

## APPENDIX TWO

### SECTION 32 REPORT - PROPOSED DISTRICT PLAN CHANGE 49 AND VARIATION 3 - PORT NOISE EMISSION LEVELS AND BUILDING INSULATION RULES

#### 1. Introduction

The purpose of the Resource Management Act 1991 (the Act) is to promote the sustainable management of natural and physical resources. This places a responsibility on the Council to ensure the noise environment is managed in the most sustainable way possible and that any adverse effects of noise generating activities are avoided, remedied or mitigated. The District Plan is the primary vehicle available to the City Council to achieve the purpose of the Act.

In addition, Section 16 of the Act (Duty to avoid unreasonable noise) also places a general duty on all people to adopt the best practicable option to ensure noise emitted from any site does not exceed a reasonable level.

Proposed District Plan Change 49 focuses on managing noise from port related activities within the Operational Port Area. The District Plan provides for the management of noise through objectives, policies and rules. No alterations are proposed to the existing objectives and policies through this proposed plan change. The proposed plan change is primarily related to the methods used to achieve the existing objectives and policies for management of noise from port related activities. Some further explanation to the policies is added to clarify the proposed approach to managing port noise.

Before publicly notifying a proposed district plan change, the Council is required to prepare a Section 32 report which evaluates whether the proposed provisions are the most appropriate means of achieving the purpose of the Resource Management Act 1991. Section 32 also requires the Council to consider whether the policies, rules and other methods used in the District Plan are the most appropriate methods of achieving the Plan's objectives.

As no amendments are being made to the objectives and policies, this assessment focuses on the effectiveness, efficiency and appropriateness of the various options for introducing rules into the District Plan based on the standard for managing port noise and requiring the insulation of buildings accommodating new noise sensitive activities within defined areas.

#### 2. Background

The process which led to the development of this Plan Change has spanned a number of phases over the last six years. The proposed plan change is based on New Zealand Standard "NZS 6809:1999 – Acoustics - Port Noise Management and Land Use Planning" as directed by the Environment Court in 2000 through the Consent Order resolving appeals on the Wellington City Council Proposed District Plan.

### ***Existing provisions***

The Operational Port Area is defined in the Plan as the area extending from the northern boundary of the Lambton Harbour Area in the south to Kaiwharawhara in the north and is bounded by Aotea and Waterloo Quays in the west and the Coastal Marine Area to the east. In addition, the Operational Port Area includes the wharves and adjacent land at Burnham Wharf in Evans Bay.

The current provisions in the District Plan to manage port noise were carried over from the Transitional District Plan. The provisions place restrictions on port noise when received (or measured) in a residentially zoned area. During daytime, the port noise cannot exceed background noise levels by more than 10dBA. At night (between 10.30pm to 6am), the following noise limits apply

- 50dBA L<sub>10</sub> when measured at Sar Street
- 45dBA L<sub>10</sub> when measured in any other residentially zoned area
- Single noise events cannot exceed 75dBA, or background noise plus 30dBA, whichever is lower.

These provisions were based on the generally accepted method for controlling port noise prior to the establishment of NZS 6809:1999 (see below). Noise limits were set based on measurement of the L<sub>10</sub> for day and night-time. Whilst these limits were considered adequate to provide for the reasonable protection of public health and amenity values for noise sensitive activities, they did not necessarily reflect the true day to day operation of the port, which has existing use rights for its operations. In addition, using the L<sub>10</sub> means that noise present for less than 10% of the time was not included in the calculation of the noise levels except at night-time when an L<sub>max</sub> applies.

### ***New Zealand Standard NZS 6809:1999 – Acoustics - Port Noise Management and Land Use Planning***

The Port Noise Management Standard has been developed for use by local authorities in the resource management and regulatory roles and by port operators to facilitate the management of noise from port operations. Port operations include ships at berth, and activities on wharves and other structures within the Coastal Marine Area and on land.

