO for the limited amount of work that is predicted to exceed the standards in E25;
- 4) Requiring monitoring of construction noise and vibration to ensure that the limits are being complied with and that mitigation is working;
- 5) Requiring an effective method for the consent holder / constructor and MCK to work together to manage the timing of high noise and vibration works to minimise the effects.

I consider that the conditions need to deliver these outcomes.

3.0 Brief summary of issues raised prior to the MDA Addendum

I prepared advice to MCK in March 2026 that set out the concerns I had with the second application as it was originally lodged. I attach the original version of those comments as Appendix 1 to this advice.

Overall, I considered that:

- 1) The MDA Report is very brief for a project that has the potential to generate significant construction noise and vibration effects and considerable disruption to MCK.
- 2) There is a fundamental issue with the interaction between the assessment in the MDA Report and the way in which the CNVMP and Proposed Conditions are intended to manage the construction noise and vibration effects. The assessment of construction noise and vibration effects should assess the effects where the actual levels are higher than what has been predicted and as high as the Proposed Conditions would authorise.
- 3) The Proposed Conditions should include clear and defined construction noise and vibration limits that cannot be exceeded, except if authorised by the CLG, written agreement with the occupier(s) of the affected building(s) and / or where the effects and Best Practicable Option (**BPO**) are certified by the Council (for example, in a Schedule).
- 4) An assessment of construction noise and vibration effects and a Proposed Condition set was required that clearly assess and control the effects in a way that is clear, certain and enforceable, where the determination of the BPO is independent and certified by someone other than the consent holder, and where the decision-makers can understand the typical and maximum level of effect that is authorised by the Proposed Conditions.
- 5) There were a range of issues and absences in the Proposed Conditions, the CNVMP and CMP.
- 6) The assessment of construction noise effects on the MSocial Hotel was too brief. Considerably more information is required so that the effects can be understood in the decision-making process and properly managed by the conditions and CNVMP.
- 7) There was no meaningful assessment of vibration effects on the MSocial Hotel.
- 8) The MDA Report did not address the relevant Matters of Discretion in E25 of the AUP.

4.0 The MDA Addendum

The applicant filed the MDA Addendum on 7 April 2026. The MDA Addendum addresses many of the issues I raised in my first review.

The MDA Addendum makes several references to and suggestions for updates to the Proposed Conditions, but as of the date this advice was prepared, the applicant has not filed an updated set of conditions. Accordingly, my comments below recognise that updates to the conditions are proposed but are not yet available.

I set out my comments below in the same order as they are set out in the MDA Addendum.

Conditions of consent

- 1) Response 1 provides an updated objective for the CNVMP as an amendment to Proposed Condition 30. I agree with the updated objective, which states:

The objective of the CNVMP is to identify and adopt the Best Practicable Option for minimising adverse construction noise and vibration effects, including defining the procedures to be followed to achieve compliance with the criteria in Conditions 65 and 67 where practicable; and where compliance cannot practicably be achieved, ensuring that a Schedule to the CNVMP is prepared in accordance with Condition [70].

- 2) Response 2 proposes that the wording in Proposed Condition 72 should be updated to require the Council to certify a Schedule before it can authorise any works. I agree with this change.

This response also states that the words “...except in unforeseen circumstances...” is amended to “better refine the relevant circumstances, such as when stopping an activity has health and safety risks.” I agree with the need for that amendment.

The Proposed Conditions need to be updated with these amendments. I understand MCK’s planner will make recommendations on condition wording in due course, that will build on the proposed amendments.

- 3) Response 3 implies that the Proposed Conditions will be updated to make it clear that the vibration amenity limits can only be exceeded at 29 Customs St West (Aon). I expect that the amendments will also make it clear that the vibration amenity limits will be complied with at all other receivers. If that is the case, I agree with the amendments suggested. I do however consider that additional clarification is required to ensure that the standard limits set in the Proposed Conditions are not exceeded in relation to construction noise as well as vibration limits for building damage. This is addressed in section 5 of my advice below.

The Proposed Conditions need to be updated with these amendments.

- 4) Response 4 suggests that Proposed Condition 73 will be amended so that all night works will need to be authorised by a Schedule process, including activities that comply with the standard noise limits in the Proposed Conditions. I agree with this amendment, except that I recommend that it be tailored so that works at night inside the building that are not audible off the site such as electrical fitout, painting, furnishing etc can be undertaken without a Schedule.

