

## UNITARY PLAN UPDATE REQUEST MEMORANDUM

**TO** Phill Reid, Auckland-wide Manager

**FROM** Matt Spiro, Principal Planner, Auckland-Wide Unit

**DATE** 9 May 2019

**SUBJECT** **Plan Modification: Clause 20A Amendment to Chapter K - Designations of the Auckland Unitary Plan (AUP) Operative in part (15 November 2016).**



This memorandum requests an update to Auckland Unitary Plan Operative in part

Reason for update – Clause 20A	
<b>Chapter</b>	Chapter K - Designations
<b>Section</b>	Designation 2500 - City Rail Link Limited (CRL) City Rail Link (CRL)
<b>Changes to text (shown in underline and strikethrough)</b>	Please see attached
<b>Changes to diagrams</b>	NA
<b>Changes to spatial data</b>	NA
<b>Attachments</b>	Clause 20A memo <b>Attachment A</b> – amendments to conditions

**Prepared by:**

**Matt Spiro**  
Principal Planner

**Signature:**

**Text entered by:**

**Teuila Young**  
Planning Technician

**Signature:**

**Maps prepared by:**

NA

**Phill Reid**  
Manager, Auckland-wide

**Signature**

**Reviewed by:**

N/A

**ATTACHMENT 2  
ASSESSMENT OF ENVIRONMENTAL EFFECTS**

7 September 2016

John Duguid  
Auckland Council  
Private Bag 92300  
Auckland 1142

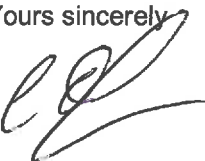
Dear John

**NOTICE OF REQUIREMENT FOR AN ALTERATION TO CITY RAIL LINK DESIGNATIONS 2, 4, 5 AND 6, CONDITIONS 63 AND 66**

This is a simple alteration which involves a minor change to Condition 63 Operational Rail Vibration and Condition 66 Operational Noise and Vibration - MediaWorks of the City Rail Link (CRL) Designations 2 and 4 (Auckland Council District Plan Operative Auckland City - Central Area Section 2005 (ACDP: CA) reference 405) and CRL Designations 2, 5 and 6 Isthmus Section 1999 (ACDP: IS), reference C08-41) (the NoR) and Proposed Auckland Unitary Plan (CRL Designations 2, 4, 5 and 6). The changes correct an error in the metric by which operational vibration is assessed. The proposed change will bring this condition into line with what has recently been accepted on the Britomart Alteration to Designation 314 (Condition 34). It is considered that notification of the NoR is not warranted as the application is simply to correct an error. An assessment of the potential effect of the proposed alteration has concluded there will be no adverse impact associated with the change.

Please use PO number **4300008488** on all invoices for this work.

Yours sincerely



Deborah Godinet  
**Group Manager, Property and Planning**

- Enc. **Attachment 1** Form 18  
**Attachment 2** Notice of Requirement for an Alteration to City Rail Link Designations 2, 4, 5 and 6 Conditions 63 and 66 Assessment of Environmental Effects CRL-SYW-RME-000-0064  
**Attachment 3** SLR Consulting Memorandum dated 22 July 2016  
**Attachment 4** Britomart Designation 314 Condition 34

## Notice of Requirement

### NOTICE OF REQUIREMENT TO ALTER A DESIGNATION UNDER SECTION 181 OF THE RESOURCE MANAGEMENT ACT 1991 (RMA)

**TO:** Auckland Council

**FROM:** Auckland Transport  
6 Henderson Valley Road  
Henderson  
Private Bag 92250  
Auckland

**AUCKLAND TRANSPORT (an Auckland Council Controlled Organisation) as Requiring Authority under section 167 of the Resource Management Act 1991 gives notice of a requirement to alter designations in the Auckland Council District Plan: Central Area Section and Isthmus Sections and Proposed Auckland Unitary Plan for works associated with the CRL being the alteration to the City Rail Link Designations 2, 4, 5 and 6.**

#### 1. SUMMARY

Auckland Transport (AT) proposes to alter:

- Auckland Council District Plan Operative Auckland City – Central Area Section 2005 (ACDP: CA) reference 405 (City Rail Link (CRL) Designations 2 and 4)
- Auckland Council District Plan Operative Auckland City – Isthmus Section (ACDP: IS), reference C08-41 (CRL Designations 2, 5 and 6)
- Proposed Auckland Unitary Plan (CRL Designations 2, 4, 5 and 6)

The purpose of the CRL Designations 2, 4, 5 and 6 is described in Section 3, Form 18, CRL Designations 2, 4, 5 and 6, CRL NoR (Beca 2012).

The proposed alteration to the designations will correct an error in the metric by which operational vibration is assessed. The proposed change will bring this condition into line with what has recently been accepted on the Britomart Alteration to Designation 314 (Condition 34).

This NoR proposes to amend CRL Designations 2, 4, 5 and 6 as follows:

## Operational Rail Vibration

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 existing at the time of lodgement of the CRL NoR:

Building Type	Vibration Criteria PPV <u>Velocity</u> <sup>2</sup> (mm/s)	Reradiated Noise Criteria (dB L <sub>ASmax</sub> re: 20 µPa)
Commercial uses with primarily daytime use <sup>1</sup>	<del>0.2</del> <b>0.14</b>	40
Residences and buildings where people normally sleep	<del>0.15</del> <b>0.1</b>	35
Auditoria/Theatres <sup>3</sup>	0.1	30
TV/Recording Studios	<del>0.06</del> <b>0.05</b>	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.**

- 63.2 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 ~~0.3 mm/s PPV~~ **a RMS level (1s, maximum) of 0.21 mm/s** and 50 dB L<sub>ASmax</sub> respectively.
- 63.3 For the avoidance of doubt 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 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 activities are undertaken after 6pm or before 8:30am.**
- 63.5 **When assessing operational rail vibration measurement shall be made in accordance with Section 5.2.3 of BS6472-1:2008 with respect to measurement locations.**

## Operational Noise and Vibration Management - MediaWorks

- 66.2 The Requiring Authority shall implement continuous vibration monitoring on the tunnel structure on the East Link Down Main line within 20m of the closest point of the CRL tunnel to Studio 1 to determine compliance with Condition 63 during the operation of the CRL (but only for so long as MediaWorks remains located at the MediaWorks site). The monitoring regime shall:
- (a) Be based on **PPV RMS velocities with an upper frequency limit of 80 Hz** measurements;
  - (b) Ensure that measurement equipment and signal chain complies with the manufacturers guidelines for accuracy and calibration;
  - (c) Capture every train pass-by on the line which may be triggered by vibration level radio frequency tag, interrupted beam or any other practicable triggering method;
  - (d) Ensure the retention of the **PPV RMS** data for every train pass-by on the line;
  - (e) Ensure the transmission of **PPV RMS** data for every train pass-by to the Requiring Authority at an interval not exceeding 48 hours between data uploads to enable records to be viewed and interrogated as required without requiring access to the monitoring location;
  - (f) Ensure that the Requiring Authority, Auckland Council's Compliance Monitoring Manager and MediaWorks are alerted to **PPV RMS** values exceeding a value at the tunnel monitoring location that corresponds to 90% of the limits specified in Condition 63.1 for TV/Recording Studios to enable the Requiring Authority to instigate preventative maintenance of tracks and rolling stock with the aim of avoiding exceedences of the noise and vibration limits at the MediaWorks building.

The ONVMP required by Condition 65 shall set out the method for determining the transfer function between the tunnel monitoring location and the floor of Studio 1, and what the vibration trigger level is (based on measurements on the tunnel structure) for investigation and corrective action measures relative to Condition 66.2(f) above. The transfer function shall be accurately determined prior to the railway becoming operational using the tunnel monitoring location and the floor of Studio 1.

