

# 21 Environmental Issues

## *Introduction*

The health and wellbeing of people and communities is acknowledged as a worldwide concern by institutions such as the World Health Organisation. This is carried through into the Resource Management Act 1991 where natural and physical resources are to be managed in a way or at a rate which enables people and communities to provide, inter alia, for their health and safety.

Health includes being well in body, mind and spirit, and permeates through the daily life of the community. The Healthy Cities programme is one example of health priorities in urban areas.

There are a series of assumptions and myths that surround the issues relating to the health of people and communities, with perhaps the most strongly held myth being that public health is somebody else's problem.

Water, air quality and waste disposal are critical to the health of people, and particularly when people group together in communities. These matters are dealt with in the Regional Policy Statement of the Otago Regional Council. The water resource is essential to ecosystems, which includes people and communities, and water quality is a critical factor in the sustainable management of that resource. Air is a natural resource shared by the world community. Central government has made commitments to that community that establish a direction for the management of this resource at the national and regional level. Locally, odour, smoke and dust impinge upon the health of people and the community. Waste disposal options that avoid the degradation of the environment are the ultimate solution but are unlikely to be affordable in the foreseeable future. In the meantime, the adverse effects of waste disposal on the environment must be avoided, remedied or mitigated in a way that protects the health of people and communities within the context of the wider environment. The Dunedin City Council has a responsibility under the provisions of the Health Act 1956 to promote and conserve public health within its district. This responsibility requires a council to identify and abate nuisance relating to the functions of the council.

Noise is part of the environment and all activities undertaken give rise to some noise. Different levels and types of noise are associated with different activities, and these are accepted as part of the activities that are undertaken. At times however, either because of its location, duration, frequency, nature or timing, noise can be intrusive or at a level which could be considered excessive. Health research shows that, apart from general annoyance and inconvenience, excessive noise has an adverse effect on health, including heightened stress levels, sleep disturbance and decreased efficiency of the immune system. The concept of psychological and physical wellbeing of people being dependent upon relief from excessive noise needs to be more widely understood.

Three different types of noise can be identified:

- i. Ambient or background noise, which is the general noise that is always present. In some areas this noise comes from birds or animals, in other cases from background traffic noise or from activities associated with urban living. Where ambient noise levels are high, as in some industrial areas, it is inappropriate to establish noise sensitive activities, such as residential uses. Increasing ambient noise levels can become a concern over time, and a threat to acceptable health standards.

- ii. Noise attributable to identifiable activities which can be measured and managed through the District Plan.
- iii. Potential nuisance noise, which in some instances could arise despite there being compliance with District Plan rules. In other cases potential nuisance noise is of a nature which is not readily measured, but still obtrusive or excessive, such as that associated with live low frequency music or mechanical banging and thumping.

Through the District Plan processes it is difficult to manage ambient noise, and frequently action can only be taken by the community itself. Council can assist with guidelines or information on ways to minimise noise, and over time technology may result in equipment which is quieter than before. Similarly, potential noise nuisances require value judgements to determine what is excessive. As a consequence this type of noise is best managed outside of the District Plan process using the Health Act 1956 and through responding to complaints. The nuisance provisions of the Resource Management Act 1991 can be used in extreme cases.

Overall there needs to be a commitment to work towards a quieter environment.

Noise from some activities can be managed by establishing maximum noise limits that must be complied with. In some cases however special techniques must be used:

(a) **Noise associated with aircraft using airports**

The provisions of this District Plan can only apply to the operation of airports, not to aircraft in flight. The Dunedin Airport is the airport for the City and the Otago Region. While the noise created is of limited duration, its character and source requires special techniques to manage it. These management techniques come from a New Zealand Standard providing for noise to be measured over a rolling three month period. The management of noise at Dunedin Airport is by way of a condition on the airport designation.

Taieri Aerodrome is of a different nature and scale to Dunedin Airport and therefore the New Zealand Standard is not applicable. Noise at Taieri Aerodrome can be managed through the use of District Plan rules.

(b) **Noise associated with port activities at Port Chalmers**

Port Chalmers is the major port for the City and the Otago Region. Some of the noise created is constant, such as with refrigeration units, whereas other noise is intermittent, sometimes of a limited duration, but at other times continuous 24 hours a day. This too requires special management techniques including mitigation of the effects of port noise. *[Amended by C41/2004, 6/4/04]*

The Dunedin port area is less frequently used for port operations, and contains predominantly industrial activities. As a consequence it is able to be managed in the same way as other industrial activities and does not require the use of special management techniques.

## 21.1 Significant Resource Management Issues

### Issue 21.1.1

**The availability and quality of the water supplied to people within the City is fundamental to their health and can be compromised by the adverse effects of land use activities or development.**

*Objective:* 21.2.1

*Policies:* 21.3.1, 21.3.2

### Explanation

A variety of sources are used to provide water for the various communities within the City. These include underground bores, water harvest catchments, river extraction and reservoirs. The quantity of the available water can be augmented by on-site storage of rainwater. An acceptable quality of potable water for human consumption is essential to the health of the community. That quality can be compromised by discharges to land, air or water and by the undertaking of activities within water harvest catchments such as the disturbance of land or the removal of vegetation cover.

### Issue 21.1.2

**Land use activities which generate noise may have an adverse effect on the health of people in the City.**

*Objective:* 21.2.2

*Policies:* 21.3.3 - 21.3.5, 21.3.7

### Explanation

Noise associated with land use activities can have adverse effects on health. Addressing this issue involves recognition of locational constraints on activities, the available technology, and an acknowledgment that noise is only one of the factors that degrade amenity values.

### Issue 21.1.3

**Glare from structures, signs, vehicles and lighting has the potential to generate adverse effects which impinge on the health and safety of people and communities, and on amenity values.**

*Objective:* 21.2.3

*Policies:* 21.3.3 - 21.3.5, 21.3.7

### Explanation

Reflections and glare from structures, signs, vehicles and lighting can be an irritation and a nuisance, and detract from the general amenity of an area.

