

Recommendation following the hearing of a Notice of Requirement under the Resource Management Act 1991



Proposal

Alteration to Designation 1 (Auckland Unitary Plan Designation 2500-1) in the Auckland Unitary Plan for the City Rail Link relating to operational rail vibration.

This Notice of Requirement is recommended to be **CONFIRMED** with modifications. The reasons are set out below.

Application:	Notice of Requirement (NoR) to alter Condition 63 of Designation 1 (Auckland Unitary Plan Designation 2500-1) for the City Rail Link (CRL).
Site Address:	Designation 1 (Aotea Station) between the Britomart Transport Centre and Albert Street/Mayoral Drive.
Requiring Authority:	City Rail Link Limited (CRL or the requiring authority)
Hearing Commenced:	9 June 2020
Hearing Commissioner:	Alan Watson
Appearances:	<p><u>For the Applicant:</u> Andrew Beatson, legal counsel Sarah Anderton, legal counsel Richard Lawson, registered valuer and property consultant Helen McLean, planning consultant Richard Jenkins, Principal Planner, CRL</p> <p><u>Via Skype link (Australia)</u> Matthew Harrison, noise and vibration consultant Dominik Duschlbauer, structural dynamics consultant Mark Pearse, railway engineering consultant</p> <p><u>For the Submitters:</u> <u>Precinct Properties Limited:</u> Paula Brosnahan, legal counsel Pooja Upadhyay; legal counsel Edward Timmins, General Counsel, Precinct Steve Meszaros, acoustic and vibration consultant George Crawford, Chief Financial Officer, Precinct</p> <p><u>For Auckland Council:</u> Fiona Spratt, Team Leader Clare Wall Shaw, Principal Planner and reporting officer</p>

	Jon Styles, noise and vibration consultant Hearing administration: Wendy Stephenson, Hearings Advisor Bevan Donovan, Hearings Advisor
Hearing adjourned:	9 June 2020
Commissioner's site visit:	No site visit considered necessary given the nature of the proposal and earlier involvement in CRL considerations.
Hearing closed:	The hearing was adjourned to allow time for the parties to exchange views on details of the altered provisions. This was carried out over some weeks and a situation was reached that allowed the hearing to be closed on 16 July 2020.

INTRODUCTION

1. On 11 October 2019, Auckland Council (**Council**) received CRL's NoR for alteration to Condition 63, Operational Rail Vibration, of the CRL Designation 1 in the Auckland Unitary Plan: Operative in Part (**AUP OP**). The alteration was stated by CRL to be required in order to make a change in the metric for measuring ground borne vibration from operational rail activities; to make changes to the vibration criteria; and, to make specific inclusion for the Commercial Bay office tower at 11-19 Customs Street West to be allowed the same status as any noise and vibration receiver existing at the time of lodgement of the CRL NoR.
2. The proposed alteration is to change Conditions 63.1, 63.2, 63.3 and 63.4 and add Condition 63.5.
3. Designation 1 is a surface designation extending from the Britomart Transport Centre to Albert Street/Mayoral Drive (in the vicinity of the Aotea car park entrance on Mayoral Drive) for the construction, operation and maintenance of the CRL.
4. The NoR states¹:

The proposed alteration to the designation will correct an error in the metric by which operational rail vibration is assessed. The proposed alteration will make the operational rail vibration provisions in condition 63 for designation 2500-1 consistent with the provisions now applying to CRL designations 2500-2, 4, 5 and 6.

5. It states further²,

In order that the CRL can operate in accordance with the intention of the condition (which is to mitigate the actual and potential effects of operational rail vibration) this error requires correction.

¹ Notice of Requirement, section 1

² Ibid, section 7

NOTIFICATION

6. The NoR was limited notified to the owners and occupiers of the property at 11-19 Custom Street West (the Commercial Bay tower) on 28 November 2019 and to other requiring authorities, statutory bodies and Iwi groups. Submissions closed on 16 January 2020. That date was later extended to 31 January 2020.
7. Four submissions were received. The submissions were from Precinct Properties NZ Limited, PricewaterhouseCoopers, MinterEllisonRuddWatts and Chapman Tripp. The submitters all sought that the alteration be rejected or there be other amendments made to address their concerns.
8. In addition, an email was received from Ngati Whatua Orakei advising they were content with the alteration being confirmed. Correspondence was also received from Auckland Transport indicating no concern with the alteration.
9. The submission from PricewaterhouseCoopers was later withdrawn on 29 May 2020, before the hearing. MinterEllisonRuddWatts and Chapman Tripp did not attend the hearing. Those parties are all tenants of the Commercial Bay tower whilst Precinct Properties NZ Limited (**Precinct**) is the owner of the building.

THE PROPOSED ALTERATION

10. The proposed alteration is detailed in the NoR.
11. The NoR was accompanied by an Assessment of Environmental Effects (**AEE**) prepared by Aurecon consultants and dated 06-09-2019.
12. Council prepared a section 42A RMA report (**section 42A report**) for the NoR hearing.

