

APPENDIX 12

NOISE



12.1 Standards for the emission of noise generated from within any ENVIRONMENT AREA, when measured at any RECEIVING SITE

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12.1 Standards for the emission of noise generated from within any ENVIRONMENT AREA, when measured at any RECEIVING SITE

STD	ACTIVITY TYPE	TIME OF DAY	MAXIMUM NOISE LEVEL PERMITTED
from CONSTRUCTION WORK			
1.1	Maximum noise levels, measured at any point within the boundary of any RECEIVING SITE located within the RESIDENTIAL ENVIRONMENT AREA:	Monday to Friday: 7am-7pm Saturday: 10am-6pm excluding public holidays on any day	L ₁₀ 65dBA
1.2		at all other times (including all public holidays)	meets the underlying standards for the RESIDENTIAL ENVIRONMENT AREA as specified in standards 7.1 and 7.2 of this table
1.3	Maximum noise levels, measured at any point within the boundary of any RECEIVING SITE located within the BUSINESS, INDUSTRIAL or OPEN SPACE ENVIRONMENT AREAS, or at the NOTIONAL BOUNDARY of any RECEIVING SITE located within the RURAL ENVIRONMENT AREA	on any day: 7am-7pm	L ₁₀ 70dBA
1.4		at all other times	meets the underlying standards for the relevant ENVIRONMENT AREA as specified in standards 7.3 to 7.12 of this table
from AIRCRAFT OPERATIONS at New Plymouth airport			
2.1	Maximum noise levels from AIRCRAFT OPERATIONS (excluding unscheduled AIRCRAFT ENGINE TESTING) at New Plymouth airport over any period of 90 continuous days measured in accordance with NZS6805:1992 Airport Noise Management and Land Use Planning: At or beyond the OUTER CONTROL BOUNDARY (Diagram 12.2)		shall not exceed 55dBA L _{dn}
2.2	At or beyond the AIR NOISE BOUNDARY (Diagram 12.2)		shall not exceed 65dBA L _{dn}
2.3	Maximum noise levels from AIRCRAFT ENGINE TESTING measured in accordance with NZS6801:1991 Measurement of Sound and NZS6802:1991 Assessment of Sound at any point within the boundary of any RECEIVING SITE within an RESIDENTIAL ENVIRONMENT AREA or at any NOTIONAL BOUNDARY within the RURAL ENVIRONMENT AREA	on any day 7am-10pm	L _{eq} (9 hour) 55dBA
2.4		on any day 10pm - 7am	L _{eq} (9 hour) 45dBA L _{max} 75dBA with the exception that on any 12 nights between the hours of 10pm - 7am in any calendar year, the maximum noise levels from AIRCRAFT ENGINE TESTING shall not exceed: L _{eq} (9 hour): 50dBA L _{max} : 75dBA

STD	ACTIVITY TYPE	TIME OF DAY	MAXIMUM NOISE LEVEL PERMITTED
from PORT NOISE at Port Taranaki			
3.1	Maximum noise levels, when measured: At any point at, or landward of the PORT NOISE inner control boundary (Diagram 12.4)	day-night average sound level over a period of 5 consecutive days	65dBA L_{dn}
3.2		on any day between 10pm to 7am the following day	60dBA L_{eq} (9hr) provided that no single 15 minute sound measurement level shall exceed 65dBA L_{eq} 85dBA L_{max}
3.3	At any point at, or landward of the PORT NOISE outer control boundary (Diagram 12.4)	on any day between 10pm to 7am the following day	50dBA L_{eq} (9hr) provided that no single 15 minute sound measurement level shall exceed 55dBA L_{eq} 75dBA L_{max}
Note: For the purposes of assessing PORT NOISE, daytime is defined as 7am to 10pm on any day, and night time is defined as 10pm to 7am the following day. These times correlate to the definition of L_{dn} used for the prediction of day-night average sound levels in NZS 6809:1999.			
from wind turbines			
4.1	Maximum noise levels, measured at any point within the boundary of any RECEIVING SITE within the RESIDENTIAL, BUSINESS, INDUSTRIAL or OPEN SPACE ENVIRONMENT AREAS or measured at the NOTIONAL BOUNDARY within the RURAL ENVIRONMENT AREA.	at any time	40dB $L_{A90(10min)}$ or The background sound level $L_{A90(10min)}$ plus 5dB when the background sound level is greater than 35dB $L_{A90(10min)}$
from helicopters operating from HELICOPTER LANDING AREAS			
5.1	Maximum noise levels, measured at any point within the boundary of any RECEIVING SITE within the RESIDENTIAL ENVIRONMENT AREA or measured at the NOTIONAL BOUNDARY within the RURAL ENVIRONMENT AREA.	day-night average sound level over any period of 5 consecutive days	L_{dn} 50dBA
5.2		on any day between 10pm to 7am the following day	L_{max} 70dBA
Note: For the purposes of assessing noise from helicopters operating from HELICOPTER LANDING AREAS, daytime is defined as 7am to 10pm on any day, and night time is defined as 10pm to 7am the following day. These times correlate to the definition of L_{dn} used for the prediction of day-night average sound levels in NZS6807:1994.			