The Proposed Conditions need to be updated with these amendments.

- 5) Response 5 states that Proposed Condition 75 needs to be reworded so it applies to cumulative operational noise from the site. I agree. (The construction noise conditions are worded appropriately for managing cumulative construction noise effects).

The Proposed Conditions need to be updated with these amendments.

- 6) Response 6 states that Proposed Condition 114 needs to be amended so it requires a post-condition survey 20 working days after the high vibration activity is complete. I agree, except I consider that the requirement should be *within* 20 days.

The Proposed Conditions need to be updated with these amendments.

Acoustic Assessment

- 1) Response 1 states that the heading for Section 5.6 of the MDA Report should have the words “Demolition and” added to reflect the fact that the section contains noise level predictions for both construction work and demolition work. I agree.

I understand that the MDA Report will not be updated to reflect this change and the other changes suggested in the MDA Addendum. This means that the MDA Report will need to be read alongside the MDA Addendum for a full understanding and to avoid any misunderstanding.

- 2) Response 2 makes it clear that early morning concrete pours will comply with the noise limits for permitted activities in E25 and that the noise levels will be “*suitable for sleeping*”. I agree that compliance can be achieved and I consider that a condition of consent should deliver this outcome. I agree that the noise levels should not disturb most sleepers in the MCK and Sebel hotels.
- 3) Response 3 makes it clear that the pedestrian and vehicle bridge removals will comply with the noise standards for permitted activities in E25. I agree that this can be achieved and I consider that a condition of consent should deliver this outcome.
- 4) Response 4 clarifies the way that the predicted noise levels in the MDA Report have been displayed – namely that the predicted noise levels at adjacent buildings are based on there being no effective acoustic screening in place. The MDA Addendum identifies that this approach “*ensures that predictions are accurate for upper floors of adjacent buildings that will look over noise barriers*”. I consider that the clarification is helpful and addresses my original concerns, noting MCK is located on the immediate northern boundary of the construction site and I understand that it remains to be confirmed whether physical screening is even possible on this boundary given the scope of works and proximity between buildings.
- 5) Response 5 deals with the cumulative noise of multiple work fronts. I consider that the explanation is helpful and implies that compliance with the noise standards for permitted activities in E25 can still be achieved. I consider that the conditions (with the amendments suggested in the MDA Addendum) should adequately address (and minimise) noise and vibration effects arising from multiple work fronts.
- 6) Response 6 clarifies the assessment of potential sleep effects at noise levels of 40dB L_{Aeq} inside hotel rooms. I agree with the general assessment in this Response, but I disagree with the assertion that “*...the hotel is large and noise levels will be significantly less on higher floors. It is anticipated that MSocial would be able to manage which rooms day sleepers such as air crew are assigned.*”

I understand from MCK that the ability to allocate quieter rooms to sensitive guests / day sleepers will often be difficult or impracticable due to high occupancy rates. I therefore expect

that construction noise levels up to 40dB L_{Aeq} inside hotel rooms will be likely to disturb some guests and MCK will likely receive complaints.

- 7) Response 7 states that noise levels up to the limits in the noise standards for permitted activities in E25 will be reasonable. The response also makes it clear that at these levels there may still be effects. I agree that there will still be effects at levels that comply with the noise standards for permitted activities in E25. I also consider that the long duration of construction works (approximately 3 years of work that might affect MCK) means that the effects arising from work that is close to the same limits means that the effects need to be carefully controlled. I therefore disagree that the effects up to the limits are automatically reasonable for such a long construction project.

CNVMP

- 1) Response 1 states that a section dealing with noise and vibration management from the demolition 'drop shaft' will be added to the CNVMP. I agree that this is necessary.
- 2) Response 2 provides amended text for Table 4 of the CNVMP. I agree with the amended text as it clarifies that MSocial does not need a Schedule for sheet piling, with the common boundary being formed by a D-wall.
- 3) Response 3 clarifies the triggers for the proposed monitoring. I consider that these clarifications are an improvement, but due to the potential for adverse effects and the high degree of management that is proposed and required, I consider that the construction noise and vibration monitoring requirements should be clearer and more certain, and should set out how, where and for how long monitoring should be undertaken. I consider that noise and vibration monitoring should be installed on the MCK building prior to demolition commencing, should allow for continuous monitoring and collection of data, and should be removed when the consent holder can demonstrate that compliance with noise and vibration levels that do not cause disruption to MCK will be achieved on an ongoing basis. This is likely to be around year 3 when the works are rising above the MCK building. I understand that MCK's planner will recommend condition wording regarding continuous monitoring, as well as seeking transparency in sharing the data collected from the monitors.
- 4) Response 4 sets out that the CNVMP will be updated to reflect the proposal to have Schedules certified by the Council. I agree that this is required.