HEARING

13. The hearing was on 9 June 2020. For CRL, legal submissions were presented by Mr Beatson who called expert evidence from Dr Duschlbauer, Messrs Harrison, Pearse and Lawson and from Ms McLean. Ms Brosnahan then presented legal submissions for the submitter in attendance, Precinct, and called expert evidence from Messrs Meszaros and Crawford. All the expert evidence had been pre-circulated so that the experts could speak to it and address questions.
14. For the Council, Mr Styles addressed his earlier report, which had been referenced in the section 42A report, and Ms Sprott and Ms Wall Shaw spoke to the section 42A report.
15. All the parties responded to questions and it became apparent that, with some amendments and additions, there was potential for the differences between the parties (being CRL, Precinct and the Council officers) to be resolved. If not, for the parties to reduce their points of difference.

16. The two main issues in dispute were firstly, Note 4 under Condition 63.1 which defined the Commercial Bay office tower as commencing at Level 4 above ground level. Precinct and the Council officers sought the Note be deleted. Precinct also sought, during the hearing, that if the Note was retained then Level 3 be included in it, pointing out the nature of activities that would occur at that level were similar to the offices above and not of a similar nature to the retail activity on the lower levels. That was tentatively agreed at the hearing by Messrs Beatson and Jenkins for CRL. The second issue was the matter of monitoring. Precinct sought specific monitoring provisions for the operational vibration from the rail track below the building. Mr Beatson did not agree, stating there were sufficient monitoring provisions applying to the CRL that would cover Precinct's concerns.
17. The hearing was then adjourned, with the parties agreeing to a timeline that would see Precinct provide modified provisions to the Senior Hearings Advisor by 17 June for distribution to Ms Sprott/Ms Wall Shaw and Mr Beatson; for comment from Ms Sprott/Ms Wall Shaw by 24 June; for those comments to be sent to Mr Beatson; and, for comment to be received from him by 1 July 2020. I considered that provided a reasonable opportunity for agreement to be reached and if not, then I would proceed to make the recommendation with the information available from that exchange, the evidence and the alteration details in the NoR.
18. The above process and timings were recorded in a memorandum dated 9 June 2020 from myself to the Senior Hearings Administrator.

POST HEARING

19. Post hearing, and during the adjournment, the above process outlined above occurred with the parties having the opportunity to present their views in writing and particularly, amendments that each party sought to the proposed alteration.
20. The parties were advised by the Senior Hearings Advisor that the hearing was closed as at 16 July 2020.

ISSUES IN CONTENTION

21. The issues in contention were associated largely with the how specific parts of the proposed alteration would apply and details of the final wording of those parts. The issues were:
- Firstly, whether the proposed alteration is appropriate to introduce.
 - Secondly, whether to retain or remove Note 4 from Condition 63.1, that note referring to the Commercial Bay office tower.
 - Thirdly, whether to include an additional monitoring provision as part of the proposed alteration.

Whether the proposed alteration is appropriate to introduce

22. Mr Harrison stated in evidence for CRL, that Condition 63 uses peak particle velocity (**PPV**) as the basis for specifying operational rail vibration criteria. CRL Designations 2, 4 5 and 6 have earlier had the tactile vibration criteria changed to a more technically correct maximum 1-second root mean square (**RMS**) velocity level.
23. He stated the reason for seeking to change Condition 63 is to achieve consistency with the amended tactile vibration condition adopted for the other CRL designations and further, to correct a technical error in the conversion of vibration measurement metrics.
24. From the evidence, I agree that the proposed alteration is needed, and that it is appropriate to have the provisions for the CRL consistent across all parts of it. In the case of the proposed alteration, it is then a matter of ensuring what is seen to be a slight increase in the vibration potentially experienced by occupants of buildings does not adversely impact upon the amenity of those receivers. That is specifically in the case of the building known as Commercial Bay, which is the focus of concerns in the submission from Precinct.
25. The impacts were addressed in the evidence called by CRL. I find that evidence comprehensively addresses the effects of the proposed change in the vibration limit and the notion of the effects being imperceptible or perceptible. The evidence of Messrs Duschlbauer and Harrison in particular, address these matters and I find agreement with that evidence.
26. In considering the proposed alteration, I come to the view that the parties accepted the need for the alteration but, as evidenced in the submissions and evidence for Precinct, have concerns regarding some details of it.