### Issue 21.1.4

**The disposal of wastes and wastewater can have adverse effects on the health and safety of people and communities, and on amenity values.**

*Objective:* 21.2.4

*Policy:* 21.3.6

### Explanation

There are a variety of methods of waste and wastewater disposal. In some instances it will be appropriate to adopt more environmentally acceptable systems and methodologies. Some methods of waste disposal are more acceptable to Kai Tahu than others. The disposal of waste in a manner that has an adverse effect on health, safety and amenity values must be avoided, remedied or mitigated.

### **Issue 21.1.5**

**Aircraft landing and taking off may give rise to high noise levels and other adverse effects.**

*Objective:* 21.2.2

*Policies:* 21.3.3, 21.3.4, 21.3.7

### **Explanation**

Noise arising from the operation of large airports has different characteristics from noise arising from other activities. This is recognised in the way noise associated with the landing and take-off of aircraft is managed at Dunedin Airport through New Zealand Standard NZS 6805:1992. Under the provisions of the Act, this District Plan cannot manage the noise of aircraft in flight, but it is able to consider the effects arising from the operation of airports.

### **Issue 21.1.6**

**Activities can give rise to environmental effects beyond those that may be specifically dealt with by the Dunedin City Council.**

*Objective:* 21.2.5

*Policy:* 21.3.8

### **Explanation**

As part of activities, discharges to air and water can be generated, for example smoke emissions, sewage or stormwater discharges. While it is the Otago Regional Council that has prime responsibility for the management of such discharges, the Act does provide for territorial authorities to have regard to the effects of such discharges when considering resource consents for activities.

### **Issue 21.1.7**

**Adverse effects arise from port activities at Port Chalmers and these impact upon adjoining residential areas.**

*Objective:* 21.2.2

*Policies:* 21.3.3, 21.3.5

### **Explanation**

Port Chalmers is the regional deepwater port. At times the port operates extended hours. Houses are located in close proximity to the operational port area. The nature of noise from port operations, being a combination of constant noise in some areas and intermittent and variable noise in other areas, means that it cannot be managed using traditional techniques.

## 21.2 Objectives

### Objective 21.2.1

**Ensure the sources of potable water are protected.**

*Issue:* 21.1.1

*Policies:* 21.3.1, 21.3.2

### Explanation

Potable water is an essential commodity. Water of poor quality can adversely affect the health of people.

### Objective 21.2.2

**Ensure that noise associated with the development of resources and the carrying out of activities does not affect public health and amenity values.**

*Issues:* 21.1.2, 21.1.5

*Policies:* 21.3.3 - 21.3.5, 21.3.7

### Explanation

Noise arises from a range of activities, including the use and development of resources. Such adverse effects also arise from the activities of people, including recreation and travel by motor vehicle. Where these effects are prolonged or intense, public health can be adversely affected, and the degradation of amenity values can also occur. It is necessary and desirable to avoid noise where public health is compromised and amenity values affected.

Where people undertake activities in areas where amenity can be degraded by noise generated by permitted activities, it may be necessary to require steps to be taken to avoid, remedy or mitigate the impact, for example residential development near noise-generating activities may be required to include noise attenuating measures.

### Objective 21.2.3

**Ensure that the finishing of structures, the construction of signs and the shielding of light sources avoids, remedies or mitigates nuisance glare.**

*Issue:* 21.1.3

*Policies:* 21.3.3 - 21.3.5, 21.3.7

### Explanation

Glare can be a nuisance which detracts from amenity, particularly when it adversely affects residential properties or affects safety in public places. Glare requires some control to manage these effects. Lighting needs to be designed appropriately to ensure health and safety are not adversely affected.

### **Objective 21.2.4**

**Ensure the disposal of wastes is undertaken in a manner that avoids, remedies or mitigates adverse effects on the health and amenity of people and communities within the City, and on their environment.**

*Issue:* 21.1.4

*Policy:* 21.3.6

### **Explanation**

The inappropriate disposal of waste, regardless of whether it is solidwaste, wastewater or stormwater, can detract from the amenity of an area, create health problems and contaminate sites for future generations. Controls are required which recognise and alleviate any potential adverse effects.

### **Objective 21.2.5**

**Have regard to the effects of discharges associated with activities when considering resource consent applications.**

*Issue:* 21.1.6

*Policy:* 21.3.8

### **Explanation**

While the Otago Regional Council has prime responsibility for the management of such discharges, the Act also provides for territorial authorities to have regard to the effects of such discharges when considering resource consents for activities.

### ***Principal Reasons for Adopting Objectives***

The health and wellbeing of people and communities is a prime consideration in the use and development of resources and in providing for the needs of future generations. Potable water is fundamental to the health of people, and its availability and quality cannot be compromised.

Noise and glare can impact upon the health of people and amenity values, and as a consequence, it is appropriate to seek to avoid, remedy or mitigate these adverse effects.

Health problems and loss of amenity values can arise from uncontrolled waste disposal. The controlled and safe disposal of wastes is a key component in sustaining resources to meet the foreseeable needs of future generations.

## 21.3 Policies

### Policy 21.3.1

**Protect the harvest potential and quality of water within water catchments.**

*Objective:* 21.2.1

*Methods:* 21.4.4, 21.4.5, 21.4.7, 21.4.8

### Explanation

Communities require a continuous supply of high quality water in order to meet basic needs and to enable other activities to be carried out, for example manufacturing, processing and recreation. Within the City there are a number of water catchments. These catchments are generally covered in bush, scrub or tussockland, providing a high quality of water prior to it being treated for domestic purposes. Changes to the ground cover, activities which could result in disturbance of the ground, or discharges to watercourses could all impact upon the quality of the water. Activities which reduce runoff, or which seek to extract water could also affect the quantity of water available for use. Water quality needs to be maintained and water quantity needs to be retained in order to meet the needs of people and communities, and to protect the intrinsic values of water catchment ecosystems.