As I set out earlier, the changes to conditions, the MDA Report and the CNVMP are only proposed in the MDA Addendum and as of the date of these comments, none of these documents have been updated. This means that the three documents need to be read alongside the MDA Addendum for a complete understanding of the effects and proposal.

5.0 Remaining areas of concern / disagreement

The MDA Addendum provides clarity and proposed amendments that address many of the concerns I have raised (as set out in Appendix 1).

I consider that there are some remaining issues that need to be addressed, as follows:

- 1) The MDA Addendum states that the Proposed Conditions will be updated to make it clearer that the vibration amenity limits in E25 can only be exceeded at the Aon building¹. I agree with this suggestion but it only addresses vibration amenity limits. I consider that the same approach should be taken with construction noise and the vibration limits for building damage.
- 2) I recommend that the Proposed Conditions are updated to make it clear that the only activities or situations where a Schedule could authorise noise or vibration levels to exceed the permitted standards are:
 - a) Activities or situations that are assessed in the MDA Report or MDA Addendum where the approximate nature of adverse effects and the effectiveness of the mitigation measures can be understood and assessed by the decision maker now, or
 - b) Activities or situations that are not currently known, but that become apparent during the works, and where compliance is not practicable. I consider that the conditions could allow Schedules to be developed and certified to authorise these situations but only where the burden to demonstrate that the BPO has been adopted is high, and where there is clear evidence of good consultation with MCK and where there is no ability for the consent holder to prioritise completion of the works over potentially significant disruption to neighbours.

I consider that the conditions could be easily crafted to deliver a three-tiered arrangement to deliver the outcomes above. The three tiers would essentially be:

Tier 1 – all works and activities that comply with the permitted standards in E25 are authorised subject to them being managed by the CNVMP (with its new objective as set out in the MDA Addendum) and with appropriate monitoring to ensure that compliance is being achieved – particularly for vibration.

Tier 2 – works and activities that are predicted to exceed the permitted standards in E25 as set out in the MDA Report and the MDA Addendum are able to be authorised by a Schedule that is certified by the Council. These known activities and receivers can be listed in the conditions (e.g noise and vibration from sheet piling at the Aon building).

Tier 3 - works and activities that exceed the permitted standards in E25 but are not described or assessed in the MDA Report and the MDA Addendum. These works and activities could be authorised by a Schedule that is certified by the Council, 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 experience there are several ways that conditions can be drafted to provide this additional certainty.

- 3) The Proposed Conditions need to define activities sensitive to noise by a reference to Chapter J of the AUP.
- 4) Proposed Condition 134 states:

¹ Response 3 under the heading 'Conditions of consent'

Prior to the operation of the activity, a noise assessment report with measurement results prepared by a SQEP must be submitted to the Council to verify that the proposed building has been insulated and constructed to comply with Condition 76.

I recommend amendment to include more detail and to be more specific – namely it should have a clearly stated objective and a better-defined trigger for its requirement. I also suggest the condition should be amended to fix minor errors such as the building not being referred to as ‘proposed’ at that point, “verify” should be “demonstrate”.

- 5) I consider that a clear, certain and effective regime for monitoring construction noise and vibration should be included in the conditions or as a more detailed section of the CNVMP (as set out earlier in these comments).
- 6) Many sections of the CNVMP are written as “proposed” and ‘will be’. This needs to be changed to present tense so its reads ‘consented’ and ‘must be’ etc, noting the point at which the CNVMP is being implemented and adhered to follows grant of consent.
- 7) The MDA Report does not contain any predictions or clear method of determining which neighbouring buildings might be subject to vibration levels approaching or exceeding the relevant limits. Such information is mandatory for informing monitoring and effects management strategies. I understand that construction vibration levels will only exceed the amenity limits in E25 at the Aon building. As set out above, I consider that this should be assured by a condition of consent.
- 8) I consider that the Proposed Conditions need to set a clear process for determining the BPO during the development of a Schedule. This should link to the definition of the BPO in the RMA.
- 9) The CNVMP is missing any reference to the CLG and placeholders for the specific outcomes that the CLG might deliver.
- 10) The CNVMP is missing a requirement to have Schedules (for works that can’t comply) passed through the CLG process where time permits (i.e. when the works that won’t comply are known about in advance of them happening).
- 11) The MDA Report does not provide vibration level predictions at the MCK hotel. The MDA Report does not identify where, when, for how long, or how often vibration may be perceptible within the hotel.