The Standard outlines methods for:

- Identifying land areas subject to current and future port noise
- Setting boundaries to define such land areas
- Imposing land use controls on noise sensitive activities within these boundaries and
- Establishing noise limits to control port noise measures at or beyond these boundaries.

In addition, the Standard includes guidance on the development of a port noise management plan and a 'port noise liaison committee'.

## **3. Development of the Proposed Plan Change Provisions**

### ***Third party agreements***

Wellington Waterfront Ltd licence the use of the wharves in the Lambton Harbour Area to CentrePort. This agreement enables Wellington Waterfront Ltd to limit the nature, type, duration and number of boats that can be berthed in Lambton Harbour.

Through the placement of the Port Noise Control Line, the Proposed Plan Change acknowledges the agreements between Wellington Waterfront Ltd and CentrePort to limit the berthing of ships at specific wharves. In particular, this applies to the Overseas Passenger Terminal.

***Modelling of the existing and predicted port noise***

Modelling of the predicted port noise affected areas was undertaken by Marshall Day for CentrePort and reviewed by Malcolm Hunt Associates Ltd on behalf of the City Council and Greater Wellington. The conclusions of the review were that the methodology and approach were reasonable and consistent with the approach anticipated by NZS 6809:1999. In all areas except the southern port area adjacent to the Lambton Harbour Area, the predicted 65dBA and 55dBA  $L_{dn}$  contour and adjusted Port Noise Control Line were appropriate. However, in the Lambton Harbour Area the review report questions the location of the Port Noise Control Line running along the Quays and proposes a revised control line along Mean High Water Springs (See Diagram 1 attached).

This approach has been adopted in the proposed plan change with the Port Noise Control Line shifting from the boundary proposed in the Marshall Day report to Mean High Water Springs in the vicinity of Johnston Street. In effect, this means that the line has no effect in the District Plan south of Johnston Street and is not shown on the maps.

***Noise Limits***

Limits for noise from port related activities included in the Proposed Plan Change cover both long and short timeframes – these being a 5 day  $L_{dn}$  and 15 minute  $L_{eq}$  noise limits respectively. The 5 day noise measurement is primarily for use by CentrePort to manage compliance with the District Plan provisions. The noise limits for the 15 minute measurements are used to enable compliance and enforcement measurements to be determined over a number of hours rather than over several days.

The limits for noise from port related activities are set at the Port Noise Control Line as compliance at the control boundary will generally ensure compliance at all points beyond the control boundary. Limits set in the Proposed Plan Change generally follow that recommended in NZS 6809:1999 and are set at:

*At any point on land at, or beyond, the Port Noise Control Line activities within the Operational Port Area shall not exceed the following noise levels:*

<b>Time Period</b>	<b>Sound level</b>
Any 5 consecutive 24 hour period	65dBA $L_{dn}$
Any 24 hour period	68dBA $L_{dn}$
10pm to 7am (all days)	60dBA $L_{eq}$ (9 hour) 65dBA $L_{eq}$ (15 minute) 85dBA $L_{max}$

***Acoustic Insulation and ventilation***

In areas subject to higher noise levels (i.e. within the port noise affected areas), the approach used is to specify noise insulation standards for the building envelope rather

than internal noise environments. This is similar to the approach used in the Central Area which has proved reasonable. Higher noise insulation standards are specified within the Port Noise Control Line to address higher levels of noise due to proximity to the port and to address low frequency sounds and other sounds with special tonal characteristics emanating from port operations.

#### ***Noise Management Plan***

The Proposed Plan Change requires the port company to develop a Noise Management Plan in consultation with the City and Regional Councils. The intention of a Noise Management Plan is to identify the potential for noise reduction of operating plant by means of reviewing operations and controlling these to minimise the effects of noise.

NZS6809:1999 also identifies that the Management Plan should include realistic objectives for the management of noise over time, plus outline procedures for monitoring, reporting and reviewing noise from port related activities. The Plan should also specify the system for the receipt, investigation, reporting of and response to any complaints regarding noise from port related activities.