### Policy 21.3.2

**Require people establishing activities and developments outside areas served by community water supply schemes to provide for their water needs.**

*Objective:* 21.2.1

*Methods:* 21.4.4, 21.4.5

### Explanation

Independent water supplies could be sourced from underground supplies, surface water bodies such as rivers or lakes, or from rainwater. In the case of the latter, storage tanks will be necessary to ensure that an adequate supply is available.

### Policy 21.3.3

**Protect people and communities from noise and glare which could impact upon health, safety and amenity.**

*Objectives:* 21.2.2, 21.2.3

*Methods:* 21.4.1 - 21.4.3, 21.4.6 - 21.4.9

### Explanation

The wellbeing of people and communities is dependent upon their retaining an environment which is both healthy and safe. Noise and glare, which can impact upon the health and safety of people and communities, must be avoided or managed in such a manner as to protect people from adverse effects. This includes determining maximum noise limits in different areas and standards for glare. Other techniques, such as the use of the nuisance provisions under the Act and responding to complaints, can also be used, both for activities managed by the Plan and other activities.

### Policy 21.3.4

**Manage the adverse effects associated with the use and operation of airports.**

*Objectives:* 21.2.2, 21.2.3

*Methods:* 21.4.1 - 21.4.3, 21.4.6 - 21.4.8

*Rules:* 6.5.1, 6.5.3(iii), 25.5.1, 25.5.3(vi) [Amended by Plan Change 3, 1/9/2008]

### Explanation

The adverse effects associated with the use and operation of airports are noise and glare.

The management of aircraft noise in the vicinity of airports is dealt with in New Zealand Standard NZS 6805:1992. The standard seeks to ensure that people living close to airports are properly protected from the effects of aircraft noise, while recognising the need for the efficient operation of the airport. The standard utilises a system in which a limit is set for the average daily amount of aircraft noise exposure, measured over a 24 hour period, that is permitted in the vicinity of an airport. Only inside a fixed working area defined by the Air Noise Boundary is the noise exposure permitted to be greater than this. In this working area restrictions on noise sensitive land uses are necessary to avoid adverse effects on health. The standard also provides for a secondary area, defined by an Outer Control Boundary within which noise attenuation measures are necessary to mitigate the adverse effects of aircraft noise. In addition, the standard outlines the manner in which aircraft noise should be monitored.

In order to protect people from the adverse effects associated with the use and operation of Dunedin Airport at Momona, the Council considers that it is appropriate to indicate the extent of the Air Noise Boundary and Outer Control Boundary for that airport on District Plan Maps 6 and 54, and shown in its entirety on District Plan Map 71, and to manage activities within those areas to the extent that is recommended by NZS 6805:1992. This is done by controlling new residential activities through rules in the underlying zones.

The Dunedin Airport designation includes a condition ensuring that aircraft operations do not result in the noise levels exceeding those permitted at the Air Noise Boundary and Outer Control Boundary. In addition, there is a condition that manages the emission of glare from the airport.

It is not appropriate for noise at Taieri Aerodrome to be managed using NZS 6805:1992. Instead it will be managed by rules in this section of the District Plan.



Single event noise and other operations carried out at airports will be required to comply with the provisions of the area within which the airport is located.

### **Policy 21.3.5**

**Manage the adverse effects associated with the use and operation of the port facilities at Port Chalmers.**

*Objectives:* 21.2.2, 21.2.3

*Methods:* 21.4.1 - 21.4.3, 21.4.6, 21.4.7

*Rules:* 5.7.2(ix), 8.7.2(xi)

### **Explanation**

Adverse effects associated with the use and operation of port facilities at Port Chalmers are noise, glare, dust and heavy traffic. Council is aware that the existing operations of the port generate noise, that at times, is a nuisance to residents within adjoining areas.

To ensure that the management of noise from port activities is undertaken in a practical manner, recognising the nature and type of noise generated at the port, noise will be managed through the use of Management Plans. The Council will require the port operator to prepare and implement a noise management and a noise mitigation plan which provides for:

- (a) The Management of noise effects on existing residential areas in proximity to the port by minimising port noise emissions, community liaison and through mitigation of the effects of Port Noise on Noise Affected Properties.

*[Amended by C41/2004, 6/4/04]*

Land use controls will complement this approach by:

- (b) Managing noise effects on residential activities in close proximity to the port area by requiring acoustic insulation of new residential buildings where these are located within the Port Outer Control Boundary, which is deemed to be the area affected by port noise.

*[Amended by C41/2004, 6/4/04]*

### **Policy 21.3.6**

**Manage waste disposal facilities on land in a manner that minimises adverse effects on the health of people and communities, and on amenity values within the City.**

*Objective:* 21.2.4

*Methods:* 21.4.3, 21.4.4, 21.4.6, 21.4.7

### **Explanation**

Management of these facilities must ensure adverse effects are avoided, remedied or mitigated, limited to the site in question, and carefully monitored. Monitoring associated with resource consents obtained from the Otago Regional Council will focus on discharges from the site, while at the District Plan level, consideration is required as to the appearance of the facility, both during its operation and after its use has ceased. The Council will require the preparation and implementation of Facility Management Plans and Closure Management Plans, incorporating the requirements of all necessary consent authorities. Waste management issues are also considered by Council in its Waste Management Plan.