STD	ACTIVITY TYPE	TIME OF DAY	MAXIMUM NOISE LEVEL PERMITTED
from EMERGENCY SERVICES			
6.1	Maximum noise levels: from sirens or other emergency warning devices	at all times	no maximum noise levels – section 16 of the ACT applies
6.2	from other EMERGENCY SERVICES operations measured at any point within the boundary of any RECEIVING SITE located within the RESIDENTIAL ENVIRONMENT AREAS	on any day: 7am-10pm	L ₁₀ 55dBA L _{max} n/a
6.3		10pm-7am	L ₁₀ 45dBA L _{max} 75dBA
6.4	measured at any point within the boundary of any RECEIVING SITE located within the BUSINESS, INDUSTRIAL OR OPEN SPACE ENVIRONMENT AREAS	as per standards 7.3 - 7.10	as per standards 7.3 - 7.10
6.5	measured at the NOTIONAL BOUNDARY within the RURAL ENVIRONMENT AREA	as per standards 7.11 – 7.12	as per standards 7.11 – 7.12
from all other activities (*excluding noise emitted from agricultural vehicles, machinery or equipment used on a seasonal or intermittent basis, provided that the best practicable option of noise control is adopted to ensure that noise emissions are maintained at a reasonable level.			
7.1	Maximum noise levels, measured at any point within the boundary of any RECEIVING SITE located within the: RESIDENTIAL ENVIRONMENT AREAS	on any day: 7am-10pm	L ₁₀ 50dBA L _{max} n/a
7.2		10pm-7am	L ₁₀ 40dBA L _{max} 70dBA
7.3	BUSINESS A, B or C ENVIRONMENT AREAS	on any day: 7am-10pm	L ₁₀ 60dBA L _{max} n/a
7.4		10pm-7am	L ₁₀ 60dBA L _{max} 75dBA

STD	ACTIVITY TYPE		
7.5	BUSINESS D ENVIRONMENT AREA	on any day: 7am-10pm	L ₁₀ 60dBA L _{max} n/a
7.6		10pm-7am	L ₁₀ 40dBA L _{max} 70dBA
7.7	INDUSTRIAL A, B or C ENVIRONMENT AREAS	on any day, at any time	L ₁₀ 60dBA L _{max} 75dBA
7.8	INDUSTRIAL D ENVIRONMENT AREAS	on any day, at any time	L ₁₀ 65dBA no L _{max}
7.9	INDUSTRIAL E ENVIRONMENT AREAS	on any day, at any time	L ₁₀ 70dBA L _{max} 80dBA
7.10	OPEN SPACE ENVIRONMENT AREAS	as per the adjoining ENVIRONMENT AREA*	as per the adjoining ENVIRONMENT AREA*
*Note: For the avoidance of doubt the less restrictive adjoining noise standard shall apply.			
7.11	Maximum noise levels, measured at the NOTIONAL BOUNDARY within the RURAL ENVIRONMENT AREA	on any day: 7am-10pm	L ₁₀ 50dBA L _{max} n/a
7.12		10pm-7am	L ₁₀ 45dBA L _{max} 70dBA
Note: The noise standards for the INDUSTRIAL F ENVIRONMENT AREA are set out in the National Development (Petalgas Chemicals NZ Limited) Order 1981/124 and the National Development (New Zealand Synthetic Fuels Corporation Limited) Order 1982/37.			