The lack of information and certainty around perceptible vibration inside the hotel building makes it difficult to understand the potential degree of disruption for guests and how the consent holder will manage the effects.

I recommend that the MDA Report is updated or supplemented to include vibration predictions at the MCK hotel for the key activities, the effects that this vibration might have and how it will be monitored and managed.

- 12) Proposed Condition 76 requires amendment. This condition includes the following text: *“This noise level shall be measured in accordance with AS/NZS 2107:2016 Acoustics-Recommended design sound levels and reverberation times for building interiors and at the minimum air flows”* I consider that is unusual and not required. I also consider that reference

to compliance at 'minimum air flows' is inappropriate because that flow may not be high enough to meet the requirements of Clause G4 (ventilation) of the Building Code. This condition is not relevant to the effects on MCK but I raise it for the Panel for completeness.

6.0 Summary

Overall, I consider that the MDA Addendum provides several important clarifications and some additional information that deals with the concerns I had with the original Proposed Conditions and MDA Report.

However, I consider that there are still some 'gaps' in the conditions that need to be dealt with to improve clarity, certainty and enforceability. The amendments I consider necessary are mostly to do with the process for allowing Schedules to authorise works that cannot practicably comply with the noise standards for permitted activities in E25, improving specificity around construction noise and vibration monitoring, to improve the clarity and certainty generally and to ensure that the construction noise and vibration effects are managed in a way that allows MCK to understand the possible effects and to plan around them to manage their customers' expectations and to assist the consent holder to avoid unreasonable disruption.

I consider that there is some uncertainty in the way that the MDA Report and MDA Addendum describe the potential construction noise and vibration effects, and in particular the absence of a meaningful description of how construction vibration at permitted levels could affect MCK. I have set out how I consider it will affect them in section 2 of this advice.

7.0 Appendix 1

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Date	12 March 2026
From	Jon Styles
To	Millennium & Copthorne Hotels New Zealand Limited
Project	Precinct Properties - Downtown West 2 nd Application
Re	Preliminary Review Comments

1.0 Introduction

Styles Group has been engaged by Millennium & Copthorne Hotels New Zealand Limited (**MCK**) to review the relevant application documents, technical reports and proposed conditions for the 2nd substantive application for consent for the Downtown West project under the Fast Track Approvals Act.

I have reviewed the relevant reports, plans and proposed conditions available at <https://www.fasttrack.govt.nz/projects/the-downtown-carpark-redevelopment-te-pumanawa-o-tamaki/substantive-application2>. The most relevant documents are:

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- MDA, *Downtown Carpark Site Development — Construction Noise and Vibration Management Plan*, 6 November 2025 (the **CNVMP**)
- Proposed Consent Conditions, Appendix 24 to the Application (the **Proposed Conditions**)

I have also reviewed the advice provided to MCK by Structus (12 Feb 2026) and CMW Geosciences (5 Feb 2026) following a meeting with experts from those companies (the **Structus Advice** and the **CMW Advice**, respectively).

2.0 Overview

I consider that the MDA Report is very brief for a project that has the potential to generate significant construction noise and vibration effects and considerable disruption to MCK.

I consider that there is a fundamental issue with the way the interaction between the assessment in the MDA Report and the way in which the CNVMP and Proposed Conditions are intended to manage the construction noise and vibration effects.

I describe the issue in simple terms below:

- 1) The MDA Report reproduces a reasonably generalised construction process that appears to be similar to other technical reports, including the Construction Management Plan (**CMP**). There appear to be some processes and activities that are described and assessed with a high degree of certainty and others that are very generalised. There are many references to the uncertainty in the construction methods, design and specification of mitigation at the time the reports were prepared, and deliberate allowance for these in the assessments and the CNVMP. This is demonstrated by the statement at section 5.5.4 of the MDA Report:

“The draft CVNMP should be finalised once a contractor is engaged and more is known about the construction methodology, activity locations, duration, and practicality of mitigation measures and submitted to Council for certification 20 working days prior to works commencing.”