### **Policy 21.3.7**

**Encourage the establishment of buffer areas around activities giving rise to adverse effects on adjoining areas.**

*Objectives:* 21.2.2, 21.2.3

*Methods:* 21.4.1 - 21.4.3, 21.4.6

### **Explanation**

Where activities take place that give rise to adverse effects on adjoining land, and action cannot be taken to avoid those effects, the Council will encourage the use of buffer areas to minimise the impacts of those adverse effects on the adjoining land. Buffer areas can be:

- (i) Located on the same property as the activity giving rise to adverse effects. This may require the activity to be set back from the property boundary.
- (ii) Located on adjoining land, where appropriate tenure or other arrangements have been made with the owner of that land.

### **Policy 21.3.8**

**Avoid where practicable, or otherwise remedy or mitigate, the adverse effects of activities discharging to land, water or air.**

*Objective:* 21.2.5

*Method:* 21.4.3

### **Explanation**

While Council cannot establish standards or have rules relating to discharges to land, water or air, because that is the responsibility of the Otago Regional Council, it can have regard to these effects of activities in considering land use and subdivision consents. This enables consideration of matters such as stormwater runoff from subdivisions.

### ***Principal Reasons for Adopting Policies***

In order to protect the health and wellbeing of people and communities it is necessary to manage those activities that may give rise to such adverse effects. This includes:

- The management of activities within water harvest catchments that could adversely impact upon the quality and quantity of water required for human use. The opportunity to secure the supply of water and to minimise contamination of the water at source, reduces the amount of downstream treatment.
- Ensuring that people outside of areas served by water schemes have access to sufficient water for their needs.
- Managing those aspects of activities that give rise to noise and glare which could impact upon the health and safety of people and communities.

Because of its nature (duration, frequency and scale) the management of aircraft noise at Dunedin Airport and port noise at Port Chalmers requires an approach different to that adopted in managing other noise. Controls can be placed on the activities at Dunedin Airport by requiring operations to operate within defined noise limits. At Port Chalmers management plans that address minimisation of port noise, mitigation of the effects of port noise and community liaison are the appropriate approach in this Plan. Ongoing monitoring is also necessary. Controls are also required on other activities undertaken within areas affected by noise in order to protect human health. *[Amended by C41/2004, 6/4/04]*

Waste disposal within the City has been the subject of intensive study. Coordinated approaches to public and private facilities will ensure the continued availability of suitable solutions. Adverse effects from such facilities can arise during their operation, as well as after their closure. Operational and closure management plans are therefore needed to ensure that impacts on the environment are avoided, remedied or mitigated. Long term monitoring will also be needed.

## **21.4 Methods of Implementation**

In addition to the rules, the methods to be used to achieve the objectives and policies identified in this section include the following:

### **Method 21.4.1 Noise Area Maps**

The levels of amenity in different parts of the City determine the sensitivity of areas to noise.

District Plan Maps 62 to 70 show the noise limits permitted within identified areas, for night-time, day-time and any shoulder period between.

District Plan Map 70 also shows the Port Noise Boundary and the Port Outer Control Boundary for Port Chalmers, and District Plan Maps 6, 54 and 71 show the Air Noise Boundary and Airport Outer Control Boundary for Dunedin Airport.

These limits are implemented through District Plan rules.

*Policies:* 21.3.3 - 21.3.5, 21.3.7

### **Method 21.4.2 Nuisance Provisions**

Where noise limits and glare standards are exceeded, or where any nuisance arises:

- (i) Action can be taken under the excessive noise provisions of the Act where nuisance arises to achieve either a reduction of the adverse effects, a cessation of the activity or a change in operating conditions or hours. Such action can be taken even where there is compliance with District Plan rules or where the rules provide for exemptions.
- (ii) Discussions can be held with the generator of the noise or glare in order to obtain agreement on action that can be taken to reduce levels. Council will actively seek the reduction of noise from such activities, particularly in areas adjacent to the boundaries of noise areas.

*Policies:* 21.3.3 - 21.3.5, 21.3.7

### **Method 21.4.3 Investigations and Monitoring**

In order to have a full understanding of the environment, and to monitor changes over time, investigations and monitoring can relate to:

- (i) Acoustic surveys of the City.
- (ii) Adverse effects from particular activities, including noise and glare.

In some instances monitoring may be required as part of resource consents.

*Policies:* 11.3.6, 21.3.3 - 21.3.8

### **Method 21.4.4 Information, Education and Public Awareness**

Supplying information and publicity can assist people's understanding of the effects of activities and result in improved environmental outcomes, particularly in relation to:

- (i) Impacts upon water quality and quantity within water harvest catchments.
- (ii) Water conservation.
- (iii) Recycling and minimising waste.

*Policies:* 21.3.1, 21.3.2, 21.3.6

### **Method 21.4.5 Consultation**

Consult with landholders about land use practices relating to sustaining water quality and quantity within water harvest catchments.

*Policies:* 21.3.1, 21.3.2

### **Method 21.4.6 Management Plans**

Management plans are a technique that can be used to consider and resolve problems arising from the adverse effects of activities. They can include:

(i) **Effects Management Plans**

The Council may require the production of approved noise management plans by developers as a condition of consent to ensure that the amenities of the area are protected.

The Council may also seek the production of noise management plans for existing activities that have adverse noise effects. *[Amended by C41/2004, 6/4/04]*

Plans for managing other effects may also be required or sought.

(ii) **Activity Management Plans**

Management plans can be prepared to manage the manner in which particular activities are undertaken, for example at refuse disposal facilities. Such plans can relate to the operation of the site, its closure and future maintenance and monitoring.

(ii) **Management Plans for Port Chalmers**

The Port Operator will be required to develop a noise management and a noise mitigation plan for Port Chalmers to provide for noise minimisation, mitigation of the effects of Port Noise and community liaison. *[Inserted by C41/2004, 6/4/04]*

*Policies:* 21.3.3 - 21.3.7

### **Method 21.4.7 Guidelines**

Preparation of guidelines to assist in reducing the adverse effects of activities. For example guidelines can identify ways in which lighting can be installed and operated to avoid glare nuisance.