12.1A Standards for emission of noise generated from within any ENVIRONMENT AREA, when measured at any RECEIVING SITE

	RECEIVING SITE	Time of day	Frequency of the event	MAXIMUM NOISE LEVEL PERMITTED
from a TEMPORARY EVENT				
8.1	<p>Maximum noise levels, measured at any point within the boundary of any RECEIVING SITE located within the RESIDENTIAL ENVIRONMENT AREA; or</p> <p>measured at the NOTIONAL BOUNDARY within the RURAL ENVIRONMENT AREA (whichever is the closest); or</p> <p>any RECEIVING SITE located within the BUSINESS, INDUSTRIAL or OPEN SPACE ENVIRONMENT AREAS</p>	10am to midnight	<p>Four events in any 12 month period on the same SITE provided the TEMPORARY EVENT and pre event rehearsal do not individually exceed four hours in duration</p> <p>and;</p> <p>two event in any 12 month period on the same SITE provided that the TEMPORARY EVENT does not exceed 12 hours per day over a maximum duration of three consecutive days</p>	<ul style="list-style-type: none"> - 70dB LAeq (1hour); and - 85dB Leq (1min) at 63Hz; and - 75dB Leq (1min) at 125Hz; <p>and;</p> <ul style="list-style-type: none"> - 60dB LAeq (1hour) ; and - 75dB Leq (1min) at 63Hz; and - 65dB Leq (1min) at 125Hz <p>The above noise levels can increase by 10dB (LAeq) where the RECEIVING SITE is within the BUSINESS, INDUSTRIAL or OPEN SPACE ENVIRONMENT AREAS</p>

12.3 Noise contours - New Plymouth airport

Criteria used for modelling noise contours at New Plymouth airport

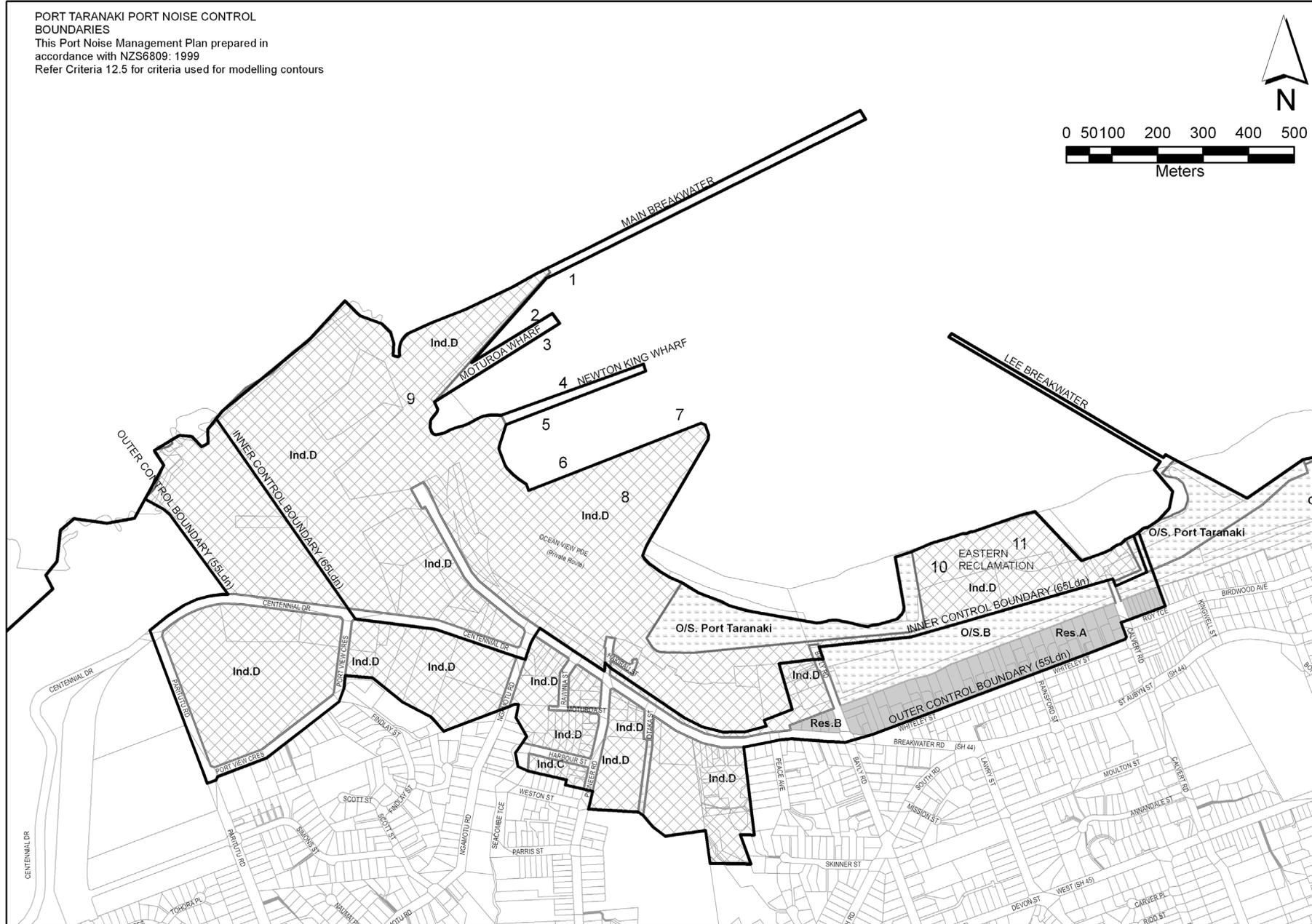
Aircraft Type	Movements per year	Movements per day	Percentage (%)
SAAB 240	6,400	18	15.5%
Metroliner	1,400	4	3.5%
Boeing 737-400	1,460	4 (2 x movements between 10pm - 7am)	3.5%
Light aircraft (75% fixed-pitch and 25% variable-pitch)	31,800	87	77.5%
Totals	41,060	113	100.0%