- 2) The Structus Advice and CMW Advice both highlight several uncertainties that should be investigated and assessed ‘now’ rather than after consent is granted. This is to ensure that the adverse effects can be determined with greater certainty. Many of the issues raised in the Structus Advice and CMW Advice result in uncertainties for construction noise and vibration.
- 3) The CNVMP is a draft and is to be updated when the contractor is appointed and following the granting of consent. Accordingly, the CNVMP contains many placeholders and generic statements about how the construction noise and vibration effects can be managed.
- 4) The Proposed Conditions that manage construction noise and vibration require the following (in simple terms):
 - a. The MDA Report assesses the construction noise and vibration effects on the basis of a generalised construction methodology and on the basis that the mitigation it assumes will be practicable and implemented, even though that may not be the case and even though the Proposed Conditions do not require it. This includes scaffolding and acoustic barriers that will likely need to extend onto the MSocial site, scheduling of works that may not suit MSocial, acoustic enclosures that may not be practicable of effective (including for concrete sawing) sheet pile driving in the late evenings, concrete pours and pumping from 3am and others. I consider that this results in the MDA Report delivering a conservative assessment that represents the best-case scenario where all mitigation is implemented and effective.
 - b. Construction noise limits are set in Proposed Condition 65. These are clear and certain. However, Proposed Condition 66 allows these limits to be exceeded if compliance with them “is not practicable”.
 - c. Construction vibration limits for managing amenity are set out in Proposed Condition 67. Again, these are required to be complied with “as far as practicable”.
 - d. The Proposed Conditions do not specify how the determination of what is practicable should be made, but the draft CNVMP implies in several instances that the determination of the BPO and what is practicable is the consent holder’s responsibility.

- e. This results in the consent holder being responsible for making the decision about whether compliance with the standard construction noise and vibration limits in Proposed Conditions 65 and 67 will be practicable to achieve. This will often require the balancing of competing factors, such as time, cost and difficulty of complying, versus the benefit to neighbours. It is clear that the consent holder has a clear conflict of interest in this determination.
 - f. The Proposed Conditions require that the consent holder prepare “Schedules” to authorise activities that cannot ‘practicably’ comply with Proposed Conditions 65 and 67. The process for developing the Schedules is set out in Proposed Condition 70. Importantly, Proposed Condition 70 requires that the consent holder determines the BPO for any particular work that cannot comply with Proposed Conditions 65 and 67, and that the Schedule are provided to the Council for ‘information’.
 - g. The Schedule then authorises works to be undertaken at noise and / or vibration levels that are greater than the limits set in Proposed Conditions 65 and 67. The level of construction noise and vibration is not limited by the Proposed Conditions, and is only limited by the effect of mitigation that the consent holder deems to be the BPO. Such works are likely to or could include concrete pours from 3am, piling methods and tasks that are different or ancillary to those set out in the MDA Report, concrete cutting during demolition when working inside an enclosure is not practicable (which I expect will often be likely). These are the works that have the potential to generate the worst of the effects, and in my view the Proposed Conditions exercise very little meaningful control over them.
- 5) I consider that the process laid out in the Proposed Conditions effectively allows the consent holder to generate construction noise and vibration levels and effects that are up to and potentially much greater than the level of effect that has been assessed in the MDA Report, and without any effective oversight from the Council and without any noise or vibration limits. I consider that the Schedules ‘process’ in the Proposed Conditions comprise an ‘open ended’ arrangement whereby the effectiveness and extent of mitigation applied to the worst of the construction noise and vibration effects is left up to the consent holder’s discretion.
- 6) I consider that the uncertainty of the Schedules process is compounded by the uncertainty in demolition and construction methodology, plant and the effectiveness of the suggested noise and vibration mitigation methods.
- 7) I consider that the Proposed Conditions allow for a greater level of construction noise and vibration effects than the MDA Report has assessed. I consider that this is a fundamental issue, as the potential adverse construction noise and vibration effects have not been described to inform the decision-making process.

I consider that the MDA Report and the CNVMP need to be updated to include an assessment of the potential adverse construction noise and vibration effects that the Proposed Conditions could allow. I acknowledge that this may be difficult for the applicant if it has not engaged a contractor, but I do not think that difficulty should justify a brief and conservative assessment of effects and a set of conditions that are open ended and where the discretion to mitigate is proposed to lie with the consent holder.

