



WHANGAREI  
DISTRICT COUNCIL

A yellow and grey Volvo tractor with a pallet fork attachment is positioned on a construction site. The tractor has 'Fulton Hogan' and 'VOLVO' branding. A license plate 'DMD653' is visible. In the background, there are residential houses with tiled roofs, trees, and a clear blue sky. A traffic cone is visible near the tractor.

# NOISE AND VIBRATION (NAV) – PLAN CHANGE 110

## SECTION 32 - SUMMARY GUIDE

## 1. INTRODUCTION

Whangarei District Council is undertaking a 10 year rolling review of the District Plan. As part of this process Council is proposing a plan change to undertake a comprehensive review of noise and vibration provision in the District Plan. The proposed provisions apply district wide and develop one single chapter for noise and vibration provisions in the District Plan.

This is your opportunity to make a formal submission. This document summarises what is contained in the full plan change analysis document which is available on request. Should you have any questions please feel free to contact Council.

**SUBMISSIONS ON PLAN CHANGE 110 – NOISE AND VIBRATION CLOSE AT 4PM ON  
TUESDAY 3 FEBRUARY 2015.**

### DISCLAIMER

This is a summary guide only and does not contain the details of all changes proposed to the District Plan. Copies of the proposed Plan Changes are available on request.

## 2. WHY IS THE COUNCIL DOING THIS?

Under Section 79 of the Resource Management Act 1991 Councils are required to review their District Plans within a 10 year time period. The Whangarei District Plan became operative on 3 May 2007 and subsequent monitoring has identified areas of inconsistency and ineffectiveness. To improve the integrity of the District Plan, a rolling review process has been implemented which has resulted in the introduction of a policy-led approach incorporating policy at a district wide, geographical, locality or neighbourhood context.

Noise has the potential to cause adverse effects, depending on a number of factors including frequency, timing, volume and the type of noise. Disturbance of sleep is often the greatest complaint in relation to noise, however other adverse effects include general nuisance, psychological and chronic health effects, interference with speech communication and interference with learning processes, thinking and education. The World Health Organisation (WHO) guidelines for community noise recommend that levels of 30-35 LAeq are required in bedrooms to protect sleep disturbance and 35-40 LAeq in other habitable spaces to protect indoor amenity.

Background research showed that the District Plan's current approach to noise and vibration is disjointed and outdated. The District Plan references superseded New Zealand standards and noise terminology that is no longer consistent with national and international best practice. Research has shown that there are issues with noise in interface areas between various Environments, with the majority of the 93 District Plan noise complaints received over the last 3 years coming from within the Whangarei urban area involving noise emitted from Business Environments being received in Living Environments.

NOISE COMPLAINTS IN THE WHANGAREI DISTRICT		
Year	Complaints relating to industrial/commercial activities assessed against noise rules in district plan	Complaints relating to domestic noise (primarily stereos/parties) assessed under section 326 of RMA (excessive noise)
2011	45	3635
2012	28	3328
2013	20	3423
Average	31	3462

Plan Change 110 seeks to introduce objectives, policies and rules for noise and vibration at a district wide level that are consistent with best practice, and that uphold what is required for the health and safety of people and communities, and the amenity values of the Environment in which they are located.

## 3. PROPOSED PLAN CHANGE 110 – NOISE AND VIBRATION

### 3.1 WHAT IS PROPOSED PLAN CHANGE 110?

Plan Change 110 proposes to insert a new chapter in the District Plan entitled “NAV Noise and Vibration” and incorporate consequential amendments such as the removal of existing noise rules and the insertion of new definitions as required. The provisions were developed based on the findings of an expert noise report prepared by Marshall Day Noise Consultant – Peter Ibbotson (“The Marshall Day Report”).

Two objectives have been developed for the Plan Change:

1. To enable a mix of activities to occur in various Environments, while ensuring that noise and vibration is maintained at acceptable levels for the health and safety of people and communities, and for the amenity and character of the Environment in which they are located.
2. To ensure that activities that demand a high level of acoustic and vibration amenity do not unduly compromise the ability of other activities to operate.