66.4 Noise shall be measured in accordance with the requirements of NZS6801:2008 Acoustics - Measurement of Environmental Sound. Vibration shall be measured in accordance with the requirements of ~~German Standard DIN 4150-3:1999 Structural vibration - Effects of vibration on structures~~. BS6472-1:2008 Guide to evaluation of human exposure to vibration in buildings.

**2. THE SITES TO WHICH THE NOTICE OF REQUIREMENT APPLIES ARE AS FOLLOWS:**

This NoR relates to land within the extent of CRL Designations 2, 4, 5 and 6.

**3. THE NATURE OF THE PROPOSED WORK IS AS FOLLOWS:**

The NoR seeks to alter CRL Designations 2, 4, 5 and 6 for the purpose of correcting an error in the metric in which operation vibration is measured. The nature of the proposed change is detailed in the Notice of Requirement for an Alteration to City Rail Link Designations 2, 4, 5 and 6, Condition 63 and 66 Assessment of Environmental Effects (**Attachment 1**).

**4. THE NATURE OF THE PROPOSED CONDITIONS THAT WOULD APPLY ARE:**

No additional conditions for CRL Designations 2, 4, 5 and 6 are proposed by this NoR. The NoR proposes a correction to existing conditions.

**5. THE EFFECTS THAT THE PROPOSED WORK WILL HAVE ON THE ENVIRONMENT AND THE WAYS IN WHICH ANY ADVERSE EFFECTS WILL BE MITIGATED ARE:**

An assessment of the actual and potential effects are presented in Section 5 of the AEE supporting this NoR. Section 7.2 of the supporting AEE concludes the potential adverse effects of the proposed alteration are less than minor.

The assessment of potential adverse effects associated with this NoR has been undertaken in reliance upon the technical report attached as **Attachment 2** (SLR Consulting Memorandum dated 12 August 2016).

**6. ALTERNATIVE SITES AND METHODS HAVE BEEN CONSIDERED TO THE FOLLOWING EXTENT:**

The proposed alterations to Conditions 63 and 66 are required to correct a technical error contained in the existing condition. The change will result in the application of a recognised international guideline. No assessment of alternative sites or methodologies to assess operational rail vibration is considered necessary in the circumstances.

**7. THE PROPOSED WORK AND DESIGNATION ARE REASONABLY NECESSARY FOR ACHIEVING THE OBJECTIVES OF THE REQUIRING AUTHORITY:**

In addition to achieving AT's legislative purpose, AT works within the strategic approach and priorities outlined in its Statement of Intent (SOI) 2015/16 to 2018/19. This document recognises the important partnership between AT and AC in the delivery of shared outcomes and presents AT's strategic themes for transforming transport in Auckland. These five strategic themes are aimed at providing an accessible, integrated, efficient and innovative transport system and provide guidance in AT's future decision making.

The CRL project objectives have been described in full in Table 1 CRL Project Objectives, CRL NoR AEE (Beca 2012).

The proposed NoR to alter CRL Designation Conditions 63 and 66 is necessary in order to correct an error in the existing condition. In order that the designation 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. As such it is concluded that this NoR to alter CRL Conditions 63 and 66 is necessary and is consistent with the CRL Project objectives.

**8. OTHER AUTHORISATIONS NEEDED FOR THE PROPOSED ACTIVITY WHICH HAVE NOT BEEN APPLIED FOR:**

Outline Plan of Works for the CRL Designations 2, 4, 5 and 6.

**9. THE FOLLOWING CONSULTATION HAS BEEN UNDERTAKEN WITH PARTIES THAT ARE LIKELY TO BE AFFECTED:**

As described in section 7.2 of the AEE supporting this NoR there are no parties considered adversely affected by the NoR. AT has, however, discussed the proposal with MediaWorks in relation to the site at 3 Flower Street.

**10. AUCKLAND TRANSPORT ATTACHES THE FOLLOWING INFORMATION REQUIRED TO BE INCLUDED IN THIS NOTICE OF REQUIREMENT BY THE DISTRICT PLAN, REGIONAL PLAN, OR ANY REGULATIONS MADE UNDER THE RESOURCE MANAGEMENT ACT 1991:**

AT letter requesting alteration to CRL Designation 1 with the following attachments:


- **Attachment 1** Notice of Requirement for an Alteration to City Rail Link Designation 2, 4, 5 and 6 Condition 63 Assessment of Environmental Effects
- **Attachment 2** SLR Consulting Memorandum dated 12 August 2016
- **Attachment 3** Britomart Designation 314 Condition 34
- **Attachment 4** Form 18

**11. Lapse Period:**

The CRL Designations have a lapse period of 10 years pursuant to section 184(1)(c) of the RMA. This period provides sufficient time for AT to give effect to the works including detailed design and construction, and allows for an appropriate period to address required resource consenting, tendering and construction processes. No changes to this lapse period are proposed by the Condition 63 and 66 NoR.

Signed for AT by Deb Godinet, Group Manager Property and Planning pursuant to an authority by AT

Signature:

*1p*  
  
*Dear Inge*

Date: *09* September 2016

Address for Service:

Auckland Transport  
Private Bag 92250  
Auckland 1142

Attention: Sonya McCall

Ph: 09 447 5071

Email: Sonya.McCall@at.govt.nz



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



Proposal – Notice of Requirement to change conditions for City Rail Link designations 2, 4, 5 and 6.

This Notice of Requirement is **ACCEPTED** in whole. The reasons are set out below.

<b>Application:</b>	Notice of Requirement ( <b>NoR</b> ) to change conditions for City Rail Link ( <b>CRL</b> ) designations 2, 4, 5 and 6.
<b>Site Address:</b>	Area covered by City Rail Link designations 2, 4, 5 and 6
<b>Requiring Authority:</b>	Auckland Transport
<b>Hearing Commenced:</b>	14 March 2018
<b>Hearing Panel/Commissioners:</b>	Alan Watson (Chairperson) Rebecca Macky
<b>Appearances:</b>	<p><u>For the Applicant:</u> Andrew Beatson (legal Counsel) Matthew Harrison (noise and vibration)</p> <p><u>For the Submitter, MediaWorks:</u> Dr Claire Kirman (legal Counsel)</p> <p><u>For Auckland Council:</u> Joao Machado, Team Leader Jon Styles, Noise Consultant Paulette Kenihan, Senior Hearings Advisor</p>
<b>Hearing adjourned</b>	14 March 2018
<b>Commissioners' site visit</b>	No site visit considered necessary given the earlier involvement of the Commissioners in CRL considerations.
<b>Hearing Closed:</b>	The hearing was adjourned to allow time for the parties to confer regarding the conditions. This was carried out over some weeks and a situation was reached that allowed us to close the hearing on 13 June 2018.

## INTRODUCTION

1. On 7 September 2016, Auckland Council (**Council**) received Auckland Transport's (**AT** or **the applicant**) NoR for alterations to the following conditions:
  - a. Condition 63 (Operational Rail Vibration)
  - b. Condition 66 (Operational Noise and Vibration)

of the CRL Designations 2, 4, 5 and 6 in the Auckland Unitary Plan: Operative in Part (**AUP OP**), where it is shown as Designation no.1714. These alterations were stated by AT to be required in order to correct an error in the metric by which operational vibration is assessed.

2. The CRL project provides for the construction, operation and maintenance of a 3.4km underground passenger railway between Britomart Station and the North Auckland Line in the vicinity of the existing Mt Eden Station, and includes the construction of two tracks, three new stations in the vicinity of Aotea Square, Karangahape Road, and the existing Mt Eden Station, as well as modifications to Britomart Station.
3. In the application, AT noted that during the processing of the alteration to the Britomart Transport Centre Designation, an error in the way operational vibration was to be assessed under Condition 34 of that designation was identified. This error was the use of peak particle velocity (**PPV**) levels to measure operational vibration, instead of root mean square (**RMS**) velocity levels. This error was corrected in the processing of the alteration to the Britomart Transport Centre Designation and the condition now correctly references RMS. It was noted at that time that a corresponding correction to the CRL conditions would be required and these corrections are now the subject of this NoR.
4. Council issued requests for further information to AT on 27 September and 11 October 2016 under section 92(1) of the Resource Management Act 1991 (**RMA**). AT provided its responses to these requests on 18 October and 13 December 2016 respectively.