I recommend that the discord between the open-ended conditions and the comparatively conservative MDA Report is resolved to deliver the following outcomes:

- 1) The MDA Report should be updated or supplemented to include an assessment of construction noise and vibration effects where the levels are higher than what has been predicted, and as high as the Proposed Conditions would authorise.
- 2) The Proposed Conditions should include clear and defined construction noise and vibration limits that cannot be exceeded, except if authorised by the CLG, written agreement with the occupier(s) of the affected building(s) and / or where the effects and BPO are certified by the Council (for example, in a Schedule).
- 3) An assessment of construction noise and vibration effects and a Proposed Condition set that clearly assess and control the effects in a way that is clear, certain and enforceable, where the determination of the BPO is independent and certified by someone other than the consent holder, and where the decision-makers can understand the typical and maximum level of effect that is authorised by the Proposed Conditions.

I have significant experience in the assessment, consenting and delivery phases of major civil and infrastructure projects, working both in a review capacity and for the developer or applicant themselves. That experience has included many cases that have been through notified hearing processes and Environment Court appeal processes. Based on that experience, I consider that clear, certain enforceable conditions and an appropriate and commensurate assessment of effects as I describe above is common and appropriate.

3.0 Specific Issues

I have prepared a list of specific issues below that need to be resolved.

3.1 Proposed Conditions

- **Conditions 7 and 8 – CLG objectives and requirements.** I consider that the noise and vibration-related aspects of these conditions are reasonable. I leave it to others to determine whether or not the condition needs more work in terms of process and outcomes.
- **Condition 30 – CNVMP.** I consider that the objective should be more comprehensive and consistent with the AAAC Guideline¹. The objectives should be to:
 - *Set out the procedures to identify and adopt the BPO for minimising adverse construction noise and vibration effects on neighbours.*
 - *Define the procedures to be followed to ensure that the construction noise and vibration standards in (insert condition or territorial authority plan limits) are being met*

¹ <https://aaac.org.au/resources/Documents/Public/AAAC%20Guideline%20for%20interpreting%20and%20applying%20NZS%206803-1999%20v1.0.pdf>

- **Condition 31 – CNVMP requirements.** I consider that these requirements are very general and brief. I would normally expect to see many more adjectives and specific requirements in these conditions.
- **Conditions 65 and 66 – construction noise limits.** I consider that the table of limits that is set out is correct, but the process to allow them to be exceeded is too open-ended, as described comprehensively above.
- **Condition 67 – vibration limits.** As above, I consider that there are issues with the phrase “must comply as far as practicable” and the way that the proposed Schedules allow infringements. Activity sensitive to noise needs defining (chapter J of the AUP).
- **Conditions 71 and 72 – Schedules for exceedances.** As set out above, I consider that there is no limit on the amount of noise and vibration that can be generated and the Schedule is only given to the Council for “information”. There is no ability for any stakeholder to say that’s not the BPO, the effects are too great etc.
- **Condition 73 – Hours of work.** I consider that this condition is inappropriately worded and too uncertain. It is not clear who is required to demonstrate that work outside these hours is the BPO, who checks that and when it is checked. I consider that this condition is unclear and uncertain.
- **Condition 75 – operational noise limits.** I consider that this needs to be more clearly worded so that the limits apply to all noise sources on the site assessed cumulatively.
- **Condition 76 – mechanical cooling and ventilation noise.** This condition includes the following text: “*This noise level shall be measured in accordance with AS/NZS 2107:2016 Acoustics- Recommended design sound levels and reverberation times for building interiors and at the minimum air flows*” I consider that is unusual and not required. I also consider that reference to compliance at ‘minimum air flows’ is inappropriate because that flow may not be high enough to meet the requirements of Clause G4 (ventilation) of the Building Code.
- **Condition 114 – post condition survey.** This is required 20 working days after the “completion of works”. I consider that this definition is unclear. It could mean years after the completion of works that might affect MCK. I consider that this needs revising to ensure that there is a survey during the works if there is reasonable concern and immediately following the completion of works that might give rise to issues.
- **Condition 134 – Noise Assessment Report.** I consider that this condition should include more detail and be more specific. Also need to fix minor errors such as the building is not ‘proposed’, “verify” should be “demonstrate”, and the condition needs a clearly stated objective and a better-defined trigger for its requirement.

3.2 Conditions lacking

I consider that the condition set should be updated to include clear and defined limits on construction noise and vibration effects in accordance with the issues raised in Section 2.