Whether to retain or remove Note 4 from Condition 63.1, that note referring to the Commercial Bay office tower

27. Note 4 to Condition 63.1(b) seeks to limit the building levels in the Commercial Bay office tower to which the conditions apply. As the NoR was notified, the office tower means Level 4 and above, as stated at Note 4. That is, the tower levels as opposed to the lower podium levels. I see that as effectively separating the tower floors, which are to be used for office activities, from the podium floors which are expected to be used for activities generating greater noise and greater movements, such as retail, entertainment, and car parking.
28. Precinct sought to have Note 4 removed on the basis that the proposed new vibration limit should apply to all the Commercial Bay building, that supported by the evidence from Mr Meszaros. CRL was however of the view that Note 4 was appropriate and should be retained. Mr Beatson for CRL submitted that it is not necessary for the stringent criteria applying to offices in the Commercial Bay tower to apply to the lower podium floors.
29. The Council officers and Mr Styles, in the section 42A report, recommended the deletion of Note 4, expressing concern that there is otherwise no certainty that the effects will be reasonable on the levels below Level 4. Dr Duschlbauer however, in evidence for CRL, stated the vibration levels on the lower (podium) floors would be appropriate, even for use as offices if that is required at future time.

30. Mr Beatson submitted that the levels below Level 4 are no different to any other receiver with protection being afforded by Condition 63.2, that being an upper limit of 0.21mm/s RMS. That, and as referenced in evidence of Dr Duschlbauer, provided a fall-back level below what would normally be considered appropriate for commercial offices. He also pointed out that there was an earlier commercial agreement between CRL and Precinct to enable the Downtown development to proceed, whereby CRL agreed that when it was sought to vary Condition 63.1, it would specifically include the Commercial Bay tower.
31. The debate over the appropriateness or otherwise of Note 4 continued during the adjournment.
32. I find agreement with the retention of Note 4 to Condition 63.1, that being for the reasons advanced by CRL. Those reasons include it not being necessary to apply the more stringent criteria applying to offices in the Commercial Bay tower to the lower levels, given the principally retail-type activities proposed for the lower levels are noisier activities and do not require the same level of protection. Dr Duschlbauer pointed out that if the 0.14mm/s RMS criterion is met on Level 4 then the lower floors will only be marginally higher and would at any rate, need to meet the 0.21mm/s RMS level set by Condition 63.2.
33. That is to say, the application of the ground borne vibration criterion for offices to building levels below Level 4 would not be commensurate mitigation to the level of effect given the proposed use of these lower floors.
34. It is the case too, that the NoR is seeking to only make specific inclusion for the Commercial Bay office tower in the provisions.
35. I have not found it necessary to enter into the debate regarding the “existing environment” and when building consents were issued relative to the date the NoR was lodged. I do not see that as necessarily being required and that the NoR can be decided more “on its merits”. I do however, acknowledge the submissions of Mr Beatson in this respect and find agreement with him.
36. At the hearing there was also debate regarding a further level of the building being included in Note 4, that is, one level lower. That refers to the level below the Sky Lobby in the office tower. The RL for the finished floor level of this Level 3 is 13.47. This debate highlighted the need for the levels to be better defined and for an RL approach to be adopted. It was also the case that Messrs Beatson and Jenkins for CRL agreed there was some merit in including this level and agreed with its inclusion. I see no reason to disagree with the parties in that respect. The further amendment can only provide additional protection for the occupants on that level and importantly, it is justified given there are to be other activities such as seminar/meeting rooms, other than retail on it.
37. Mr Crawford referred to that Level 3 as including *“a series of meeting suites located on that level presenting flexible spaces that are available for large format presentations, seminars, and board meetings, through to smaller, more intimate gatherings”*.
38. Such activities are more akin to commercial office use than the otherwise retail focused activity on the lower levels.
39. Council witnesses expressed concern that the lower levels of the Commercial Bay building are not required to meet Condition 63.2, the condition lacking precision or

certainty. That interpretation, that seemed to be the approach of Precinct based on the amendments it sought, they said could result in future difficulties. In that case Precinct considered an approach that split the condition into two parts would be appropriate and reflect the position for the lower levels of the Commercial Bay building.

40. That would see Condition 63.2 read as follows:

“(a) For any noise or vibration sensitive building types that are not provided for in the table above, the upper limit for vibration and reradiated noise shall not exceed a RMS level (1s, maximum) of 0.21mm/s and 50 dB LASmax 0.3mm/s PPV and 50 dBL LASmax respectively.

“(b) For any noise and vibration in the Commercial Bay office tower that is not provided for in the table above, the upper limit for vibration and reradiated noise shall not exceed a RMS level (1s, maximum) of 0.21mm/s and 50 dB LASmax respectively.”

41. Mr Beatson saw this concern as capable of being dealt with by amendment to the existing condition, without the need to split it into two parts. I however find favour with the approach sought by Precinct, noting that the split provides clarity and certainty in relation to the application of the condition. It also recognises the situation of the rail below the Commercial Bay building and the perception that can create regarding vibration, irrespective of the technical evidence.

42. Ms Wall Shaw raised the matter of scope for making amendments to the alteration. I record that I have had regard to that matter. I consider the amendments made in the version of the alteration attached to this Recommendation are within scope, noting that section 171(2) RMA provides for the recommendation to confirm the requirement, modify the requirement, impose conditions, withdraw the requirement. The amendments are modifications sought through the submissions and/or are needed to take account of matters raised in submissions and are part of the consideration of the proposed alteration. One addition is made, in accordance with Ms Wall Shaw's request, to Condition 67.1b.