*Policies:* 21.3.1, 21.3.3 - 21.3.6

### **Method 21.4.8 Designations**

Any requiring authority may seek the designation of land for public works or network utilities, including water catchments and infrastructure. These may include conditions to avoid, remedy or mitigate adverse effects.

*Policies:* 21.3.1, 21.3.3, 21.3.4

### **Method 21.4.9 Events Policy**

Council's Events Policy will address the effects of noise associated with outdoor events.

*Policy:* 21.3.3

### ***Principal Reasons for Adopting Methods***

There are several separate but interrelated methods that can be exercised in order to implement the water harvest catchment protection policy, including the provision of information and publicity, consultation and designations.

The Council will need to monitor noise levels to ensure that existing amenity values across the district are not compromised by additional noise emissions. Specific rules relating to noise can reflect the various amenity values within the district and enable activities to locate or be managed accordingly. In addition, the use of techniques such as noise management plans work towards retaining or improving the amenity values of areas, while Council's Events Policy will address the effects of noise associated with outdoor events.

Guidelines can be used to help in the reduction of adverse effects associated with activities. An example of this is the use of guidelines to avoid the adverse effects of glare.

## 21.5 Rules

### Compliance with Performance Standards

Activities which are permitted, controlled or discretionary (restricted) in any section of the District Plan must comply with the performance standards below.

#### Rule 21.5.1 Performance Standard: Noise Limits - General Levels

(i) **Maximum L10 and Lmax Limits**

Subject to (ii), the maximum noise limits generated by any activity shall not exceed:

- (a) The maximum day-time, night-time and shoulder period L10 noise limits identified on District Plan Maps 62 to 70, measured at the boundary or within any other property within the same noise area, except that in the case of noise generated within any Rural or Residential Zone noise shall be measured at or within the notional boundary of any dwelling not on the same site.
- (b) Between 9.00 pm on any night and 7.00 am the following day no noise shall exceed an Lmax of 75 dBA measured at the boundary of the site or within any other site.

(ii) **Limits Applying at Noise Area Boundaries**

At the boundary of any noise area, the maximum level of noise generated by any activity in the noise area shall not exceed:

- (a) **Day-time:** the lower of the day-time maxima for the noise area within which the activity is located and any adjoining noise area.
- (b) **Night-time:** the lower of the night-time maxima for the noise area within which the activity is located and any adjoining noise area.
- (c) **Shoulder period:** the lower of the shoulder maxima for the noise area within which the activity is located and any adjoining noise area.

(iii) **Shoulder Period Limits**

Where there is a difference in noise limits between day and night-time, a shoulder period will apply which reduces the allowable day-time level by 5 dBA during that shoulder period.

(iv) **Special Audible Characteristics** *[Inserted by Plan Change 2: 19/12/05]*

Where the noise from any activity in the Central Activity Zone and inner city Large Scale Retail Zones has special audible characteristics, the L<sub>10</sub> limits specified on maps 62-74 shall be reduced by 5dBA for comparison with the measured L<sub>10</sub> descriptor of the noise in accordance with the definition of Special Audible Characteristics described in *NZS 6802:1991 – Assessment of Environment Sound* during the following days and hours:

Sunday to Wednesday – 11pm to 6.30am the following day

Thursday to Saturday – 12 midnight to 6.30am the following day

(v) **Exemptions**

Rules 21.5.1 (i), (ii) and (iii) do not apply to:

- (a) Noise generated as part of accepted farming practices within the Rural and Rural Residential Zones.
- (b) Noise generated as part of normal residential activities.

- (c) Aircraft taking off and landing at the Taieri Aerodrome during the period 7.00 am to 10.00 pm.
- (d) Noise generated within the Port 1 Zone at Port Chalmers.
- (e) Construction noise, except within the Abbotsford Residential 6 Zone outside the period between 7am to 7pm Monday to Saturday inclusive, and all Sunday, and except within the Major Facilities (Mercy Hospital) Zone (where Rule 25.5.1(v)(g) applies). *[Amended by Plan Change 4, 3/3/08 and Plan Change 17, 2 September 2013]*
- (f) Noise associated with activities at preschools and schools during the period 8.00 am to 6.00 pm.
- (g) Noise associated with demolition and construction activities within the Major Facilities (Mercy Hospital) Zone which shall comply with the standards set out in Table 2 of NZS6803:1999 “Acoustics – Construction Noise” when received at the boundary of any residential activity occurring within a Residential Zone (Table 2 of NZS6803:1999 is replicated below). Noise resulting from construction and demolition work shall be measured and assessed in accordance with NZS 6803:1999.

Time of week	Time Period	Duration of work					
		Typical duration (dBA)		Short-term duration (dBA)		Long-term duration (dBA)	
		L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>	L <sub>max</sub>	L <sub>eq</sub>	L <sub>max</sub>
<b>Weekdays</b>	0630-0730	60	75	65	75	55	75
	0730-1800	75	90	80	95	70	85
	1800-2000	70	85	75	90	65	80
	2000-0630	45	75	45	75	45	75
<b>Saturdays</b>	0630-0730	45	75	45	75	45	75
	0730-1800	75	90	80	95	70	85
	1800-2000	45	75	45	75	45	75
	2000-0630	45	75	45	75	45	75
<b>Sundays and public holidays</b>	0630-0730	45	75	45	75	45	75
	0730-1800	55	85	55	85	55	85
	1800-2000	45	75	45	75	45	75
	2000-0630	45	75	45	75	45	75

*[Inserted by Plan Change 17, 2 September 2013]*



## **Rule 21.5.2 Port Noise Management and Noise Mitigation Performance Standards – Port Chalmers**

### **(i) Port Noise Management**

The Port Operator shall investigate and adopt the best practicable option to minimise Port Noise emissions; and

The Port Operator shall produce and at all times operate in accordance with a Port Noise Management Plan which shall include but is not limited to the matters set out in Appendix 21.A.