The conditions are also lacking a clear and certain monitoring regime for construction noise and vibration. I recommend that a condition should be added that sets out when and where construction

noise and vibration monitoring must be undertaken. The requirement of the condition can be modified or discarded if agreed with the relevant CLG stakeholder and the Council.

3.3 Issues with MDA Report

I consider that in addition to the issues in Section 2, there are some specific issues with the MDA Report. These are:

- There is no assessment of compliance or assessment of effects for **concrete pours** that may start from 3am. Table 6 provides SWL and compliance distances for concrete pours that are based only on daytime noise levels. This needs to be updated as an assessment of night time works.
- The same issue applies with the predictions and assessment of noise and vibration effects for the demolition of the **Hobson St pedestrian bridge** and **Customs St vehicle bridge**.
- It is not clear whether the noise level predictions for demolition include the situations where the breakers, jaws and wire saws will be **in clear view of MSocial** 1-2 levels above the scaffolding / noise barriers.
- The CMP states that there will be **multiple work fronts** during demolition, but the MDA Report only assesses one machine operating at a time. The MDA Report should be updated to consider two or more machines working or work fronts on the northern end of the carpark demolition and to consider cumulative noise levels.
- It is not clear whether any **pile casings will need to be vibrated in or out** of the ground. The MDA Report is not clear.

3.4 CNVMP

I consider that the following issues with the CNVMP need to be resolved:

- 2.2 working hours – missing timeframe in 4th bullet re sheet piling
- Many sections are still written as “proposed” and ‘will be”. This needs to be changed to present tense so its reads ‘consented’ and ‘must be’ etc.
- Table 4 states that concrete cutting will be 80dB LAeq at MSocial provided that it is conducted inside an enclosure that delivers a 15dB noise reduction. The effectiveness and practicability of this needs to be demonstrated in the MDA Report so that the predictions and mitigation can be relied on.
- Beneath Table 4 –says a schedule will be required for sheet piling infringements at MSocial, however table 4 predicts compliance. Is a schedule required and for what timeframe of works / noise limit?
- Vibration – Table 7. Sheet piling is based on pre-drilled holes and doesn’t appear to cater for the requirement to vibro drive the last 2m. As I understand it, the last 2m will be driven. The effects of this need to be properly assessed, conditioned and managed by the CNVMP.
- Vibration – there are no predictions or clear method of determining which neighbouring buildings might be subject to vibration levels approaching or exceeding the relevant limits. Such information is mandatory for informing monitoring and effects management strategies.

- Section 5.3 scheduling – line 1 – what is the process for demonstrating the BPO? This needs defining.
- Section 5.3 refers to ‘temporary relocation’ as a mitigation measure. Is this actually intended as it is the only mention of it.
- Section 5.3 – Sheet piling limitation within 40m of AON – section should say ‘must’, not ‘will be’.
- Section 5.9 – piling – says avoid evening timeframes yet piling in the evening seems to be a key measure
- Section 6.2 – last bullet requires monitoring to “verify the extent of any adverse effects”. This seems pointless without any requirement to establish targets, limits or other method of limiting the adverse effects as might be agreed with or offered to the receiver. See section 2 of this advice.
- Section 7 – monitoring – this section is significantly shorter than expected and what is appropriate given the predicted and potential scale and nature of adverse effects. This section states that the only trigger for noise and vibration monitoring is a reasonable complaint. This makes it clear that no pro-active monitoring is required and that monitoring is not a part of the effects management strategy. I consider that this is inappropriate.
- Section 8 – update of CNVMP – this section should allow for CLG outcomes to be a trigger for review of the CNVMP.

I consider that the CNVMP is missing:

- A specific section on training of excavator operators on demo work to manage vibration. This will be a critical component of the vibration management.
- Section 5.10 – Schedule – missing the requirement to provide to the Council. I consider that this should at least require certification by the Council, but in any event should be consistent with the Proposed Conditions.
- The CNVMP is missing any reference to the CLG and placeholders for the specific outcomes that the CLG might deliver.
- The CNVMP is missing a requirement to have Schedules (for works that can’t comply) passed through the CLG process where time permits (i.e. when the works that won’t comply are known about in advance of them happening).
- The CNVMP is missing clear and certain noise and vibration monitoring requirements. This should include a requirement to have noise and vibration monitoring in place at MSocial from prior to demo works through to completion of construction works within 30m of the façade of MSocial. These triggers and requirements can be updated or amended if required through an appropriate process, e.g. the CLG.
- The CNVMP lacks certainty on how the Schedules will consider the effects on receivers. It seems to simply leave the determination with the consent holder to determine the BPO after consulting with the receiver, but there is no obligation to prioritise the adverse effects on the receiver over cost of mitigation or other options, delays or other adverse effects on the project. The consent holder will have a clear conflict of interest in making the determination on what the BPO might be and I consider that this seriously erodes confidence in the process to authorise Schedules. My experience is that it is common for the person approving the Schedule to end up making a simple judgement of whether it is

cheaper / easier to manage the potential complaints than it might be to manage additional costs, delays and potentially penalties if the delays start to mount.