Whether to include an additional monitoring provision as part of the proposed alteration

43. Ms Brosnahan submitted that, in accepting the altered vibration limit, there will still be a change in the vibration effects, from imperceptible to perceptible. Mr Brosnahan noted this was the evidence Mr Meszaros and Mr Styles but that it will not be until trains start running that Precinct would know whether the limit was appropriate.

44. Precinct accordingly provided an amendment (clause f) to the Operational Noise and Vibration Management Plan (**ONVMP**) to include reference to monitoring and an additional condition (Condition 67) that details monitoring provisions.

45. Ms Wall Shaw of Council did not accept the amendment (Clause f) to Condition 65.2. The reasons included her view that it was not necessary because the existing Condition 65 already provides for the ONVMP to be amended at any time, with the approval of the Council.

46. For CRL, Mr Beatson submitted that concerns for monitoring are unfounded and there was no reasonable basis to suggest that there should be a new monitoring requirement for this specific receiver. He pointed to the ONVMP already required by

Condition 65 and further, to Condition 63.5 which, as sought to be amended by the proposed alteration, provides for assessment of the operational rail vibration in accordance with BS6472-1: 2008.

47. I find it is reasonable that there is a specific monitoring provision relation to the rail operation. This is because the proposed alteration introduces new provisions which particularly, include a lesser standard to apply to operational rail vibration. I agree with the expert evidence that the amendment is not significant and is most unlikely to impact on persons. As stated by Dr Duschlbauer *“the altered condition vibration level of 0.14mm/s RMS is still very stringent when compared to 0.4mm/s RMS which is widely considered as an acceptable vibration level for continuous vibration within offices”*.
48. I have considered the range of material relating to monitoring and how monitoring could be applied. I find, as I expressed at the hearing, that monitoring is required and is a reasonable expectation from the alteration process, particularly when new provisions are sought to be included in relation to an issue such as the operational vibration associated with trains being operated beneath a building.
49. The monitoring conditions that were preferred by Precinct I find, provide more detail than is reasonably required and that these can be “shortened” without losing their effectiveness in order to assist with managing, and application of, the conditions and also, provide certainty for all parties.
50. In settling on a monitoring approach, I largely adopt the approach of CRLL as appended to the Memorandum of Counsel dated 30 June 2020 but including the approach sought by Precinct of having Condition 63.2 split into two parts. That too, assists in meeting Council’s concerns for that condition.

STATUTORY ASSESSMENT

51. Section 181 RMA provides for the alteration of a designation and specifies the applicable statutory provisions, in this case sections 168-179.
52. Section 171 RMA sets out the matters to which a territorial authority must have regard when considering a requirement and any submissions received, and in making its recommendations to the requiring authority. Section 171 is subject to Part 2, which states the purpose and principles of the RMA.
53. Section 171(1) refers to the effects on the environment of allowing the requirement, having particular regard to the relevant provisions of any national or regional policy statements, plans, alternative sites, routes and methods of undertaking the work, whether the work and designation are ‘reasonably necessary’ to achieve the objectives of the requiring authority and any other matters considered ‘reasonably necessary’.
54. Under section 171(2) of the RMA, the territorial authority may recommend to the requiring authority that it confirm, modify or withdraw the requirement, or impose conditions on the requirement.

Section 171(1) - Effects on the environment of allowing the requirement

55. The assessment of effects is largely limited to a consideration of the change in effects from what is currently provided for by Condition 63, and any consequential amendments, to that which will result from the proposed amendment to that condition. As stated by Ms Wall Shaw in the section 42A report, the consideration of adverse effects is limited to the potential effects arising from operational rail vibration and reradiated noise in relation to the changes proposed by the alteration.
56. In the AEE with the NoR, CRLL notes that the proposed alteration to Condition 63 will allow slightly higher levels of ground borne vibration from operational rail activities than currently permitted under the existing condition. It is stated that while a slightly greater number of people may be able to perceive train vibration where a building is directly located over the CRL tunnels, the threshold of annoyance will not be exceeded and the slight increase in vibration will not adversely impact upon the amenity of receivers, being occupants of buildings located directly over the CRL tunnels. The consultants to CRLL, Pulse Acoustic Consultancy (Mr Harrison), point out that building occupants will be no worse off as a result of the altered Condition 63, with respect to rail vibration.
57. Further, in the AEE, it is concluded that while the change to ground borne (tactile) vibration criterion will result in a slight increase in the allowable vibration, and a greater number of people may be able to perceive train vibration where a building sits immediately above the CRL tunnels, the proposed criterion will ensure that the threshold of annoyance for the occupants of those buildings is not exceeded.
58. I heard much from the parties regarding the effects but from all the evidence, I find the change in vibration levels included in the proposed alteration to be appropriate and indeed necessary. It will provide for greater consistency across the designations for the CRL and provide for the management of the actual and potential effects of the operational rail vibration.
59. The concern of the submitter (Precinct) at the hearing was largely seen to be one of achieving certainty by seeking a limit that was not sufficiently supported in evidence, other than to argue that it was the same as the limit sought to be applied to the upper levels of the building. CRLL stated, through evidence, that the effects on the lower levels would still be suitably managed with the higher limit applying. I find agreement with CRLL in that respect and that the monitoring provisions, proposed by Precinct, and agreed by me along with some refinements, provides a check on that situation.