### **(ii) Port Noise Mitigation**

The Port Operator shall implement a Port Noise Mitigation Plan for the purchase or Acoustic Treatment of Noise Affected Properties which shall include but is not limited to the matters set out in Appendix 21.B.

### **(iii) Port Noise Liaison Committee**

The Port Operator shall establish, maintain and participate in a Port Noise Liaison Committee which shall operate generally in accordance with the requirements set out in Appendix 21.C.

### **(iv) Port Noise Measurement**

(a) The measurement of Port Noise shall be in accordance with NZS 6801:1999 Acoustics - Measurement of Sound, and assessment shall be in accordance with NZS 6809:1999 Acoustics - Port Noise Management and Land Use Planning, provided that:

- (i) subject to sub-clause (b)(i) of this clause, the Rating Level described in clause 7.3 of NZS 6809:1999 shall be determined for the sole purpose of defining any  $L_{eq (15 \text{ minute})}$  sound level, required for the purposes of Appendices 21.A and 21.B; and
- (ii) adjustments for any special audible characteristic to any  $L_{eq (15 \text{ min})}$  made in accordance with clause 7.3 and A6 of NZS 6809:1999 shall, except for audible warning devices, not apply to noise from log and container handling activities.

(b) For the purpose of comparison with noise criteria specified in Appendix 21.B the following will apply:

- (i) In calculating any  $L_{dn, (5 \text{ day average})}$ , one ship visit of up to five days duration, shall be deemed to be one occasion.
- (ii) In assessing any  $L_{eq (15 \text{ minute})}$  sound level between 10pm and 7am the following day, one ship visit of up to five days duration shall be deemed to be one occasion.

*[Inserted by C41/2004, 6/4/04]*



**Rule 21.5.3      Performance Standard: Stadium Zone** *[Inserted by Plan Change 8, 30/3/09]*

- (i) In respect of demolition and construction within the zone, the following provisions shall apply:
- (a) All demolition and construction activities shall comply with the standards set out in Table 2 of NZS6803:1999 when received at the boundary of any residential activity occurring within a Residential Zone. Noise resulting from construction and demolition work shall be measured and assessed in accordance with NZS 6803:1999.
  - (b) Prior to the commencement of any demolition or construction work within the zone, a construction noise management plan shall be provided to the Council. The plan shall show how the proposed work will be undertaken to ensure compliances with Rule 21.5.3(i)(a) above.
- (ii) The following provisions shall apply to all activities within the zone.  
Noise from any plant or activity taking place within the Stadium Zone, when measured and assessed at any residential activity occurring within a Residential Zone or any site within the Campus Zone to the west of Anzac Avenue, shall not exceed the following limits over any 15 minute period:
- (a) 0700 to 2200 hours 55dBA L10
  - (b) At all other times 40dBA L10 and 75dBA Lmax.
- (iii) Provided that these limits can be exceeded as described below:
- (a) The noise level from such events over any 15 minute period when measured at the Stadium Zone Noise Assessment Boundary shall not exceed the following limits:
    - i 75dBA L10 and 80dBA Lmax for up to 3 events per calendar year
    - ii 65dBA L10 and 75dBA Lmax for up to 8 additional events per calendar year
    - iii 55dBA L10 and 75dBA Lmax for up to 35 further events per calendar year.

*Note            The number of events authorised by this rule is cumulative, and therefore permits up to 46 events per year.*
  - (b) Such events shall be no more than four hours duration, commencing no earlier than 1000 hours, and cease by 2300 hours.
  - (c) No more than two such events in accordance with this rule shall be held in any one seven day period.
  - (d) Any stadium within the Stadium Zone is to be provided with a permanent sound system that is commissioned and calibrated so as to achieve compliance with the above noise standard above during such events, and with the noise standards specified in Rule 21.5.3(ii) at other times.
  - (e) If a non calibrated system is used at any such sporting event, the noise shall be monitored and regulated to ensure compliance with these noise standards.
  - (f) Amplified music for the purpose of sound checks which exceeds the noise limits specified by Rule 21.5.3 (ii) but does not exceed the noise limits outlined in Rule 21.5.3(iii)(a), shall be permitted provided that:
    - i Such checks shall not commence before 0900 hours, and are to be concluded by 1930 hours and be of no more than two hours duration; and
    - ii Only one sound check is permitted on any day

**Rule 21.5.4 Performance Standard: Glare and Lighting** *[Amended by Plan Change 8, 30/3/09]*

- (i) Except in any Industrial 1 or Port Zone, no activity shall result in greater than:
  - (a) 16 lux of light onto any other site in a Residential Zone, measured inside that site.
  - (b) 8 lux of light onto any other site used for residential purposes during night-time hours, measured at the windows of any such residentially occupied building.

This rule does not apply to headlights of motor vehicles.

*[Amended by Variation 8: 15/12/01]*

- (ii) All on-site lighting (other than runway, navigational and other operational lighting) within the Airport Zone shall be positioned, directed and maintained so that light spill outside the Airport Zone boundary shall not exceed 16 lux measured:
  - (a) 10 metres outside the zone boundary; and
  - (b) in both the horizontal and vertical planes; and
  - (c) with the runway, navigation and associated operational lighting turned off.

*[Inserted by Plan Change 3, 1/9/2008]*

**Rule 21.5.5 Performance Standard: Electrical Interference** *[Amended by Plan Change 8, 30/3/09]*

Except in any Port Zone, electrical interference emanating from any site shall not be discernible beyond that site.

**Rule 21.5.6 Discretionary Activities (Restricted)** *[Amended by Plan Change 8, 30/3/09]*

Any activity which is permitted, controlled or discretionary (restricted) in any section of the District Plan but which does not comply with the performance standards above is a discretionary activity (restricted). The Council's discretion is restricted to the performance standards with which the activity fails to comply.