Key features of the Plan Change are:

- Updates to noise standards and terminology to make the District Plan consistent with national and international best practice.
- Slight increase in noise limits for the Living 1, 2, 3, Countryside, Coastal Countryside, Urban Transition and Open Space Environments.
- Decrease night time noise limits in Business 1, 2, 3 and Town Basin Environments.
- Incorporate a sound insulation requirement for bedrooms in residential units within the Business 1, 2, 3 and Town Basin Environments.
- Establish different noise limits for interface areas between Business and Living Environments.
- Inclusion of noise provisions for other activities that are currently not adequately provided for in the District Plan.
- Reference to NZS 6806: 2010 “Acoustics – Road-traffic noise – New and altered roads



**Living 1, 2 and 3 Environments:**

Daytime:	45 dBA $L_{10}$	»	50 dB $L_{Aeq}$
Night:	35 dBA $L_{10}$ and 60 dBA $L_{max}$	»	40 dB $L_{Aeq}$ and 70 dBA $L_{AFmax}$

**Open Space Environment**

Daytime:	50 dBA $L_{10}$	»	55 dB $L_{Aeq}$
Night:	35 dBA $L_{10}$ and 60 dBA $L_{max}$	»	40 dB $L_{Aeq}$ 70 dBA $L_{AFmax}$

**Countryside, Urban Transition Environment and Coastal Countryside Environment**

Daytime:	50 dBA $L_{10}$	»	50 dB $L_{Aeq}$ (CCE & UTE) 55 dB $L_{Aeq}$ (CE)
Night:	35 dBA $L_{10}$ and 60 dBA $L_{max}$	»	40 dB $L_{Aeq}$ 70 dBA $L_{AFmax}$

Maintaining the current noise limits and removing noise limits in these Environments entirely were assessed as possible alternatives to this option. Overall increasing the noise limits was deemed the most appropriate option as the higher noise limits are consistent with what is a reasonable level of noise in residential areas and strike a more appropriate balance between the needs of land users and sensitive receivers while still providing for the relatively high level of amenity required by existing District Plan objectives and policies

**4.3 BUSINESS 1, 2, 3 AND TOWN BASIN ENVIRONMENTS**

The Marshall Day Report highlights that the existing night time noise limit across these Environments is too lenient considering that residential units are permitted in each Environment. While there are few residential units currently, the viability of these Environments for business should be protected from the potential development of residential units. Where bars and nightspots are located near residential units, noise complaints are endemic. An internal noise limit below 30dB LAeq (15min) is considered suitable environment for sleep, with higher levels causing potential sleep disturbance. Accordingly the Marshall Day report has recommended:

- Changes to the night time noise limit across all of these Environments. This includes an extension of the daytime period until 12am in the Business 1 Environment on Friday and Saturday nights to allow for higher night time activity on these nights in the CBD.
- Sound insulation requirement/internal noise limit for bedrooms in new/altered residential units in these Environments.

Five options were evaluated to address the issues relating to the development of residential unit in these Environments:

1. Status quo – maintain existing provisions.
2. Prohibit Residential Units – include new provisions totally prohibiting residential activities and other activities where sleep disturbance is possible.

3. Entertainment Precinct – designate an entertainment precinct in the Business 1 Environment where activities where sleep disturbance is possible are prohibited, elevated night time limits would apply and a non-residential buffer between the precinct and adjacent mixed use / living areas.
4. Education and Publicity – use education and publicity to encourage property owners to voluntarily insulate their bedrooms in residential units.
5. Marshall Day Recommendations – change night time noise limits and implement sound insulation requirement for bedrooms.

Overall option 5 was deemed the most appropriate as it represents the most efficient and effective way to achieve the intent of the proposed objectives. The sound insulation requirements will help achieve acceptable levels of noise required to avoid sleep disturbance in residential units. Furthermore the proposed provisions will allow high noise generating activities to occur at night, particularly on Friday and Saturday nights, with a decreased likelihood of noise complaints from residential activities.

#### 4.4 NOISE BETWEEN ENVIRONMENTS

The District Plan has historically applied less stringent noise rules between Business Environments and Living Environments than it has between adjacent properties within the Living Environments. This is common for District Plans throughout New Zealand as it is intended to recognise that there is likely to be a reduced level of amenity for residents who live adjacent to business areas. Likewise business activities operating on the periphery of a Living Environment are usually required to comply with a more stringent limit than other business activities, but more liberal than that that would apply within the Living Environments. The Marshall Day Report has recommended that the following noise limits be applied between the various environments:

- Business 2, 4 and Marsden Point Port: noise emitted from sites within these Environments measured at the boundary of certain Environments (full list page 38) should be subject to daytime noise rules of 55 dB LAeq. During the night-time, a noise limit of 45 dB LAeq and 75 dB LAFmax should apply.
- All other Business Environments: activities would need to meet the relevant proposed Living Environment noise rules.

This option was assessed against the status quo. Overall it was deemed that the Marshall Day recommendations were the most efficient and effective option because they promote a balanced approach that ensure that noise levels are reasonable for amenity values and health and safety while allowing the ongoing operation of appropriate business activities located adjacent to interface areas.