Section 171(1)(a) – Any relevant provisions of a national or regional policy statement or plan

60. The proposed alteration is not inconsistent with the AUP OP given that construction, operation and maintenance of the CRL is included in that document by way of designations and further, all necessary resource consents have been obtained to enable its construction, continuing at present, in accordance with the AUP OP and

national environmental standards. I find that the proposed alteration is not inconsistent with any of the relevant documents.

Section 171(1)(b) – Alternative sites, routes, or methods of undertaking the work

61. No changes are proposed to the land requirements or to the designation boundary for the CRL, and no additional works are proposed. The effects are considered above and found to be acceptable. As such, I find that an assessment of alternative sites, routes or methods is not applicable.

Section 171(1)(c) - Whether the work and designation are reasonably necessary for achieving the objectives of the requiring authority

62. The proposed alteration does not change the objectives for the CRL project which have earlier been confirmed as part of the designation. It will however, correct a technical error in the existing condition and ensure consistency in the mitigation of operational vibration effects is achieved with the other designations for the CRL. I find the alteration is reasonably necessary to achieve the objectives of CRL as the requiring authority.

Section 171(1)(d) - Other matters considered reasonably necessary in order to make a recommendation on the requirement

63. I am not aware of any other matters requiring to be considered and was not alerted to any in the evidence.

Part 2 of the RMA

64. I find that the proposed alteration to be consistent with sections 5, 6, 7 and 8 of the RMA.

RECOMMENDATION

65. The Notice of Requirement for the proposed alteration is **confirmed, with modifications**, for the reasons below.

REASONS FOR RECOMMENDATION

66. There are no adverse effects of any significance and there are positive effects from making the correction in providing for the potential effects of rail vibration to be managed consistently across the route for the City Rail Link.
67. The Notice of Requirement for the alteration is consistent with the relevant provisions of the applicable statutory planning documents including the Auckland Unitary Plan, Operative in Part.

68. The alteration is reasonably necessary to correct an error in the metric by which operational vibration is assessed and to achieve consistency with the conditions that apply to the other City Rail Link designations.

THE ALTERATION AS AMENDED BY THE ABOVE RECOMMENDATION

The alteration as amended by the above Recommendation is **attached** in two appendices.

Appendix 1 is the amendments to the conditions shown in tracked and highlighted changes.

Appendix 2 is the clean version of the conditions incorporating the amendments made by the above Recommendation.

A handwritten signature in black ink, appearing to read 'AR Watson', written in a cursive style.

AR Watson

RMA Hearing Commissioner

31 July 2020

**APPENDIX 1: AMENDMENTS TO
CONDITIONS SHOWN IN TRACKED AND
HIGHLIGHTED CHANGES**

Changes as a result of the Recommendation are shown highlighted in yellow

City Rail Link Limited's **proposed** changes, as now included in the Recommendation, are shown in green underline and ~~strikethrough~~

Auckland Council's **proposed** changes, as now included in the Recommendation, are shown in blue underline and ~~strikethrough~~

Precinct Properties New Zealand Ltd's **proposed** changes to CRL's proposed conditions, as now included in the Recommendation, are shown in red underline and ~~strikethrough~~

Amend existing Condition 63 as follows:

CONDITION NUMBER 63: OPERATIONAL RAIL VIBRATION DESIGNATIONS 1

- 63.1 The Requiring Authority shall confirm that ~~the~~ operational rail vibration and reradiated noise levels comply with the following Project Criteria at any noise or vibration sensitive receiver:
- (a) ~~any noise or vibration sensitive receiver~~ existing at the time of lodgement of the CRL NoR; ~~or-and~~
- (b) within the Commercial Bay office tower⁴ at 11-19 Customs Street West, located predominantly on Lot 2 DP 69547)-and existing at 30 June 2020

Building Type	Vibration Criteria <u>Velocity</u> ³ - PPV-(mm/s)	Reradiated Noise Criteria (dB <u>L_{ASmax}</u> re: 20 µPa)
Commercial uses with primarily daytime use ¹	0.2-0.14	40
Residences and buildings where people normally sleep	0.150.1	35
Auditoria/Theatres ²	0.1	30
TV/Recording Studios	0.06 0.045	25

Notes:

- Such as offices, businesses, churches, schools, universities and libraries.
- This includes Albert Street District Court.
- Maximum one-second root-mean-square (RMS) value with an upper frequency limit of 80 Hz.
- Commercial Bay office tower means that part of the building commencing at Level 6 RL 13.47level 4 above ground level.