### **Notification**

5. Council initially recommended that the NoR be processed on a non-notified basis under sections 95(A)(2) and 95B(1) of the RMA. This recommendation was reviewed by an Independent Commissioner on 14 June 2017, who recommended that the application should be subject to limited notification to MediaWorks, for the reasons stated in the notification decision.
6. Subsequently, the application was processed on a limited notified basis under section 95B(2), with the notification limited to MediaWorks.
7. The notification period ran from 23 June 2017 to 24 July 2017, with the closing date subsequently extended to 31 July 2017. One submission was received on 28 July 2017. The submission was from MediaWorks.

### **AUCKLAND TRANSPORT**

8. AT is a Council Controlled Organisation (**CCO**) established under section 38 of the Local Government (Auckland Council) Act 2009 (**LGACA**) and a requiring authority, being a network utility operator under section 167 of the RMA in relation to the Auckland transport system (including rail).

9. Relevant project objectives were supplied by AT and noted in the Council's section 42A RMA report (**section 42A report**) at Table 1-2.

### **Proposed Changes**

10. As noted above, errors related to the assessment of vibration for the CRL conditions were identified during the processing of the alteration to the Britomart Designation. The result of these errors is that the conditions of the designation are more onerous than required; and the criteria will be difficult to achieve and require unnecessary mitigation with no benefit. To correct this error, AT has proposed alterations to Conditions 63 and 66 as set out at paragraphs 2.3 and 2.4 of the section 42A report.

### **MEDIAWORKS**

11. In its application, AT noted communications with MediaWorks, which lodged a submission opposing the application. Matters raised included:
  - a. Conditions 63 and 66 were agreed by all parties and their experts to address potential adverse effects of the CRL Project on the operation of the submitter's Studios;
  - b. Whilst AT states that the amendments sought to Condition 63 are at levels below the threshold for annoyance and unlikely to be perceived by most humans, MediaWorks notes that the purpose of Condition 63 is to address potential adverse effects on broadcasting quality from the Studios, and not to create a threshold for annoyance or perception by occupants of the building;
  - c. MediaWorks considers that there are potentially significant impediments to the continued operation of their Studios if the alteration proceeds as proposed; and
  - d. Any amendments to Conditions 63 and 66 should be agreed to between the parties' operational noise and vibration experts.

### **HEARING**

12. In the lead up to the hearing date, we the Commissioners or Hearing Panel, had considered the need to hold a hearing, as it appeared that we were in a situation contemplated by section 100 of the RMA: that is,

*A hearing need not be held in accordance with this Act in respect of an application for a resource consent unless—*

- (a) *the consent authority considers that a hearing is necessary; or*
- (b) *either the applicant or a person who made a submission in respect of that application has requested to be heard and has not subsequently advised that he or she does not wish to be heard.*

13. On 8 March 2018, we were provided with a letter from the applicant advising that the City Rail Link Limited (**CRL**) and MediaWorks' acoustic experts had discussed MediaWorks' concerns and reached agreement on the wording of Conditions 63 and 66.
14. Consequently, there would be no need for a hearing. This was confirmed in a letter from Counsel for MediaWorks also dated 8 March 2018.
15. Further detail was provided in a memorandum from Matthew Harrison, acoustic and vibration consultant for CRL, dated 10 March 2018.
16. The Commissioners then received an advice note from Jon Styles, acoustic and vibration consultant for the Council, dated 13 March 2018. Mr Styles provided some background explanation and confirmed that he agreed with some of the changes and he recommended some further amendments with which the CRL experts either agreed or which needed input from CRL and MediaWorks' expert consultants (Messrs Harrison and Jon Heilig).
17. In an email from Council's Joao Machado dated 13 March 2018, concerns were raised particularly regarding Condition 63, which relates to the CRL route in general, and the suggestion was made that the issues could benefit from a debate in a hearing setting. The Commissioners decided that section 100 RMA would then not apply, and that bringing the parties together could be helpful.
18. The hearing was held on 14 March 2018. No legal submissions or new evidence was presented; instead, the hearing was conducted more in the nature of facilitated talks. There was considerable discussion about the two conditions as set out above. It did appear that the differences between the parties, being AT, MediaWorks and the Council officers, could be reconciled with further discussions, particularly with the experts assisting the parties. However, it was also clear that the parties needed further consultation with their experts and with each other in reaching a potential agreed position.
19. The hearing was then adjourned, with the parties agreeing to meet to resolve outstanding technical issues and report back to the Commissioners. No report date was set given it was apparent the outstanding issues could be resolved and there was a clear intention by the parties to do so.

### **Post hearing**

20. On 22 March 2018, Mr Machado advised progress:

*CRL and Media Works have been discussing options and they had one outstanding item to refine before coming back to us for our input. I asked that we have the opportunity to see draft versions as they evolve, but that hasn't been forthcoming. So wait and see how that pans out.*

21. On 6 April 2018, in response to an enquiry from Paulette Kenihan (Senior Hearings Advisor), Counsel for AT advised:

*Hi Paulette – I'm not sure we have an agreement yet. We do still seem to be making slow progress but we are very keen to draw this to a close. I'll let Joao and Richard comment re timing and outstanding steps.*

22. Council planning officers then proposed a timetable for the final exchange of views and position statement, which we understand was acceptable to all parties. This timetable culminated in the Council's reporting team being required to file with Ms Kenihan

*.... the parties' responses and any comments / recommendations we may have on the proposed 'camera shake' condition 66.5 and overall conditions (if any further comment is necessary) by 5pm Monday 30 April.*

23. On 1 May 2018, we received an email from the Senior Hearings Advisor advising that since the hearing CRL, MediaWorks and the Council's reporting team have had further discussions on the wording of the proposed conditions. The email also attached the tracked changes to conditions with which the parties were generally in agreement:

### **CRL Designation Operational Vibration conditions 63 and 66 alterations**

#### **Operational Vibration**

- 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 existing at the time of lodgement of the CRL NoR:

Building Form	Vibration Criteria Velocity <sup>3</sup> (mm/s)	Reradiated Noise Criteria (dB L <sub>ASmax</sub> re: 20 µPa)
Commercial uses with primarily daytime use <sup>1</sup>	0.14	40
Residences and buildings where people normally sleep	0.1	35
Auditoria/Theatres <sup>2</sup>	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

- 63.2 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 0.21 mm/s and 50 dB  $L_{ASmax}$  respectively.
- 63.3 For the avoidance of doubt 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 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 or before 6.00am.
- 63.5 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*, except that all references to people, persons and body in that clause shall apply to equipment as well.

### **Operational Noise and Vibration Management – MediaWorks**

- 66.1 At least six months prior to the opening of the CRL, the Requiring Authority shall provide a report from a suitably qualified noise and vibration expert to Auckland Council's Compliance Monitoring Manager and to MediaWorks. The report shall confirm the trackform mitigation applied to the project has been designed to ensure that operational noise and vibration will not exceed the levels as set out in Conditions 63 and 66.5.
- 66.2 The Requiring Authority shall implement continuous vibration monitoring on the tunnel structure on the East Link Down Main line within 20m of the closest point of the CRL tunnel to Studio 1 to determine compliance with Condition 63 during the operation of the CRL (but only for so long as MediaWorks remains located at the MediaWorks site). The monitoring regime shall:
- (a) Be based on measurements with an upper frequency limit of 500 Hz;  
  
Note: The upper monitored frequency band of 500Hz reflects the supplier's permissible criteria specified for the equipment operated by MediaWorks.
  - (b) Ensure that measurement equipment and signal chain complies with the manufacturers guidelines for accuracy and calibration;
  - (c) Capture every train pass-by on the line which may be triggered by vibration level radio frequency tag, interrupted beam or any other practicable triggering method;
  - (d) Ensure the retention of the RMS data for every train pass-by on the line;
  - (e) Ensure the transmission of RMS data for every train pass-by to the Requiring Authority at an interval not exceeding 48 hours between data uploads to enable records to be viewed and interrogated as required without requiring access to the monitoring location;

- (f) Ensure that the Requiring Authority, Auckland Council's Compliance Monitoring Manager and MediaWorks are alerted to RMS values exceeding a value at the tunnel monitoring location that corresponds to 90% of the limits specified in Condition 63.1 for TV/Recording Studios to enable the Requiring Authority to instigate preventative maintenance of tracks and rolling stock with the aim of avoiding exceedances of the noise and vibration limits at the MediaWorks building.