## **21.6 Assessment of Resource Consent Applications**

In considering any resource consent application for an activity which, by virtue of non-compliance with the standards contained within this section is a discretionary activity (restricted), the Council will have regard to, but not be restricted by the following matters:

### **21.6.1 Noise**

- (i) The maximum noise levels associated with the proposed activity.
- (ii) The frequency of the noise occurring.
- (iii) The frequency and duration of the noise that will exceed the maximum noise level for the site.
- (iv) The length of time that the noise is continuous.
- (v) The special characteristics of the noise.
- (vi) The adverse effects of the noise on other activities, existing and permitted, in the locality.
- (vii) The cumulative effect that the noise may have on the environment.
- (viii) Any practicable means of mitigating the effects of the noise.
- (ix) Any objectives and policies for noise control.
- (x) Any means of noise reduction that can be implemented.

### **21.6.2 Noise Measurement and Assessment**

The noise of an activity shall be measured and assessed in accordance with New Zealand Standard 6801:1991 Measurement of Sound, New Zealand Standard 6802:1991 Assessment of Environmental Sound and New Zealand Standard 6805:1992 Assessment of Airport Noise, except that the definition of 'Notional Boundary' used in this District Plan shall apply in all cases.

### **21.6.3 Glare**

The degree to which glare caused by any activity affects the amenity values of the neighbourhood, traffic safety or any other existing or permitted activity in the area.

### **21.6.4 Lighting**

- (i) The effect lighting has on the character of the area.
- (ii) The effect on the harmony and pleasantness of the area.
- (iii) The safety of people who use the area.

### **21.6.5 Air and Water Quality**

The effect of activities on air quality and water quality.

## ***21.7 Anticipated Environmental Results***

The anticipated environmental results are:

### **21.7.1**

The protection of the water quality at its source, and the provision of potable water in quantities and at a quality that provides for the health of people in the City.

### **21.7.2**

A quieter environment will be achieved over time.

### **21.7.3**

Waste creation and disposal that is sustainably managed.

### **21.7.4**

Lighting and glare nuisance will be avoided and reduced.





# Appendix 21A

## Port Noise Management Plan

### 1. Minimum Port Noise Management Plan Provisions

The Port Noise Management Plan required under Rule 21.5.2 (i) shall contain the following:

- (i) Port Noise Management Plan objectives.
- (ii) Detailed procedures for the implementation of Rule 21.5.2 including the Port Noise Mitigation Plan outlined in Appendix 21.B and the establishment and maintenance of a Port Noise Liaison Committee outlined in Appendix 21.C.
- (iii) A list of Port Noise Liaison Committee functions.
- (iv) Procedures for recommendations of the Port Noise Liaison Committee to be considered and determined by the Port Operator.
- (v) Noise modelling; noise monitoring; auditing and reporting procedures.
- (vi) Complaint handling procedures.
- (vii) Procedures for achieving noise reduction through Port operational procedures and staff and contractor training.
- (viii) Procedures for alterations to the Port Noise Management Plan.

### 2. Minimum Monitoring and Reporting Requirements

- (i) The Port Operator shall maintain at its expense sound level monitoring equipment to ensure the continuous measurement of Port Noise emanating from port related activities occurs twenty four hours a day and seven days a week.
- (ii) The Port Operator shall provide the results of sound level monitoring to the Council and the Port Noise Liaison Committee in a summary form showing Leq, calculated Ldn sound exposure and all attended Lmax levels not less than four times a year. Significant Port Noise emissions shall be highlighted and correlated with port activity and wind speed and wind direction data.
- (iii) When sound level monitoring indicates that Port Noise may be exceeding 65 dBA Ldn (5 day average) or 65 dBA Leq (15 min, 10pm –7am) at Noise Affected Properties that are not shown on the Port Noise Contour Map as eligible for mitigation under Section 1 of Appendix 21 B, the exceedance shall be recorded, investigated and reported to the Port Noise Liaison Committee. The investigation shall identify as far as possible those Noise Affected Properties receiving Port Noise at or above such levels.

- (iv) The Port Operator shall produce and include in the Port Noise Management Plan a Port Noise Contour Map based on a current busy 5 day operating scenario. The contour map shall be updated at least on an annual basis or when a change to port operations is likely to affect the levels of Port Noise received in the Residential 1 Zone. Port Noise contours shall be modelled at 1dB intervals between 55Ldn and 70Ldn.
- (v) To ensure the accuracy of the Port Noise Contour Map the Port Operator shall perform field verification of calculated sound exposure levels and assessed Leq (15 min) levels of Port Noise at the agreed monitoring points identified in the Port Noise Management Plan.
- (vi) Those Noise Affected Properties confirmed as eligible for mitigation under Section 1 of Appendix 21.B shall be identified on the Port Noise Contour Map.
- (vii) The Port Operator shall maintain an Acoustic Certificate Register. A Copy of the register and Acoustic Certificates for Noise Affected Properties shall be supplied to the Council. Copies of the register and Acoustic Certificates shall also be held at the offices of the Port Operator and the Dunedin City Council and made available to members of the public on request.
- (viii) The Port Operator shall make available to the Port Noise Liaison Committee or the Council on request all information the Port Operator has as to noise and meteorological conditions.
- (ix) When a noise complaint is received the Port Operator will immediately advise Dunedin City Council (if the complaint is not received through Dunedin City Council).
- (x) The Port Operator shall maintain a register of noise complaints and report the details of complaints and any action taken to investigate and resolve complaints to the Port Noise Liaison Committee at the earliest opportunity.
- (xi) Copies of the Port Noise Management Plan are to be held at the offices of the Port Operator and the Dunedin City Council and made available to members of the public on request.