63.2 (a) For any noise or vibration sensitive ~~receiver or receiver or~~ building types existing at the time of lodgement of the CRL NoR that are not provided for in the table above, the upper limit for vibration and reradiated noise shall not exceed a RMS level (1s, maximum) of 0.21 mm/s and 50 dB L_{ASmax} 0.3 mm/s PPV and 50 dB L_{ASmax} respectively.

63.2 (b) For any noise or vibration sensitive receiver in the Commercial Bay office tower that is not provided for in the table above, the upper limit for vibration and reradiated noise shall not exceed a RMS level (1s, maximum) of 0.21 mm/s and 50 dB L_{ASmax} respectively.

63.3 For the avoidance of doubt the Project Criteria in Conditions 63.1 and 63.2 do this does not apply to the North Auckland Line and Britomart Designations.

63.4 When assessing operational rail vibration and reradiated noise, compliance with Conditions 63.1, ~~and~~ 63.2 and 67.1 shall be achieved for at least 95% of any 20 consecutive train pass-by 'events'. The events shall be representative of the rolling stock fleet operating on the line and shall include maintenance activities, unless such maintenance activities are undertaken after 11.30pm ~~er and~~ before 6.00am.

63.5 Subject to Condition 66.4 in the case of MediaWorks and to Condition 67.41 in the case of the Commercial Bay office tower, when assessing operational rail vibration, measurement shall be made in accordance with Section 5.2.3 of BS6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings and reradiated noise shall be measured in accordance with the requirements in NZS6801:2008 Acoustics - Measurement of Environmental Sound.* Both shall be measured in such manner that the measured levels can be evaluated against the criteria in Condition 63.

Amend existing Condition 65 as follows:

CONDITION NUMBER 65: OPERATIONAL NOISE AND VIBRATION MANAGEMENT PLAN (ONVMP) DESIGNATIONS 1, 2, 4, 5 AND 56

65.1 To manage the adverse effects from the maintenance and operation of the City Rail Link, the Requiring Authority shall, prior to the operation of the CRL, prepare an Operational Noise and Vibration Management Plan, (ONVMP) to the satisfaction of Auckland Council's Compliance Monitoring Manager. The objective of the ONVMP shall be to ensure that the tracks, rolling stock and associated infrastructure (including ventilation and other mechanical plant) are maintained and operated in accordance with maintenance standards as outlined in the Requiring Authority's maintenance programme for the City Rail Link, so that operational noise and vibration levels received at noise sensitive receiver locations, and vibration levels comply with Conditions 63 and 64.

65.2 The ONVMP shall set out procedures for:

- a. The maintenance of rolling stock to minimise noise and vibration emissions including, but not limited to, the management of wheel roughness and flats, braking systems, cooling systems, suspension systems and any other significant source associated with the operation of locomotives;
- b. The maintenance of tracks to minimise noise and vibration emissions, including, but not limited to, the management of curve squeal, rail roughness, joint constructions and any other significant source associated with the use of the tracks;
- c. The implementation of mitigation measures associated with the operation and maintenance of the City Rail Link, for the operational life of the City Rail Link;
- d. The management of noise from the operation of the line, including, but not limited to, the use of audible warning devices and acceleration / deceleration controls (where relevant); ~~and~~ and
- e. The management of noise and maintenance of noise-generating equipment from stations and associated ventilation and mechanical plant infrastructure including, but not limited to, PA systems, fans and ventilation noise and audible warning devices; ~~and~~ and
- ~~f. The monitoring and management of operational noise and vibration at the Commercial Bay office tower, including procedures that address the requirements of Condition 67.~~
- f. The monitoring measurement and management of operational noise and vibration at the Commercial Bay office tower, including procedures that address the requirements of Condition 67.

65.3 The ONVMP shall be adhered to at all times. It may be updated or amended at any time with the approval of Auckland Council's Compliance Monitoring Manager.

65.4 For the avoidance of doubt this does not apply to the North Auckland Line and Britomart Designations.

Insert new condition 67:

CONDITION NUMBER 67: OPERATIONAL RERADIATED NOISE AND VIBRATION MONITORING – COMMERCIAL BAY OFFICE TOWER

Designation 1

~~67.1 Within five months of the full operation of the CRL, The Requiring Authority shall engage an acoustic consultant to carry out monitoring of vibration and reradiated noise at the Commercial Bay office tower (as described in Condition 63.1) engage an acoustic consultant to carry out measurements of vibration and reradiated noise at the Commercial Bay office tower (as described in Condition 63.1) provide a report from a suitably qualified and experienced noise and vibration expert to Auckland Council's Compliance Monitoring Manager, which contains the following information:~~

~~a. within the first three months of full operation of the CRL, at two locations on Level 6 (RL 13.47) and two locations on Level 9 (RL 27.86) of the Commercial Bay office tower; and~~