The ONVMP required by Condition 65 shall set out the method for determining the transfer function between the tunnel monitoring location and the floor of Studio 1, and what the vibration trigger level is (based on measurements on the tunnel structure) for investigation and corrective action measures relative to Condition 66.2(f) above. The transfer function shall be accurately determined prior to the railway becoming operational using the tunnel monitoring location and the floor of Studio 1.

- 66.3 Conditions 63 and 66.5 shall be complied with at the MediaWorks building for the life of the CRL.
- 66.4 Noise shall be measured in accordance with the requirements of NZS6801:2008 Acoustics - Measurement of Environmental Sound. Vibration shall be measured in accordance with the requirements of section 5.2.3 of BS6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings*, except that all references to people, persons and body in that clause shall apply to equipment as well.
- 66.5 In addition to compliance with requirements of condition 63.1 and for the purpose of monitoring the effects of vibration on camera shake, the vibration arising from train pass-bys shall at all times comply with a vibration limit of  $1\text{m/s}^2$  between 5Hz and 500Hz when measured on the floor of the MediaWorks filming studios.
- 66.6 In the event of any exceedance of any noise or vibration limit in Condition 63 during Sensitive Times (as defined in Condition 35.1) measures to reduce the noise or vibration below the relevant limit in Condition 63 shall be implemented as soon as reasonably practicable.
24. For the Council, Mr Machado provided the following comments from the reporting team with regards to Condition 66.5 above:

*With respect of the proposed 'camera shake' condition, the reporting team notes that the level of vibration referenced in this standard is very high – as in many people would not want to be in the building. The vibration acceleration limit of  $1\text{m/s}^2$  roughly equates to a velocity of 30mm/s at 5Hz, down to 0.3mm/s at the highest frequency of 500Hz. The limit for the Studio in 63.1 is only 0.045mm/s, making the new 66.5 significantly higher.*

*Mr Styles advises also that the new 66.5 covers movement at frequencies that the vibration control in 63.1 does not, (namely from 80Hz to 500Hz) but if compliance with 63.1 is met (including the very low reradiated noise limit which covers all frequencies) it is practically impossible that 66.5 would be exceeded at the same time. The basis of the limit in the new 66.5 appears also to be for the protection of 'equipment failure', not a standard operating situation or for camera shake.*

*The Grass Valley specification appears to be a typical test spec for IT equipment which confirms that failure will not occur for situations where the camera is exposed to that level of vibration ( $1\text{m/s}^2$ ) for 30 minutes the most. Mr Styles considers that camera shake will become an issue (in respect of potential image distortion / picture quality) at*

vibration levels significantly below the  $1\text{m/s}^2$  limit in 66.5, but not if compliance with 63.1 is maintained.

We are therefore of the view that the new 66.5 is unnecessary on the basis that it introduces a new limit which is well above an existing limit (cond. 63.1) that cannot be exceeded, and having two drastically different limits for the same source will give rise to confusion in the future.

Nonetheless, as MediaWorks wants the monitoring condition and CRL are in agreement with that, I accept the revised wording of condition 66.5 for the purpose of progressing this matter to a decision. Notwithstanding that, my opinion remains that it is unnecessary and may lead to confusion with condition 63.1 standards. Any such condition wording must make it clear that the 'potential camera shake monitoring' condition (new condition 66.5) cannot be interpreted to override the requirements of condition 63.1.

Unless the commissioners have any further items to seek clarification on, I suggest that this matter can progress to deliberations, followed by a recommendation from the commissioners in due course. Happy to discuss further.

25. It seems to us that Mr Machado's concerns can be met with the addition of words in Condition 66.5, making it clear that the provisions of Condition 63.1 prevail over Condition 66.5.
26. This and other queries were raised by us in an email to the Senior Hearings Advisor dated 2 May 2018:

*Good morning Paulette*

*I have asked for a copy of Attachment 1, the conditions in word format but in the meantime, please note our following comments on the draft conditions:*

1. *Condition 63.1 refers to "Building Form" and condition 63.2 refers to "building types". Are the parties happy with that wording or would they prefer consistency?*
2. *Condition 63.3 provides "For the avoidance of doubt this does not apply ..." What is this? Would it assist with interpretation to state "For the avoidance of doubt the Project Criteria in conditions 63.1 and 63.2 do not apply ..."*
3. *Is the reference to "equipment" in condition 63.5 intended solely for the benefit of MediaWorks? In which case, shouldn't 63.5 be the 'general condition' and the extended 63.5 included in the section specific to MediaWorks, in the same way as 66.4 relating to noise is?*
4. *In other words, condition 63.5 would read: Subject to condition 66.? 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.*
5. *A new condition 66.? would read: When assessing operational rail vibration, measurement shall be made in accordance with condition 63.5, except that all references to people, persons and body in Section 5.2.3 of BS6472-1:2008 Guide to evaluation of human exposure to vibration in buildings shall apply to Mediaworks equipment as well.*
6. *66.1 – should state: "... and will not exceed the levels set out in Conditions 63.1, 63.2 and 66.5.*
7. *66.2 – should the words "Studio 1" be defined, as follows "to MediaWorks' Studio 1"?*
8. *66.2 should state: "compliance with Conditions 63.1 and 63.2 ..."*



9. *Should the paragraph commencing “The ONVMP...” have its own numbering?*
10. *The words “Studio 1” at the end of that paragraph should also be defined, consistent with 66.2*
11. *Condition 66.3 – should also refer to 63.1 and 63.2; and shouldn’t this condition also refer to MediaWorks – in other words, as in 66.2 – (for so long as MediaWorks remains located at the MediaWorks site)?*
12. *Could Joao’s concerns regarding 66.5 be met by the addition of the following words?*

*Without derogating from the standards set out in condition 63.1 relating to TV/Recording Studios, in addition to compliance with these requirements and for the purpose of monitoring the effects of vibration on camera shake, the vibration arising from the train pass-bys shall at all times comply with a vibration limit of 1m/s<sup>2</sup> between 5 Hz and 500Hz when measured on the floor of the MediaWorks filming studios. For the avoidance of doubt, in case of any ambiguity or uncertainty, the provisions of condition 63.1 shall prevail.*

13. *Condition 66.6 should also refer to Conditions 63.1 and 63.2.*
27. Further emails followed which resulted in agreement being reached between CRL and MediaWorks, as confirmed in an email dated 24 May 2018 from CRL. That email attached the agreed conditions. We then sought comments on the agreed conditions from Council. In an email dated 31 May 2018 we were advised that the Council’s reporting team agreed with all of the changes included in the 24 May 2018 document, except for the inclusion of the new Condition 66.5.
28. We then advised the parties, through the Senior Hearings Advisor, the hearing could be closed as at 13 June 2018.