#### 4.5 OTHER ACTIVITIES

Further provisions are suggested for a number of other activities such as construction noise, peak sound levels from explosives, temporary military training activities, shooting ranges, vibration, wind turbines and wind farms, helicopter landing areas, bird scaring devices, emergency generator testing and frost fans. These provisions generally reference the most recent / relevant New Zealand Standard



and have been included to ensure that noise and vibration from these activities is measured and managed in accordance with best practice.

Overall this option was deemed the most appropriate over the status quo because it will ensure that a number of other activities can operate within the District without unduly impacting on the amenity and character of the environment and the health and safety of people and communities.

#### 4.6 ROAD TRAFFIC NOISE

Road traffic noise from new or altered roads in New Zealand is generally controlled through NZS 6806: 2010 “Acoustics – Road-traffic noise – New and altered roads”. The Standard provides a guideline for appropriate levels of noise near new or altered roads and is accordingly recommended to be formally referred to in the District Plan.

The Marshall Day Report had proposed acoustic insulation requirements for new noise sensitive activities adjacent to moderate and high traffic routes. More specifically the report proposed that new noise sensitive activities constructed within 80 metres of any high noise route and 40 metres of any moderate noise route would be required to achieve the following indoor sound levels:

- i. Sleeping areas: 35 dB  $L_{Aeq}(24 \text{ hr})$
- ii. Other habitable rooms: 40 dB  $L_{Aeq}(24 \text{ hr})$

Four options have been identified and analysed against the Marshall Day recommendations:

1. Status quo – maintain existing provisions.
2. Prohibit Residential Units – prohibiting noise sensitive activities within setbacks.
3. Education and Publicity – use education and publicity to encourage property owners to voluntarily insulate their bedrooms in residential units.
4. Marshall Day Recommendations – impose an acoustic insulation requirement on new noise sensitive activities within identified setbacks from moderate, high and forestry noise routes.

Overall after careful consideration it was concluded that option 1 maintaining the status quo is the most appropriate option. This conclusion is drawn from comparison with the other options identified. While noise sensitive activities would continue to be subject to road noise, it is noted that there are no recorded complaints from residents regarding noise from the normal operation of existing busy roads to justify a measureable reverse sensitivity effect. Furthermore the majority of areas within 40-80 metres of identified roads experiencing traffic levels in excess of 5000 movements per day are already developed. This coupled with an inability to acoustically insulate existing buildings, and the significant financial cost of acoustic insulation will result in ad hoc uptake of acoustic insulation.



## 4.7 OVERALL SUMMARY

The following table considers the overall environmental, social, cultural and economic effects of the proposed Plan Change.

Type of Effect	Positive	Adverse
Environmental	<ul style="list-style-type: none"> <li>Increased noise limits would allow greater provision for activities appropriate for amenity and character to operate in the Environments. This would result in the greater provision of services without compromising the existing character and amenity elements in the local environment.</li> <li>The lesser night time limit will help address potential sleep disturbance for existing and future residential units in the Business and Town Basin Environments, while the extended daytime period until 12am on Friday and Saturday will account for the operation of bars and restaurants on what are traditionally their busiest nights. This would maintain the ability of the CBD to provide a vibrant inner city night life while allowing greater provision for a truly mixed use environment and the benefits it brings from an urban design perspective.</li> </ul>	<ul style="list-style-type: none"> <li>Increased noise limits have the potential to affect the amenity and character of the local environment. However it is noted that the Marshall Day Report assesses that the proposed noise limits will still provide for a reasonable level of amenity consistent with what exists / anticipated for the various Environments where increases are proposed.</li> </ul>
Social	<ul style="list-style-type: none"> <li>Increased confidence that noise and vibration will be measured in accordance with national / international best practice</li> <li>Simplification of the District Plan noise and vibration provisions into one district wide chapter will improve usability of the Plan.</li> <li>Enhanced indoor acoustic privacy/ amenity for new or altered noise sensitive land uses so that sleep is not disturbed by high noise generating activities during the night. Further health risks associated with exposure to high levels of noise are also reduced.</li> <li>People living in well insulated homes tend to have fewer sick days and fewer trips to the doctor. The health risks associated with exposure to high levels of noise are also reduced.</li> </ul>	<ul style="list-style-type: none"> <li>Initial uncertainty as to how the new standards / terminology are different and how to apply them.</li> <li>The economic cost of insulating bedrooms indicated above could discourage people from purchasing / establishing residential units in the Business and Town Basin Environments. Like options 2 and 3 this would affect the ability of the inner city to operate as a truly mixed use environment.</li> <li>The economic cost could also create equity concerns, whereby people from lower socio-economic demographics would be priced out of living in the inner city by an inability to provide affordable housing.</li> </ul>
Cultural	<ul style="list-style-type: none"> <li>No anticipated cultural benefits or costs</li> </ul>	