~~a. monitoring of vibration and reradiated noise at the Commercial Bay office tower within the first three months of full operation of the CRL, at two locations on Level 6 (RL 13.47) and two locations on Level 9 (RL 27.86); and~~

~~a. within the first three months of full operation of the CRL, at two locations on Level 6 (RL 13.47) and two locations on Level 9 (RL 27.86) of the Commercial Bay office tower; and~~

~~b. upon complaints of vibration in the Commercial Bay office tower brought to Auckland Council by the owners of the Commercial Bay office tower, at the location identified in the complaint.~~

~~b. details of the measurement procedure, adjustments for extraneous sources and the methods used to derive the final results;~~

~~b. again at six monthly intervals, on an ongoing basis, until the appropriate period for rail grinding has been established, that period to be agreed with the Auckland Council's Compliance Monitoring Manager.~~

~~67.2 Any monitoring of vibration and reradiated noise required by Condition 67.1 shall be for a minimum of two hours of data collection or 20 train pass bys at each monitoring location, whichever is greater.~~

~~67.32 The Requiring Authority shall provide a report to Auckland Council's Compliance Monitoring Manager (copy to the owner of the Commercial Bay office tower) within five working days of the measurements being undertaken that summarises the measurements from Conditions 67.1 and 67.2. and, If exceedances are observed, the Requiring Authority shall will provide a mitigation plan within 10 20 working days of the exceedance date the report is provided that outlines the actions that will shall be taken to ensure compliance with Condition 63 including a timeline for implementation of mitigation measures, and a plan for follow-up monitoring measurements and reporting to demonstrate compliance.~~

~~67.4 Vibration shall be measured in accordance with the requirements of section 5.2 of BS6472-1:2008 Guide to evaluation of human exposure to vibration in buildings and reradiated noise shall be measured in accordance with the requirements in NZS6801:2008 Acoustics –~~

~~Measurement of Environmental Sound. Both shall be measured in such manner that the measured levels can be evaluated against the criteria in Condition 63.~~

~~**67.2** — If exceedances of Condition 63 are observed during the monitoring required by Condition 67.1, the report shall include a mitigation plan that outlines the actions to be taken to achieve compliance with Condition 63, a timeline for implementation of mitigation measures to the satisfaction of Auckland Council, and a plan for follow up monitoring and reporting to demonstrate compliance.~~

~~**67.3** — The Requiring Authority shall provide a report from a suitably qualified and experienced noise and vibration expert to Auckland Council's Compliance Monitoring Manager within 10 working days of receipt from Auckland Council of a complaint about vibration from the owners of the Commercial Bay office tower. The report shall contain, to the satisfaction of Auckland Council:~~

- ~~a) — monitoring of vibration and reradiated noise, by a suitably qualified noise and vibration expert, within the Commercial Bay office tower at the general location(s) identified within the complaint;~~
- ~~b) — details of the measurement procedure, adjustments for extraneous sources and the methods used to derive the final results; and~~
- ~~c) — a mitigation plan, if exceedances of Condition 63 are observed, that outlines the actions to be taken to achieve compliance with Condition 63, a timeline for implementation of mitigation measures to the satisfaction of Auckland Council, and a plan for follow up monitoring and reporting to demonstrate compliance.~~

~~**67.4** Vibration shall be measured in accordance with the requirements of section 5.2 of BS6472 1:2008 Guide to evaluation of human exposure to vibration in buildings and reradiated noise shall be measured in accordance with the requirements in NZS6801:2008 Acoustics – Measurement of Environmental Sound. Both shall be measured in such manner that the measured levels can be evaluated against the criteria in Condition 63.~~

**APPENDIX 2: CLEAN VERSION OF CONDITIONS
INCORPORATING AMENDMENTS**

Amend existing Condition 63 as follows:

**CONDITION NUMBER 63:
OPERATIONAL RAIL VIBRATION
DESIGNATION 1**

- 63.1 The Requiring Authority shall confirm that operational rail vibration and reradiated noise levels comply with the following Project Criteria at any noise or vibration sensitive receiver:
- (a) existing at the time of lodgement of the CRL NoR; or
 - (b) within the Commercial Bay office tower⁴ at 11-19 Customs Street West, located on Lot 2 DP 69547 and existing at 30 June 2020

Building Type	Vibration Criteria Velocity ³ (mm/s)	Reradiated Noise Criteria (dB L _{ASmax} re: 20 µPa)
Commercial uses with primarily daytime use ¹	0.14	40
Residences and buildings where people normally sleep	0.1	35
Auditoria/Theatres ²	0.1	30
TV/Recording Studios	0.045	25

Notes:

1. Such as offices, businesses, churches, schools, universities and libraries.
2. This includes Albert Street District Court.
3. Maximum one-second root-mean-square (RMS) value with an upper frequency limit of 80 Hz.
4. Commercial Bay office tower means that part of the building commencing at Level 6 RL 13.47.