## **ISSUES IN CONTENTION**

29. The only issues in contention related to the technical foundations for the two conditions and their final wording.

## **STATUTORY ASSESSMENT**

30. A NoR for a designation may only be issued by a requiring authority; and as noted above, AT is approved as a requiring authority pursuant to section 167 of the RMA.
31. Section 181 provides for the alteration of a designation and specifies the applicable statutory provisions, in this case sections 168-179.
32. Section 171 of the Act 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.
33. Section 171(1) refers to the effects on the environment, 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

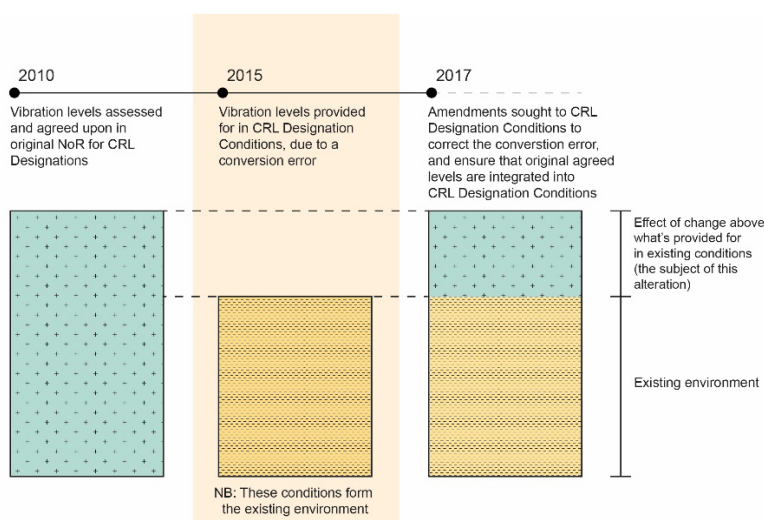
and designation are 'reasonably necessary' to achieve the objectives of the requiring authority and any other matters considered 'reasonably necessary'.

34. 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

35. The Commissioners accept that the assessment of effects is limited to a consideration of the change in effects from what is currently provided for by Conditions 63 and 66, to that which will result from the proposed alterations to those conditions.

36. These changes were helpfully set out in the following diagram:<sup>1</sup>



37. In its application, AT noted that the following adverse effects may arise as a result of the changes to Condition 63:
- A slightly greater number of people may be able to perceive train vibration where a building is directly located over the CRL tunnels; and
  - Train vibration may be felt if there are low ambient background levels during train passage beneath building that sit directly above the tunnels.
38. The applicant noted that with respect to (a), the threshold of annoyance (as determined by the relevant technical manual) would not be exceeded and the slight increase in vibration would not adversely impact upon the amenity of receivers; and that with regard to tactile vibration under (b), the conclusion was that the adoption of the new limit would not result in adverse amenity impacts for the buildings' occupants. Thus overall, the potential adverse effects associated with the amendments to Condition 63 would, according to the application, be less than minor.
39. In relation to Condition 66, AT noted that the proposed change would benefit operational noise and vibration management, in that it would allow for more

<sup>1</sup> See paragraph 6.1 of the section 42A Report

accurate assessments of tactile vibration, and improved accuracy for recording vibration from trains using the CRL.

40. However, MediaWorks was concerned that the proposed changes to Conditions 63 and 66 would adversely affect the continued operation of their Studios in terms of broadcasting quality, noting that as the original conditions were agreed by all parties, any subsequent amendments should also be unanimously agreed.
41. For the Council, Jon Styles, consultant acoustic engineer, undertook a review of the relevant project documentation.
42. The Commissioners accept that the conditions, as finally agreed by CRL and MediaWorks, and by Council apart from one matter (Condition 66.5) would have positive effects as identified in the assessment of effects on the environment report (**AEE**) and in the section 42A report.

#### ***Reradiated noise criteria***

43. While no changes to the reradiated noise criteria are proposed in this application, we accept the expert advice of the link between the vibration and reradiated noise criteria, as the latter can govern the ability of the project to reach the former (vibration) limits.
44. We understand from Mr Styles' memorandum in that regard<sup>2</sup> that the link means that in some instances, compliance with the reradiated noise criteria will essentially govern the vibration levels that are received – as the reradiated noise levels generated by a train pass-by will often reach the limit before vibration levels reach the vibration limit.

#### ***Changes to Condition 63***

45. AT seeks to amend the vibration limits for the various uses identified from the existing limit, which is below the threshold of perception for most or all humans, to that proposed, which, according to Mr Styles, is likely to be perceptible to most people and annoying to some.<sup>3</sup>
46. As the RMS vibration levels received in a building are linked to the reradiated noise levels, the RMS vibration limit must be read and assessed in conjunction with the reradiated noise criteria. Although the reradiated noise level associated with the proposed vibration limit is an increase, it must comply with the existing limits set out in the conditions. Thus, the level of vibration permitted by train pass-bys will, in many cases, be governed by compliance with the reradiated noise limit.
47. We accept that whilst the overall change in effect might be noticeable, it will not be annoying to most receivers, on the basis that the reradiated noise level is likely to be similar regardless of the vibration limit adopted, and because the

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<sup>2</sup> See page 52 of the Agenda (Mr Styles' memorandum of 13 February 2017)

<sup>3</sup> Page 55 of the Agenda (same memorandum)

reradiated noise effects are similar to the vibration effects, even if the vibration levels do increase.

48. With regards to the proposed limit for TV/Recording Studios (including MediaWorks), the applicant was of the view the adverse effects associated with the amendments to Condition 63 would be less than minor,<sup>4</sup> while the Council's planning officer concluded those effects would be no more than minor. We note those differing views but, from the information, we find that the adverse effects are minor, and that those adverse effects are manageable and acceptable, bearing in mind the specific requirements of MediaWorks.
49. Following the further discussions held by the parties after the hearing (referred to above), agreement was reached as to the appropriate wording of amendments to the relevant conditions to address these effects.

### ***Changes to Condition 66***

50. We have referred to the agreement between CRLL and MediaWorks over the conditions with the Council's one area of disagreement relating to the inclusion of Condition 66.5 in the final set of conditions. We acknowledge the points made in support of the Council's position in this respect, as described in the email of 31 May 2018 from Council, but are mindful too of the agreement that can otherwise be achieved between the operator of the CRL and the party that could potentially be the most affected, or impacted upon, by changes to the conditions relating to vibration.
51. Mr Machado points out, based on the expert advice of Mr Styles, that if Condition 66.5 does remain, then the wording of that condition needs to make it clear that it applies in addition to the criteria for TV/Recording Studios in Condition 63.1 and, in particular, does not supersede or set a higher, different or more permissive standard than Condition 63.1. We consider that is achieved in the final set of conditions but that further amendment is needed to Condition 66.5 to address the concern of the Council officers. We acknowledge the Council officers' position is seeking removal of the condition on the basis that it is unnecessary.
52. The revised Condition 66.5 we recommend would then read as below which we note is the position we put to the Council in an email dated 2 May 2018 and referred to in paragraph 80 above:

Without derogating from the standards set out in Condition 63.1 relating to TV/Recording Studios, in addition to compliance with these requirements and for the purpose of monitoring the effects of vibration on camera shake, the vibration arising from train pass-bys shall at all times comply with a vibration limit of  $1\text{m/s}^2$  between 5Hz and 500Hz when measured on the floor of the MediaWorks Filming Studios. For the avoidance of doubt, in case of any ambiguity or uncertainty, the provisions of Condition 63.1 shall prevail.

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<sup>4</sup> Paragraph 87 above

53. We see the revised condition as something of a compromise between the parties (CRL, MediaWorks and Council) but importantly, to still be in line with the agreed position of CRL and MediaWorks. That is a position reached after significant consultation between those two parties.

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

54. The Commissioners agree with the Council's reporting planner that the relevant planning instrument is the Auckland Unitary Plan: Operative in Part (**AUP OP**). No assessment was provided by AT, on the basis that the proposed alterations do not alter the former assessment of relevant statutory documents, and the proposed alterations are not inconsistent with any of the documents identified in section 171(1)(a).
55. Following a request for further information, AT stated that the alterations do not conflict with the Regional Policy Statement and or the objectives and policies of Chapters E26 (Infrastructure) and E27 (Transport); and provided an assessment of the relevant provisions of the legacy plans.
56. With regard to the provisions of the AUP OP that seek to control and manage adverse effects associated with noise and vibration, Council's reporting planner assessed the relevant provisions and we understand that there is no issue with this.