*[Inserted by C41/2004, 6/4/04]*

# Appendix 21B

## Port Noise Mitigation Plan

### 1. Mitigation for Noise Affected Properties 65dBA and above

The Port Operator shall offer to purchase or provide Acoustic Treatment for Noise Affected Properties which receive at any point within their boundary levels of Port Noise equal to or greater than an assessed 65 dBA Ldn (5 day average) or an assessed 65 dBA Leq (15 min, 10pm –7am) on more than three occasions (more than 24 hours apart) during any rolling 12 month period. The following conditions and standards shall apply to the offer to purchase or provide Acoustic Treatment:

(a) **Owner to Decide**

The owner of each such Noise Affected Property shall have the right to elect whether to accept either purchase or Acoustic Treatment and there is no time limit on the owner's acceptance of the offer.

(b) **Purchase**

The fair market value of a Noise Affected Property shall be determined as if the property was situated in Port Chalmers, excluding the effect of port operation; plus an additional compensatory payment of \$1,000 for each year, up to 30 December 2003 that the owner was in prior occupation of the property. The minimum additional payment is to be \$2,000 up to a maximum of \$15,000 with adjustment for inflation to be in accordance with the method specified in the Port Noise Mitigation Plan.

(c) **Acoustic Treatment**

Acoustic Treatment of Noise Affected Properties shall be carried out in accordance with procedures specified in the Port Noise Mitigation Plan up to a limit specified in the Port Noise Mitigation Plan.

Where the assessed costs of Acoustic Treatment exceed the limit specified in the Port Noise Mitigation Plan the Port Operator shall advise the property owner of the costs of Acoustic Treatment and offer the property owner the option of making up the difference in the costs of Acoustic Treatment to enable the Port Operator to obtain an Acoustic Certificate.

If Port Noise received by a noise affected property which has received Acoustic Treatment exceeds the Certified Level of Port Noise for that property, then the Port Operator shall offer to purchase the affected property notwithstanding the previous election of Acoustic Treatment.

(d) **Residential Use of Properties Purchased by the Port Operator**

Noise Affected Properties purchased under this provision may not be used for residential purposes unless they receive Acoustic Treatment.

**2. Mitigation for noise affected properties 60dBA and above**

The Port Operator shall contribute to the costs of Acoustic Treatment for Noise Affected Properties or may offer to purchase Noise Affected Properties which are shown on the current Port Noise Contour Map as receiving at any point within their boundary Port Noise levels equal to or than greater than 60 dBA Ldn (5 day average) or). The following conditions and standards shall apply to the offer to purchase or provide Acoustic Treatment:

(a) **Purchase**

The Port Operator, on application by the owner of a noise affected property, shall consider and decide whether to offer to purchase a noise affected property. The purchase will be on the basis of a “willing buyer/willing seller” and no additional compensatory payments shall be necessary.

(b) **Acoustic Treatment**

The Port Noise Liaison Committee on a case by case basis, shall provide a contribution to the costs of acoustic treatment utilising its annual mitigation budget. Acoustic Treatment of Noise Affected Properties shall be carried out in accordance with procedures specified in the Port Noise Mitigation Plan and the Liaison Committee will determine the level of the contribution up to a limit specified in the Port Noise Mitigation Plan.

**3. Mitigation for noise affected properties 55dBA and above up to 60dBA**

The Port Noise Liaison Committee will provide technical advice to Noise Affected Properties.

In special circumstances the Port Noise Liaison Committee utilising its annual mitigation budget may offer to contribute to the costs of Acoustic Treatment for Noise Affected Properties which are shown on the current Port Noise Contour Map as receiving at any point within their boundary Port Noise levels equal to greater than 55 dBA Ldn (5 day average). The following conditions and standards shall apply to the provision of technical advice or an offer to provide Acoustic Treatment:

(a) **Technical advice**

An annual update of noise modelling information is to be made available to property owners.

An annual summary of the activities of the Port Noise Liaison Committee taken from the minutes of the liaison committee meetings is to be provided to property owners.

(b) **Acoustic Treatment**

Acoustic Treatment of Noise Affected Properties shall be carried out in accordance with procedures specified in the Port Noise Mitigation Plan.

Where the contribution to the costs of Acoustic Treatment is to be provided it shall be up to a limit specified in the Port Noise Mitigation Plan.

*[Inserted by C41/2004, 6/4/04]*

# Appendix 21C

## Port Noise Liaison Committee

The Port Noise Liaison Committee required under Rule 21.5.2 (iv) shall comprise but is not limited to members appointed by the following organisations:

- Port Operator
- Otago Regional Council
- Dunedin City Council
- Careys Bay Association
- Chalmers Community Board<sup>1</sup>

### (a) General Duty to Committee

The Port Operator shall implement to the extent reasonably possible all recommendations of the Port Noise Liaison Committee that can be implemented within budget and without compromising the efficiency, safety and competitiveness of port operations.

### (b) Role of the Port Noise Liaison Committee

The Port Noise Liaison Committee shall consider all noise issues arising from the port operation and carry out the functions identified in the Port Noise Management Plan and mitigation functions identified in Appendix 21 B.

### (c) Port Noise Liaison Committee Resourcing

The Port Operator shall provide for the implementation and maintenance of the Port Noise Liaison Committee as follows:

- (i) The Port Operator will provide secretarial and logistic support for the Port Noise Liaison Committee.
- (ii) The Port Operator shall arrange for the Port Noise Liaison Committee to meet on not less than four occasions a year and shall identify procedures in the Port Noise Management Plan for calling an emergency meeting of the Committee.
- (iii) The port operator shall provide an annual budget for noise mitigation that reasonably provides for the Port Noise Liaison Committee to undertake its mitigation responsibilities under Appendix 21B and to investigate and recommend noise reduction measures at Port Chalmers.

*[Inserted by C41/2004, 6/4/04]*

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<sup>1</sup> The Board will be responsible for appointing resident representatives from areas of Port Chalmers, other than Careys Bay, affected by Port Noise.