63.2 (a) For any noise or vibration sensitive receiver or building types existing at the time of lodgement of the CRL NoR that are not provided for in the table above, the upper limit for vibration and reradiated noise shall not exceed a RMS level (1s, maximum) of 0.21 mm/s and 50 dB L_{ASmax} respectively.

63.2 (b) For any noise or vibration sensitive receiver in the Commercial Bay office tower that is not provided for in the table above, the upper limit of vibration and reradiated noise shall not exceed a RMS level (1s, maximum) of 0.21 mm/s and 50 dB L_{ASmax} respectively.

63.3 For the avoidance of doubt the Project Criteria in Conditions 63.1 and 63.2 do not apply to the North Auckland Line and Britomart Designations.

63.4 When assessing operational rail vibration and reradiated noise, compliance with Conditions 63.1, 63.2 and 67.1 shall be achieved for at least 95% of any 20 consecutive train pass-by 'events'. The events shall be representative of the rolling stock fleet operating on the line and shall include maintenance activities, unless such maintenance activities are undertaken after 11.30pm and before 6.00am.

63.5 Subject to Condition 66.4 in the case of MediaWorks and to Condition 67.1 in the case of the Commercial Bay office tower, when assessing operational rail vibration, measurement shall be made in accordance with Section 5.2.3 of BS6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings* and reradiated noise shall be measured in accordance with the requirements in *NZS6801:2008 Acoustics - Measurement of Environmental Sound*. Both shall be measured in such manner that the measured levels can be evaluated against the criteria in Condition 63.

Amend existing Condition 65 as follows:

CONDITION NUMBER 65: OPERATIONAL NOISE AND VIBRATION MANAGEMENT PLAN (ONVMP) DESIGNATIONS 1, 2, 4, 5 AND 6

65.1 To manage the adverse effects from the maintenance and operation of the City Rail Link, the Requiring Authority shall, prior to the operation of the CRL, prepare an Operational Noise and Vibration Management Plan, (ONVMP) to the satisfaction of Auckland Council's Compliance Monitoring Manager. The objective of the ONVMP shall be to ensure that the tracks, rolling stock and associated infrastructure (including ventilation and other mechanical plant) are maintained and operated in accordance with maintenance standards as outlined in the Requiring Authority's maintenance programme for the City Rail Link, so that operational noise and vibration levels received at noise sensitive receiver locations, and vibration levels comply with Conditions 63 and 64.

65.2 The ONVMP shall set out procedures for:

- a. The maintenance of rolling stock to minimise noise and vibration emissions including, but not limited to, the management of wheel roughness and flats, braking systems, cooling systems, suspension systems and any other significant source associated with the operation of locomotives;
- b. The maintenance of tracks to minimise noise and vibration emissions, including, but not limited to, the management of curve squeal, rail roughness, joint constructions and any other significant source associated with the use of the tracks;
- c. The implementation of mitigation measures associated with the operation and maintenance of the City Rail Link, for the operational life of the City Rail Link;
- d. The management of noise from the operation of the line, including, but not limited to, the use of audible warning devices and acceleration / deceleration controls (where relevant);
- e. The management of noise and maintenance of noise-generating equipment from stations and associated ventilation and mechanical plant infrastructure including, but not limited to, PA systems, fans and ventilation noise and audible warning devices; and
- f. The measurement and management of operational noise and vibration at the Commercial Bay office tower, including procedures that address the requirements of Condition 67.

65.3 The ONVMP shall be adhered to at all times. It may be updated or amended at any time with the approval of Auckland Council's Compliance Monitoring Manager.

65.4 For the avoidance of doubt this does not apply to the North Auckland Line and Britomart Designations.

Insert new condition 67:

**CONDITION NUMBER 67: OPERATIONAL
RERADIATED NOISE AND VIBRATION MONITORING
– COMMERCIAL BAY OFFICE TOWER**

Designation 1

67.1 The Requiring Authority shall engage an acoustic consultant to carry out measurements of vibration and reradiated noise at the Commercial Bay office tower (as described in Condition 63.1):

- a. within the first three months of full operation of the CRL, at two locations on Level 6 (RL 13.47) and two locations on Level 9 (RL 27.86) of the Commercial Bay office tower; and
- b. again at six monthly intervals, on an ongoing basis, until the appropriate period for rail grinding has been established, that period to be agreed with Auckland Council's Compliance Monitoring Manager.

67.2 The Requiring Authority shall provide a report to Auckland Council's Compliance Monitoring Manager (copy to the owner of the Commercial Bay office tower) within five working days of the measurements being undertaken that summarises the measurements from Condition 67.1. If exceedances are observed, the Requiring Authority shall provide a mitigation plan within 20 working days of the date the report is provided that outlines the actions that shall be taken to ensure compliance with Condition 63 including a timeline for implementation of mitigation measures, and a plan for follow-up measurements and reporting to demonstrate compliance.