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

57. No changes are proposed to the designation boundary, and no additional works are proposed: as such, we agree with the Council's reporting planner that an assessment of alternative sites or routes is not applicable.
58. With regards to alternative methods, the application notes that as the alterations seek to correct a technical error, no alternative methodology to the assessment of operational vibration was considered necessary. We agree.

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

59. AT's application states that the alterations are necessary to correct an error so that the designation can operate in accordance with the intention of the conditions (to mitigate the actual and potential effects of operational rail vibration). We agree that the alterations are reasonably necessary to achieve the Project Objectives and are therefore reasonably necessary for achieving the objectives of AT as the requiring authority.

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

60. In terms of other matters, the application states that there are no other matters the Council is required to consider. The Council's reporting planner concurs, and we agree with this conclusion.

**Part 2 of the RMA**

61. The Commissioners find that the proposed alterations to Conditions 63 and 66 are consistent with sections 5, 6, 7 and 8 of the RMA.

**CONCLUSIONS AND REASONS FOR RECOMMENDATION**

62. The proposed changes to Conditions 63 and 66 will enable the correction of an error in the metric by which operational vibration is assessed, bringing it into line with what has recently been accepted on the Britomart Alteration to Designation 314 (Condition 34).
63. There are positive effects resulting from this change and any adverse effects will be minor based on our considerations of all the information.
64. Agreement has been reached with the party (MediaWorks) most likely to be adversely affected by the proposed changes, with only one amendment we have recommended to Condition 66.5.

**DESIGNATION CONDITIONS**

65. Designation Conditions 63 and 66 are amended as follows:

**CRL Designations - Operational Vibration conditions 63 and 66 alterations**

**DEFINITIONS**

MediaWorks buildings

MediaWorks buildings means the buildings located at 2 Flower Street (Lot 2 DP 49561, NA2063/54), 3 Flower Street (Lot 1 DP 84213, NA40B/1323), 40 New North Road (Lot 1 DP 80372, NA37A/545), 44 New North Road (Lot 4 Section 3 Deeds Plan 45 (Blue), NA557/190), 46-48 New North Road (Pt Lot 5 Section 3 Deeds Plan 45 (Blue), NA557/144), and 52 New North Road (Lot 1 DP 60771, NA15C/727).

Studio 1

Studio 1 means the main broadcasting studio at the MediaWorks building at 3 Flower Street as shown on Diagram 1.

**Operational Rail Vibration**

- 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 existing at the time of lodgement of the CRL NoR:

Building Type	Vibration Criteria Velocity <sup>3</sup> (mm/s)	Reradiated Noise Criteria  (dB L <sub>ASmax</sub> re: 20 μPa)
Commercial uses with primarily daytime use <sup>1</sup>	0.14	40
Residences and buildings where people normally sleep	0.1	35
Auditoria/Theatres <sup>2</sup>	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.

- 63.2 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 0.21 mm/s and 50 dB L<sub>ASmax</sub> 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 and 63.2 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 or before 6.00am.
- 63.5 Subject to Condition 66.4 in the case of MediaWorks, 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*.

### **Operational Noise and Vibration Management – MediaWorks**

- 66.1 At least six months prior to the opening of the CRL, the Requiring Authority shall provide a report from a suitably qualified noise and vibration expert to Auckland Council's Compliance Monitoring Manager and to MediaWorks. The report shall confirm the track form mitigation applied to the project has been designed

to ensure that operational noise and vibration will not exceed the levels as set out in Conditions 63.1, 63.2 and 66.5.

- 66.2 The Requiring Authority shall implement continuous vibration monitoring on the tunnel structure on the East Link Down Main line within 20m of the closest point of the CRL tunnel to Studio 1 to determine compliance with Conditions 63.1 and 63.2 during the operation of the CRL (but only for so long as MediaWorks remains located at the MediaWorks site). The monitoring regime shall:
- (a) Be based on measurements with an upper frequency limit of 500 Hz;  
Note: The upper monitored frequency band of 500Hz reflects the supplier's permissible criteria specified for the equipment operated by MediaWorks.
  - (b) Ensure that measurement equipment and signal chain complies with the manufacturers guidelines for accuracy and calibration;
  - (c) Capture every train pass-by on the line which may be triggered by vibration level radio frequency tag, interrupted beam or any other practicable triggering method;
  - (d) Ensure the retention of the RMS data for every train pass-by on the line;
  - (e) Ensure the transmission of RMS data for every train pass-by to the Requiring Authority at an interval not exceeding 48 hours between data uploads to enable records to be viewed and interrogated as required without requiring access to the monitoring location;
  - (f) Ensure that the Requiring Authority, Auckland Council's Compliance Monitoring Manager and MediaWorks are alerted to RMS values exceeding a value at the tunnel monitoring location that corresponds to 90% of the limits specified in Condition 63.1 for TV/Recording Studios to enable the Requiring Authority to instigate preventative maintenance of tracks and rolling stock with the aim of avoiding exceedances of the noise and vibration limits at the MediaWorks buildings.

The ONVMP required by Condition 65 shall set out the method for determining the transfer function between the tunnel monitoring location and the floor of Studio 1, and what the vibration trigger level is (based on measurements on the tunnel structure) for investigation and corrective action measures relative to Condition 66.2(f) above. The transfer function shall be accurately determined prior to the railway becoming operational using the tunnel monitoring location and the floor of Studio 1.

- 66.3 Conditions 63.1, 63.2 and 66.5 shall be complied with at the MediaWorks buildings for so long as MediaWorks remains located at the MediaWorks site.
- 66.4 Noise shall be measured in accordance with the requirements of NZS6801:2008 Acoustics - Measurement of Environmental Sound. Vibration shall be measured in accordance with the requirements of section 5.2.3 of BS6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings*, except that all references to people, persons and body in that clause shall apply to equipment as well.
- 66.5 Without derogating from the standards set out in Condition 63.1 relating to TV/Recording Studios, and for the purpose of monitoring the effects of vibration on camera shake, the vibration arising from train pass-bys shall at all times



comply with a vibration limit of  $1\text{m/s}^2$  between 5Hz and 500Hz when measured on the floor of the MediaWorks Filming Studios.

For the avoidance of doubt, in case of any ambiguity or uncertainty, the provisions of Condition 63.1 shall prevail.

- 66.6 In the event of any exceedance of any noise or vibration limit in Conditions 63.1 and 63.2 during Sensitive Times (as defined in Condition 35.1) measures to reduce the noise or vibration below the relevant limit in Condition 63 shall be implemented as soon as reasonably practicable.

A handwritten signature in black ink, appearing to read 'Alan Watson', with a stylized, cursive script.

AR Watson

for Hearing Commissioners Rebecca Macky and Alan Watson

29 June 2018

24 July 2018

John Duguid  
General Manager – Plans and Places  
Auckland Council  
Private Bag 92300  
Auckland 1142

Dear John

**Decision under Section 172(1) of the Resource Management Act 1991 for the Notice of Requirement for alterations to City Rail Link Limited Designations 2500-2, 2500-4, 2500-5, and 2500-6 (Conditions 63 and 66) in the Auckland Unitary Plan (Operative in Part) – Operational Rail Vibration**

Auckland Council released the Independent Commissioners' recommendation on the Notice of Requirement (**NoR**) for alterations to City Rail Link (**CRL**) Designations 2500-2, 2500-4, 2500-5 and 2500-6 in the Auckland Unitary Plan (Operative in Part) on 4 July 2018. The Commissioners' recommendation is that the NoR be confirmed, but modified in part in relation to proposed conditions.

City Rail Link Limited (**CRL**) generally accepts the Commissioners' recommendation but proposes an amendment to Condition 66.5.