3.5 CMP

- Section 3.2.8 – demo – says acoustic screening will be installed “where possible”. MDA Report and CNVMP list it as mandatory. This discrepancy needs to be resolved.
- Says that drop shafts will be created to drop demolition material. This needs to be listed as a vibration risk – especially if dropping to the ground floor and dealt with in the MDA Report and CNVMP.
- Says that “a number” of sequential work faces will be created. Potential cumulative effects not addressed in MDA Report or CNVMP.

4.0 Noise assessment and compliance with a reasonable level

The MDA reports state that noise levels up to 40 dB L_{Aeq} inside hotel rooms may cause sleep disturbance but also concludes that 40 dB L_{Aeq} is reasonable.

The criteria used to determine a ‘reasonable’ noise level are unclear. There is little evaluation of the frequency, duration, character, or timing of the construction noise and vibration, or the potential effects on the operation of M Social Hotel. The MDA Report does not identify when unreasonable noise might occur, how often, or for how long.

Compliance with the Auckland Unitary Plan (**AUP**) permitted construction noise and vibration limits doesn’t mean adverse effects will be avoided or that levels will necessarily be reasonable when construction work is undertaken over a long duration near to sensitive receivers. This isn’t discussed in the MDA Report.

I recommend that the applicant clarify the term ‘generally reasonable’ and provide a more detailed and relevant assessment of the actual effects on the use of the rooms of M Social Hotel.

5.0 Vibration generally

The MDA Report does not provide vibration level predictions at MSocial. The MDA Report does not identify where, when, for how long, or how often vibration may be perceptible within the hotel.

The lack of information and certainty around perceptible vibration inside the hotel building makes it difficult to understand the potential degree of disruption for guests and how the consent holder will manage the effects.

I recommend that the MDA Report is updated or supplemented to include vibration predictions at the MSocial for a range of key activities, the effects that this vibration might have and how it will be monitored and managed.

6.0 AUP and matters of discretion

The AUP matters of discretion for restricted discretionary activities (where the permitted construction noise and/or vibration limits will be exceeded) include ensuring that noise levels are reasonable and compatible with surrounding activities. The MDA Report does not address the relevant matters of discretion.

I recommend that the MDA Report is updated or supplemented to address this.

7.0 Summary

Overall, I consider that:

- 1) The MDA Report is very brief for a project that has the potential to generate significant construction noise and vibration effects and considerable disruption to MCK.
- 2) I consider that there is a fundamental issue with the way the interaction between the assessment in the MDA Report and the way in which the CNVMP and Proposed Conditions are intended to manage the construction noise and vibration effects. The MDA Report should be updated or supplemented to include an assessment of construction noise and vibration effects where the levels are higher than what has been predicted, and as high as the Proposed Conditions would authorise.
 - a. The Proposed Conditions should include clear and defined construction noise and vibration limits that cannot be exceeded, except if authorised by the CLG, written agreement with the occupier(s) of the affected building(s) and / or where the effects and BPO are certified by the Council (for example, in a Schedule).
 - b. An assessment of construction noise and vibration effects and a Proposed Condition set that clearly assess and control the effects in a way that is clear, certain and enforceable, where the determination of the BPO is independent and certified by someone other than the consent holder, and where the decision-makers can understand the typical and maximum level of effect that is authorised by the Proposed Conditions.
- 3) There are a range of issues and absences in the Proposed Conditions, the CNVMP and CMP. These need to be resolved.
- 4) I consider that the assessment of construction noise effects on the MSocial Hotel is too brief. It requires considerably more information so that the effects can be understood in the decision-making process and properly managed by the conditions and CNVMP.
- 5) There is no meaningful assessment of vibration effects on the MSocial Hotel. The MDA Report should be updated or supplemented to address this.
- 6) The MDA Report needs to be updated or supplemented to address the relevant Matters of Discretion in E25 of the AUP.