## **4. Consultation**

The development of the port noise rules and preparing the plan change proposal for consideration by Council has been done in partnership with Greater Wellington and CentrePort. Significant pre-consultation with internal and external stakeholders on the form and content of the plan change has been undertaken at a number of stages throughout the development of the plan change provisions. This consultation targeted residential areas surrounding CentrePort in January 2002, March 2005 and July 2006. Consultation has also been carried out at in March 2005 and July 2006 with the developers, owners and operators of commercial premises on the waterfront, residential apartments on the waterfront (July 2006 only).

In addition, consultation, in accordance with the 1<sup>st</sup> Schedule of the Act, has included:

- Ngati Toa & Tenth's Trust (Te Atiawa)
- Ministry for the Environment
- Ministry of Conservation
- Ministry of Transport
- Greater Wellington (Regional Council)
- Wellington Waterfront Ltd
- Wellington International Airport Ltd and
- CentrePort Ltd.

In March 2005, three responses were received from the circulation of pamphlets explaining the proposed plan change. In July 2006, four additional comments were received. These raised issues regarding

- noise from the InterIslander and BlueBridge ferry terminals, particularly that the measurement of sound using dBA does not give sufficient weighting to low frequency sounds which can cause vibrations
- the location of the Port Noise Control Line along the boundary of the Operational Port Area and that it should restrict the ability of the Port to generate noise in excess of 65dBA to the port's site only

- general workings of the rules regime particularly with regard to the impact on existing developments which are phased and with limited phases being consented
- the existing noise environment from the port, motorway and rail yards in the Sar Street area
- noise from bar music in the Lambton Harbour Area and
- reverse sensitivity issues i.e. that the dwellings are required to insulate rather than the noise generators reducing the noise emissions.

In July 2006, in addition to a mail out of pamphlets explaining the provisions and plan change process, meetings were held with Wellington Waterfront Ltd (WWL), CentrePort, Willis Bond Ltd and Wellington International Airport Ltd (WIAL).

Willis Bond made no specific comment at that time and made a presentation to the committee considering the proposed plan change in August 2006. Since this time, Willis Bond and Wellington Waterfront have reached an agreement that limits the use of the Overseas Passenger Terminal to a maximum of five events per year up to a cumulative total of 20 days. These would be for maritime emergencies or events of national importance. CentrePort has indicated its in principle agreement to limit its usage of the OPT to berth ships. This reduces the predicted noise environment and moves OPT into the Outer Noise Affected Area.

WWL had previously been philosophically opposed to the proposed plan change. However, in July 2006, their position had changed and WWL now supported the principles of higher noise insulation requirements however raised concerns regarding the predicted port noise environment in the Lambton Harbour Area. Development and lease agreements for new developments on the Queen's Wharf Outer T and Overseas Passenger Terminal include clauses limiting the types of boats that may berth at these wharves. Generally, WWL considered that these ships would have lower noise emissions than the current environment and providing for a higher noise environment as originally proposed in the plan change provisions was contrary to the objective of creating a high amenity environment and developments on the waterfront.

WIAL raised concerns over the potential inconsistencies between how port noise and airport noise are dealt with in the District Plan if the proposed plan change were adopted.

CentrePort generally support the thrust of the Proposed Plan Change and have been closely involved in the development of the draft provisions. However, CentrePort are concerned that any tightening of the noise control provisions in the Lambton Harbour Area may restrict future port operations and that it has no rights or ability to influence the insulation levels if non-regulatory methods are used for new developments in the Lambton Harbour Area.

As a result of this consultation and further technical advice from the Council's noise consultant, the proposed plan change provisions were amended for the Lambton Harbour Area. The Port Noise Control Line was shifted which removed the requirement for additional noise insulation to 35dBA within the majority of the Lambton Harbour Area for all noise sensitive activities. Any development of noise sensitive activities in the majority of the Lambton Harbour Area must meet the permitted activity acoustic insulation standards in the Central Area.