It is noted that the Commissioners' recommendation report makes various references to Auckland Transport (**AT**) as the requiring authority. While AT originally gave notice of the requirement to alter the designations in September 2016, you will be aware that responsibility for the CRL project has since changed hands from AT to CRL. CRL was approved as a requiring authority for the purposes of the project in August 2017, and responsibility for the six CRL designations was subsequently transferred from AT to CRL. This decision is being given by CRL and relates to designations 2500-2, 2500-4, 2500-5 and 2500-6 in the Unitary Plan.

Please be advised that, in accordance with section 172(1) of the Resource Management Act 1991 (**RMA**), CRL accepts (in part) and rejects (in part) the recommendation of the Independent Commissioners dated 29 June 2018.



The rejection (in part) relates to Condition 66.5, which the Commissioners have recommended be amended to read:

*“66.5 Without derogating from the standards set out in Condition 63.1 relating to TV/Recording Studios, and for the purpose of monitoring the effects of vibration on camera shake, the vibration arising from train pass-bys shall at all times comply with a vibration limit of 1m/s<sup>2</sup> between 5Hz and 500Hz when measured on the floor of the MediaWorks Filming Studios.*

*For the avoidance of doubt, in case of any ambiguity or uncertainty, the provisions of Condition 63.1 shall prevail.”* [at paragraph 65 of the Commissioners’ recommendation report]

CRLI proposes to confirm Condition 66.5 in the following amended form:

66.5 ~~Without derogating from the standards~~ In addition to compliance with the criteria set out in Condition 63.1 relating to TV/Recording Studios, and for the purpose of monitoring the effects of vibration on camera shake, the vibration arising from train pass-bys shall at all times comply with a vibration limit of 1m/s<sup>2</sup> between 5Hz and 500Hz when measured on the floor of the MediaWorks F ilming S tudios.

~~For the avoidance of doubt, in case of any ambiguity or uncertainty, the provisions of Condition 63.1 shall prevail.~~

In accordance with section 172(3) of the RMA, CRLI’s reasons for rejecting the Commissioners’ recommendation in relation to the wording of Condition 66.5 are set out below.

The Commissioners’ report explains that Council officers had questioned the need for Condition 66.5 in addition to Condition 63.1, because the latter condition already sets (lower) operational rail vibration limits that are not to be exceeded. Council officers were also of the opinion that having two separate conditions that prescribe different criteria will give rise to confusion in terms of future interpretation and implementation of the CRLI designation conditions.

Quoting the officers advice, the Commissioners’ report (at paragraph 51) states that *“if Condition 66.5 does remain, then the wording of that condition needs to make it clear that it applies in addition to the criteria for TV/Recording Studios in Condition 63.1 and, in particular, does not supersede or set a higher, different or more permissive standard than Condition 63.1”*. On this basis the Commissioners have recommended the revised wording for Condition 66.5 as quoted above.

CRLI understands that Conditions 63.1 and 66.5 are addressing different types of vibration effects, and that both conditions equally apply in relation to MediaWorks. The criteria in Condition 63.1 relate to human response to vibration, and are applicable not only to MediaWorks but TV/Recording Studios in general. The additional controls in Condition 66.5 relate specifically to MediaWorks and address potential vibration effects on camera equipment.

On this basis CRLI considers that:

- (i) Its proposed alternative wording *“In addition to compliance with the criteria set out in Condition 63.1 . . . .”* is clearer and more correct than the Commissioners’ recommended wording *“Without derogating from the standards set out in Condition 63.1 . . . .”*; and

- (ii) The Commissioners' recommended additional clause at the end of Condition 66.5 - "*For the avoidance of doubt, in case of any ambiguity or uncertainty, the provisions of Condition 63.1 shall prevail*" – is incorrect. Conditions 63.1 and 66.5 equally apply.

As a further minor amendment, CRL considers that the phrase "*MediaWorks Filming Studios*" in Condition 66.5 should be in lower case, because upper case implies that this is a 'defined term' in the DEFINITIONS section of the CRL designation conditions. While the conditions specifically define '*MediaWorks*', '*MediaWorks site*', '*MediaWorks buildings*', and '*Studio 1*' in relation to MediaWorks, they do not include a definition for '*MediaWorks Filming Studios*'.

Apart from the further amendment of Condition 66.5, CRL otherwise accepts the Independent Commissioners' recommendation.

The amended set of conditions which CRL proposes to confirm for CRL Designations 2500-2, 2500-4, 2500-5, and 2500-6 in the Auckland Unitary Plan (Operative in Part) are attached (**Attachment 1**). In this regard we note that Condition 63 is not being altered in relation to CRL Designation 2500-1, and in amending the Unitary Plan it will be necessary to retain the pre-existing Conditions 63.1 to 63.4 in relation to Designation 2500-1.

CRL anticipates that Auckland Council will notify MediaWorks and directly affected landowners/occupiers of the decision as soon as possible.

Yours sincerely



Caroline Beaumont

**General Counsel**

**Attachment 1 – Amended Conditions**

## Attachment 1

### City Rail Link (CRL) Designations 2500-2, 2500-4, 2500-5 and 2500-6 – Definitions, and Conditions 63 and 66

#### DEFINITIONS

MediaWorks buildings

MediaWorks buildings means the buildings located at 2 Flower Street (Lot 2 DP 49561, NA2063/54), 3 Flower Street (Lot 1 DP 84213, NA40B/1323), 40 New North Road (Lot 1 DP 80372, NA37A/545), 44 New North Road (Lot 4 Section 3 Deeds Plan 45 (Blue), NA557/190), 46-48 New North Road (Pt Lot 5 Section 3 Deeds Plan 45 (Blue), NA557/144), and 52 New North Road (Lot 1 DP 60771, NA15C/727).

Studio 1

Studio 1 means the main broadcasting studio at the MediaWorks building at 3 Flower Street as shown on Diagram 1.

#### Operational Rail Vibration

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 existing at the time of lodgement of the CRL NoR:

Building Type	Vibration Criteria Velocity <sup>3</sup> (mm/s)	Reradiated Noise Criteria (dB L <sub>ASmax</sub> re: 20 µPa)
Commercial uses with primarily daytime use <sup>1</sup>	0.14	40
Residences and buildings where people normally sleep	0.1	35
Auditoria/Theatres <sup>2</sup>	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

63.2 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 0.21 mm/s and 50 dB L<sub>ASmax</sub> 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 and 63.2 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 or before 6.00am.