Type of Effect	Positive	Adverse
Economic	<ul style="list-style-type: none"> <li>• Increased noise limits more akin to existing ambient noise levels in the Living and Open Space Environments, will provide greater scope for appropriate land use activities to operate and will result in reduced monitoring and compliance costs.</li> <li>• Appropriate noise limits will allow appropriate permanent rural and non-rural activities to operate in rural environments. This could lead to increases in productivity, wealth creation and potential employment opportunities.</li> <li>• Appropriately insulated bedrooms in residential units in the Business and Town Basin Environments would result in a reduction in the likelihood of noise complaints against high noise generating night time activities (bars and restaurants). This will allow such activities to operate without the threat of complaints, thus maintaining income and employment opportunities associated with the continued operation of the business activities.</li> <li>• Insulating a building to reduce noise produces small benefits in reducing heat loss and the cost of heating or cooling the building.</li> <li>• Additional economic benefits may be realised when the residential unit is sold. It is expected that well insulated residential units will sell at a higher price than poorly insulated noise sensitive land uses in the same area, where sleep disturbance and a lower quality of life will have a negative impact on the value of the property.</li> </ul>	<ul style="list-style-type: none"> <li>• There is potential that there would be financial costs associated with Council having to monitor and respond to increased noise complaints as a result of increased noise limits.</li> <li>• There would be a cost to developers / owners for complying with sound insulation requirements. The costs to achieve adequate noise insulation to meet the proposed requirements are estimated at 1-8% of the total cost of construction for a new building, depending on the method and the amount of noise insulation required to comply with established internal noise levels. Table D4 of NZS 6806 2010 (Acoustics – road traffic noise – new and altered roads) has indicative 2008 costs for noise barriers, acoustic insulation and ventilation systems for buildings exposed to high levels of noise. While this standard is specifically relevant to road traffic noise it is considered that the figures contained within can also be applied to the current situation. For instance Table D4 estimates that acoustic insulation (double glazing, floor ceiling and wall cladding/fill/lining door seals etc. costs approximately \$15,000 per unit and ventilation systems cost approximately \$10,000 per unit.</li> </ul>

## 5. FURTHER INFORMATION

### 5.1 WHERE CAN YOU GET MORE INFORMATION AND MAKE A SUBMISSION?

You can obtain more information about Proposed Plan Change 110 NAV - Noise and Vibration and how to make a submission from:

- Whangarei District Council's Customer Services counter at Forum North, Rust Avenue, Whangarei.
- Ruakaka Service Centre, Takutai Place, Ruakaka.
- Whangarei Public Library, Rust Avenue, Whangarei.
- Kamo Public Library, Kamo Road, Whangarei.
- Onerahi Public Library, Commins Road, Onerahi.
- Tikipunga Community Library, 83 Paramount Parade, Tikipunga.
- Our website: [www.wdc.govt.nz](http://www.wdc.govt.nz)

Anyone can make a submission on this proposal by sending a written submission to the Council using one of the options outlined below:

**Post to:** Whangarei District Council, Policy and Monitoring Division, Private Bag 9023, Whangarei 0148 (Fax: 09 438 7632),

**Deliver to:** Whangarei District Council's Customer Services counter Forum North, Rust Avenue, Whangarei

**Electronically:** On our website <http://www.wdc.govt.nz/submissions>

Submission forms are available from Whangarei District Council's Customer Services counter at Forum North, Rust Avenue, Whangarei and Ruakaka Service Centre. The submission must be dated, signed by you, and include the following information:

1. Your name, postal address, telephone number and fax number, email address (if applicable);
2. Details of the Plan Change in respect of which you are making the submission;
3. Whether you support or oppose the Plan Change;
4. Your submission, with reasons;
5. The decision you wish the Council to make;
6. Whether you wish to be heard in support of your submission; and
7. If you would consider making a joint presentation at a Council hearing with others who have lodged similar submissions to your own.

**SUBMISSIONS ON PLAN CHANGE 110 – NOISE AND VIBRATION CLOSE AT 4PM ON TUESDAY 3 FEBRUARY 2015.**



**WHANGAREI  
DISTRICT COUNCIL**

Forum North, Rust Avenue, Private Bag 9023, Whangarei 0148

PHONE: +64 9 430 4200 | FAX: +64 9 438 7632

EMAIL: [mailroom@wdc.govt.nz](mailto:mailroom@wdc.govt.nz) | WEBSITE: [www.wdc.govt.nz](http://www.wdc.govt.nz)