## 5. Discussion

The District Plan provides for the management of noise generally through the setting of noise emission standards and, in some cases, by constraining certain land uses.

At the airport, for example, the Plan provides guidelines for the operation of aircraft (including a night time curfew) and requires residential buildings to be insulated within a defined airport noise boundary. Similarly, the Plan provides rules requiring residential uses within the Central Area and Te Ara Haukawakawa Precinct (rail yards) to be insulated against the higher noise environment in those areas.

The provisions governing port noise in the District Plan are recognised as being outdated and requiring updating. NZS 6809:1999 – Acoustics - Port Noise Management and Land Use Planning provides an industry wide accepted approach to the management of noise from operational ports.

### *Insulation costs*

A report by Rider Hunt quantity surveyors was commissioned to assess the cost impacts of the additional noise insulation requirements. This followed a similar approach to that used in the Central Area noise insulation plan change. The 35dBA noise insulation standard could be met through a combination of thicker glass, thicker wall linings (gib) and in the case of penthouse apartments or villas, thicker roofing iron.

The cost increases for the various acoustic insulation standards are summarised below:

	Base cost (no additional acoustic insulation)	% increase in cost from base case	
		30dB acoustic insulation	35dB acoustic insulation
Model 1 - Bedroom <i>Mid floor apartment</i>	\$84,000	1.8	4.8
Model 2 - Bedroom <i>Penthouse apartment</i>	\$144,900	5.6	16.1
Model 3 - Villa retrofit 1 bedroom with ensuite extension	\$63,300	12.2	26.5

There are no existing villas in the areas subject to the higher noise insulation standard (35dB) and accordingly the Villa retrofit is not applicable to the potential costs added by the proposed plan change for the Suburban Centre and Central Area chapters of the Plan. As such, the estimated cost increase for the higher noise insulation standard of 35dB ranges from 5% to 16% and the lower noise insulation standard (30dB) is 2% to 12%.

### *Benefits of port noise management*

The main benefits to improving the management of noise from port activities and mitigating its effects is that it would ensure protection against external noise for all

new and proposed noise sensitive activities (including residential developments) in the Port Noise Affected Areas – equating to:

- decreased noise complaints from residents and visitors;
- better health due to decreased incidence of sleep disturbance;
- better amenity for childcare facilities and
- less potential for reverse sensitivity arguments against existing and future port activities.

While the introduction of the rules would result in higher development costs as a result of providing acoustic insulation to mitigate against noise from port related activities, it is considered that the overall benefits outweigh these one-off costs.

## **6. Implementation Options**

### **6.1 Objectives**

Section 32 requires the Council to be satisfied that the objectives of the District Plan are the most appropriate means of achieving the purpose of the RMA. Proposed District Plan Change 49 does not change any of the objectives in the District Plan.

### **6.2 Policies, rules and other methods**

Section 32 also requires the Council to consider whether the policies, rules and other methods used in the District Plan are the most appropriate methods of achieving the Plan's objectives. In terms of managing the effects of activities in the Operational Port Area, the District Plan has adopted a permissive, environmental effects based regime which has been thoroughly considered through the plan preparation, submission and hearing process when the District Plan was originally notified. The plan change is based on the approach developed under NZS 6809:1999 – Acoustics - Port Noise Management and Land Use Planning, which has been through a rigorous development process and was supported by the Environment Court in directing the Council to change the plan to include this approach to managing port noise. For this reason, it is not proposed to reconsider the merits of the Port Noise Management standard, rather the specifics of its application to the port company's activities.

The key issues addressed during the development of the options for the provisions of the plan change were:

- Cross boundary issues – district boundary and Coastal Marine Area
- Activity or area based – managing noise from port operations or the operational port area
- Geographic application – defining the Port Noise Control Line
- Acoustic insulation – insulation levels
- Existing rule regime – Airport and Central Area.

Table 1 below considers the costs and benefits of the three main options considered during the preparation of Proposed District Plan Change 49 for the main port area.