63.5 Subject to Condition 66.4 in the case of MediaWorks, 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*.

## Attachment 1

### Operational Noise and Vibration Management – MediaWorks

- 66.1 At least six months prior to the opening of the CRL, the Requiring Authority shall provide a report from a suitably qualified noise and vibration expert to Auckland Council's Compliance Monitoring Manager and to MediaWorks. The report shall confirm the trackform mitigation applied to the project has been designed to ensure that operational noise and vibration will not exceed the levels as set out in Conditions 63.1, 63.2 and 66.5.
- 66.2 The Requiring Authority shall implement continuous vibration monitoring on the tunnel structure on the East Link Down Main line within 20m of the closest point of the CRL tunnel to Studio 1 to determine compliance with Conditions 63.1 and 63.2 during the operation of the CRL (but only for so long as MediaWorks remains located at the MediaWorks site). The monitoring regime shall:
- (a) Be based on measurements with an upper frequency limit of 500 Hz; Note: The upper monitored frequency band of 500Hz reflects the supplier's permissible criteria specified for the equipment operated by MediaWorks.
  - (b) Ensure that measurement equipment and signal chain complies with the manufacturers guidelines for accuracy and calibration;
  - (c) Capture every train pass-by on the line which may be triggered by vibration level radio frequency tag, interrupted beam or any other practicable triggering method;
  - (d) Ensure the retention of the RMS data for every train pass-by on the line;
  - (e) Ensure the transmission of RMS data for every train pass-by to the Requiring Authority at an interval not exceeding 48 hours between data uploads to enable records to be viewed and interrogated as required without requiring access to the monitoring location;
  - (f) Ensure that the Requiring Authority, Auckland Council's Compliance Monitoring Manager and MediaWorks are alerted to RMS values exceeding a value at the tunnel monitoring location that corresponds to 90% of the limits specified in Condition 63.1 for TV/Recording Studios to enable the Requiring Authority to instigate preventative maintenance of tracks and rolling stock with the aim of avoiding exceedances of the noise and vibration limits at the MediaWorks buildings.
- The ONVMP required by Condition 65 shall set out the method for determining the transfer function between the tunnel monitoring location and the floor of Studio 1, and what the vibration trigger level is (based on measurements on the tunnel structure) for investigation and corrective action measures relative to Condition 66.2(f) above. The transfer function shall be accurately determined prior to the railway becoming operational using the tunnel monitoring location and the floor of Studio 1.
- 66.3 Conditions 63.1, 63.2 and 66.5 shall be complied with at the MediaWorks buildings for so long as MediaWorks remains located at the MediaWorks site.
- 66.4 Noise shall be measured in accordance with the requirements of NZS6801:2008 Acoustics - Measurement of Environmental Sound. Vibration shall be measured in accordance with the requirements of section 5.2.3 of BS6472-1:2008 *Guide to evaluation of human exposure to vibration in buildings*, except that all references to people, persons and body in that clause shall apply to equipment as well.
- 66.5 In addition to compliance with the criteria set out in Condition 63.1 relating to TV/Recording Studios, and for the purpose of monitoring the effects of vibration on camera shake, the vibration arising from train pass-bys shall at all times comply with a vibration limit of  $1\text{m/s}^2$  between 5Hz and 500Hz when measured on the floor of the MediaWorks filming studios.

## **Attachment 1**

66.6 In the event of any exceedance of any noise or vibration limit in Conditions 63.1 and 63.2 during Sensitive Times (as defined in Condition 35.1) measures to reduce the noise or vibration below the relevant limit in Condition 63 shall be implemented as soon as reasonably practicable.

**Condition Number 63: Operational Rail Vibration  
Designation 1, 2, 4 and 6**

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 existing at the time of lodgement of the CRL NoR:

Building Type	Vibration Criteria Velocity <sup>3</sup> (mm/s)	Reradiated Noise Criteria (dB L <sub>ASmax</sub> re: 20 µPa)
Commercial uses with primarily daytime use <sup>1</sup>	0.14	40
Residences and buildings where people normally sleep	0.1	35
Auditoria/Theatres <sup>2</sup>	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.

63.2 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 0.21 mm/s and 50 dB L<sub>ASmax</sub> 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 and 63.2 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 or before 6.00am.

63.5 Subject to Condition 66.4 in the case of MediaWorks, 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*.

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 existing at the time of lodgement of the CRL NoR:

<u>Building Type</u>	<u>Vibration Criteria PPV (mm/s)</u>	<u>Reradiated Noise Criteria (dB L<sub>ASmax</sub> re: 20 µPa)</u>
<u>Commercial uses with primarily daytime use<sup>1</sup></u>	<u>0.2</u>	<u>40</u>
<u>Residences and buildings where people normally sleep</u>	<u>0.15</u>	<u>35</u>



<u>Auditoria/Theatres<sup>2</sup></u>	<u>0.1</u>	<u>30</u>
<u>TV/Recording Studios</u>	<u>0.06</u>	<u>25</u>

Notes:

1. Such as offices, businesses, churches, schools, universities and libraries.
2. This includes Albert Street District Court.

63.2 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 0.3 mm/s PPV and 50 dB L<sub>ASmax</sub> respectively.

63.3 For the avoidance of doubt 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 shall be achieved for at least 95% of any 20 consecutive train pass-by 'events'.

**Condition Number 63A: Operational Rail Vibration Designations 2, 4, 5 and 6**

63A.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 existing at the time of lodgement of the CRL NoR:

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

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.

63A.2 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 0.21 mm/s and 50 dB L<sub>ASmax</sub> respectively.

63A.3 For the avoidance of doubt the Project Criteria in Conditions 63A.1 and 63A.2 do not apply to the North Auckland Line and Britomart Designations.

63A.4 When assessing operational rail vibration and reradiated noise, compliance with Conditions 63A.1 and 63A.2 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 activities are undertaken after 11.30pm or before 6.00am.

63A.5 Subject to Condition 66.4 in the case of MediaWorks, 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.

**Condition Number 66: Operational Noise and Vibration Management – MediaWorks  
Designation 6**

- 66.1 At least six months prior to the opening of the CRL, the Requiring Authority shall provide a report from a suitably qualified noise and vibration expert to Auckland Council's Compliance Monitoring Manager and to MediaWorks. The report shall confirm the track form mitigation applied to the project has been designed to ensure that operational noise and vibration will not exceed the levels as set out in Conditions 63A.1, 63A.2 and 66.5.
- 66.2 The Requiring Authority shall implement continuous vibration monitoring on the tunnel structure on the East Link Down Main line within 20m of the closest point of the CRL tunnel to Studio 1 to determine compliance with Conditions 63A.1 and 63A.2 during the operation of the CRL (but only for so long as MediaWorks remains located at the MediaWorks site). The monitoring regime shall:
- (a) Be based on measurements with an upper frequency limit of 500 Hz; Note: The upper monitored frequency band of 500Hz reflects the supplier's permissible criteria specified for the equipment operated by MediaWorks.
  - (b) Ensure that measurement equipment and signal chain complies with the manufacturers guidelines for accuracy and calibration;
  - (c) Capture every train pass-by on the line which may be triggered by vibration level radio frequency tag, interrupted beam or any other practicable triggering method;
  - (d) Ensure the retention of the RMS data for every train pass-by on the line;
  - (e) Ensure the transmission of RMS data for every train pass-by to the Requiring Authority at an interval not exceeding 48 hours between data uploads to enable records to be viewed and interrogated as required without requiring access to the monitoring location;
  - (f) Ensure that the Requiring Authority, Auckland Council's Compliance Monitoring Manager and MediaWorks are alerted to RMS values exceeding a value at the tunnel monitoring location that corresponds to 90% of the limits specified in Condition 63.1 for TV/Recording Studios to enable the Requiring Authority to instigate preventative maintenance of tracks and rolling stock with the aim of avoiding exceedances of the noise and vibration limits at the MediaWorks buildings.
- The ONVMP required by Condition 65 shall set out the method for determining the transfer function between the tunnel monitoring location and the floor of Studio 1, and what the vibration trigger level is (based on measurements on the tunnel structure) for investigation and corrective action measures relative to Condition 66.2(f) above. The transfer function shall be accurately determined prior to the railway becoming operational using the tunnel monitoring location and the floor of Studio 1.
- 66.3 Conditions 63A.1, 63A.2 and 66.5 shall be complied with at the MediaWorks buildings for so long as MediaWorks remains located at the MediaWorks site.
- 66.4 Noise shall be measured in accordance with the requirements of NZS6801:2008 Acoustics - Measurement of Environmental Sound. Vibration shall be measured in accordance with the requirements of section 5.2.3 of BS6472-1:2008 Guide to evaluation of human exposure to vibration in buildings, except that all references to people, persons and body in that clause shall apply to equipment as well.

- 66.5 In addition to compliance with the criteria set out in Condition 63A.1 relating to TV/Recording Studios, and for the purpose of monitoring the effects of vibration on camera shake, the vibration arising from train pass-bys shall at all times comply with a vibration limit of  $1\text{m/s}^2$  between 5Hz and 500Hz when measured on the floor of the MediaWorks ~~F~~Filming ~~S~~Studios.
- 66.6 In the event of any exceedance of any noise or vibration limit in Conditions 63A.1 and 63A.2 during Sensitive Times (as defined in Condition 35.1) measures to reduce the noise or vibration below the relevant limit in Condition 63 shall be implemented as soon as reasonably practicable.