Table 2 below considers the costs and benefits of the three main options considered during the preparation of Proposed District Plan Change 49 for the Burnham Wharf Area.

Port activities occur in the Coastal Marine Area and on the land and consequently noise from port activities can occur in the Coastal Marine Area and on land. The Environment Court has considered the issue of port noise and cross boundary issues in its decision on Carey's Bay<sup>1</sup>. The Court makes three conclusions regarding noise mitigation which were:

1. a territorial authority cannot seek to control (indirectly or directly) the source of noise generated outside its district (i.e. in the Coastal Marine Area)
2. a territorial authority may take into account noise generated outside its district when imposing noise mitigation measures within its district
3. such measures can only address effects created in the district or mitigate the noise generated from outside the district.

The Carey's Bay decision provides some direction when considering the options above. In effect, the District Plan may take into account noise from all port activities both within the Operational Port Area and the Coastal Marine Area when developing mitigation measures such as the requirement for acoustic insulation. However, it cannot control noise from port operations in the Coastal Marine Area unless specific functions and powers to do so have been transferred from the regional council.

Officers from Greater Wellington have indicated that a combined plan or delegation of all functions and powers to Wellington City Council to manage noise from port activities is unlikely to be supported by the Regional Council. However, discussions are currently underway between officers of the two Councils on the possible transfer of powers for monitoring and enforcement for port noise in and from the Coastal Marine Area from the Regional Council to the City Council. The practical details of enforcement do not affect the wording of the proposed plan change.

## **7. Conclusions**

Option 2 is the preferred approach for the main port area in all chapters of the plan as this is consistent with the directions of the Environment Court and potential future uses of the wharves in the Wellington Waterfront Area. Discussions are ongoing regarding the monitoring and enforcement of the port noise provisions between the regional and city councils.

In the Residential Area, Option C is the preferred approach for the Burnham Wharf area the existing rules managing the effect of airport noise will adequately manage the effects of port noise. In addition, this avoids potential conflict with the existing rule regime around airport noise which specifies an internal noise environment to be achieved and the proposed approach for port noise which specifies the acoustic properties of the building envelope.

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<sup>1</sup> Carey's Bay Association Incorporation v Dunedin City Council (c165/2002)



In Suburban Centres, Option B is the preferred approach for Burnham Wharf to achieve a higher acoustic insulation standard for noise sensitive activities within the Port Noise Control Line.

**Table 1 – Main port area**

<b>Option</b>	<b>Key features</b>	<b>Advantages</b>	<b>Costs and risks</b>
<p>Option 1 – Do nothing, status quo</p> <p><b>This is not the recommended option</b></p>	<ul style="list-style-type: none"> <li>▪ Retain existing provisions in the plan</li> <li>▪ Encourage CentrePort to develop and implement a noise management plan</li> <li>▪ Advocate and provide information for noise insulation or additional noise insulation (above that presently required under Central Area rules)</li> </ul>	<ul style="list-style-type: none"> <li>▪ No costs in terms of time and resources</li> <li>▪ Reduced building costs</li> </ul>	<ul style="list-style-type: none"> <li>▪ No compulsion to improve management of noise from port activities</li> <li>▪ Doesn't meet terms of Consent Order</li> <li>▪ Doesn't address reverse sensitivity, e.g. new residential within port noise affected area, if developers choose not to install noise insulation or additional noise insulation</li> <li>▪ Ports activities subject to complaints</li> <li>▪ Cost to regulatory agencies through investigation of noise complaints</li> </ul>
<p>Option 2 – Implement NZS 6809:1999 – noise from the Operational Port Area and Port Redevelopment Area</p> <p><b>This is the recommended option</b></p>	<ul style="list-style-type: none"> <li>▪ Port noise control line ends at Johnston Street</li> <li>▪ Only noise from port activities in the operational port and port redevelopment areas included in establishing PNCL</li> <li>▪ Provisions amended as a result of pre-notification consultation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Similar thrust of provision in District and Coastal plans</li> <li>▪ District Plan clearly addressing noise from port activities within the district (and on land)</li> <li>▪ Tighter noise envelope for noise from port activities gives greater security for nearby residential activities</li> </ul>	<ul style="list-style-type: none"> <li>▪ PNCL ends south of Johnston Street. Most noise sources relating to port activity are in the Coastal Marine Area and controlled under the Coastal Plan</li> </ul>
<p>Option 3a – Develop an Integrated Plan to manage noise from port activities</p> <p><b>This is not the recommended option</b></p>	<ul style="list-style-type: none"> <li>▪ Combined regional and district document which would address both Coastal Marine Area and land based aspects of port noise management</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provides an integrated approach to noise mitigation and measurement and enforcement of noise emissions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Additional process to create combined plan adds cost</li> <li>▪ One council would have to transfer appropriate delegations to carry out enforcement</li> </ul>
<p>Option 3b – Regional Council transfers all functions and powers to WCC to manage noise from port activities in the Coastal Marine Area</p> <p><b>This is not the recommended option</b></p>	<ul style="list-style-type: none"> <li>▪ District Plan effectively includes the Coastal Plan for port noise activities</li> </ul>	<ul style="list-style-type: none"> <li>▪ Provides an integrated approach to noise mitigation for a measurement and enforcement of a single set of noise emission levels</li> </ul>	<ul style="list-style-type: none"> <li>▪ Special consultative procedure required to transfer functions and powers adds cost</li> </ul>

**Table 2 – Burnham Wharf**

Option	Key features	Advantages	Costs and risks
<p>Option A – Do nothing, status quo</p> <p><b>This is not the recommended option</b></p>	<ul style="list-style-type: none"> <li>▪ Retain existing provisions in the plan</li> <li>▪ Encourage CentrePort to develop and implement a noise management plan</li> <li>▪ Advocate and provide information for noise insulation or additional noise insulation (above that presently required under Central Area rules)</li> </ul>	<ul style="list-style-type: none"> <li>▪ No costs in terms of time and resources</li> <li>▪ Reduced building costs</li> </ul>	<ul style="list-style-type: none"> <li>▪ No compulsion to improve management of noise from port activities</li> <li>▪ Doesn't meet terms of Consent Order</li> <li>▪ Doesn't address reverse sensitivity, e.g. new residential within port noise affected area, if developers choose not to install noise insulation or additional noise insulation</li> </ul>
<p>Option B – Implement a similar regime to manage the effects of noise as proposed for the main port area</p> <p><b>This is not the recommended option for the Suburban Centre Area</b></p>	<ul style="list-style-type: none"> <li>▪ New noise sensitive activities within the Port Noise Control Line are permitted subject to meeting acoustic insulation standard in Suburban Centre and Residential Areas</li> <li>▪ Insulation standards are 35dBA inside the PNCL and 30dBA between this line and the outer boundary of the port noise affected area</li> </ul>	<ul style="list-style-type: none"> <li>▪ Higher noise insulation standard required for inside the PNCL</li> <li>▪ 30dBA noise insulation standard results in similar internal noise environment as airport noise rules in Residential Area.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Potential conflict between Port and Airport noise management rules</li> </ul>
<p>Option C – Rely on the existing airport noise rules to manage the effects of noise in the Residential and Suburban Centre Areas adjacent to Burnham Wharf</p> <p><b>This is the recommended option</b></p>	<ul style="list-style-type: none"> <li>▪ New noise sensitive activities within the 55dBA Port Noise Affected Area and within the Airport Noise Boundary controlled under the Airport Noise rules.</li> <li>▪ Noise insulation is already required to achieved a specified internal noise environment</li> </ul>	<ul style="list-style-type: none"> <li>▪ No conflict between Port and Airport noise management rules for Burnham Wharf area</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lower internal noise environment may result for properties within the 65dBA PNCL</li> <li>▪ Potential for conflict between new noise sensitive activities and the operational port</li> </ul>