Notes:

- 1 Existing main (paved) runway extended 400m to the east and 150m to the west.
- 2 One “movement” means one take off, or one landing, or one “touch and go”.
- 3 All movements between the hours of 7am and 10pm unless otherwise stated.
- 4 Noise from the following AIRCRAFT OPERATIONS is not included in the air noise contour modelling criteria:
 - aircraft landing in an emergency or diverted aircraft;
 - emergency flights required to rescue persons from life-threatening situations or to transport patients, human vital organs or medical personnel in a medical emergency;
 - the operation of unscheduled flights required to meet the needs of a national or civil defence emergency declared under the Civil Defence Act 1983;
 - military aircraft;
 - recreational jet aircraft; and
 - AIRCRAFT ENGINE TESTING.

Contour model prepared by Hegley Acoustic Consultants, Auckland - March 1998 (Ref: Run 3)

Diagram 12.4 PORT NOISE control boundaries



12.5 PORT NOISE criteria - Port Taranaki

Criteria used for modelling PORT NOISE contours and for the setting of the PORT NOISE control boundaries at Port Taranaki

Port Activity	Location (refer also to Diagram 12.4)	Duration Within a 5 Day Period
Coal handling (Main Breakwater berth)	1	2 x 20 hours
Log handling at Moturoa Wharf	2	3 ½ days
Log ship at Moturoa Wharf	3	3 ½ days
2 x Tankers at Newton King	4, 5	5 days
2 x General ship and wharf machinery at Blyde Wharf	6, 7	3 days
Container handling area	8	5 days (7am-11 pm)
Log Marshalling area adjacent to Moturoa Wharf	9	5 days
Log marshalling and movement of logging trucks at Eastern Reclamation	10, 11	3 days

Notes:

- 1 The port activities selected for noise contour modelling, as indicated in the table above, are based on a busy five-day period, taking into account the existing port activity and the likely future activity. The adopted scenario is considered to be a realistic representation of a likely combination of port operations constructed from known activities on and to the west of the Blyde Wharf (modified for reasonable growth) and anticipated possible activities on the Eastern Reclamation.
- 2 The noise emission of machinery has been based on the best current practice, assuming a good standard of noise attenuation of machinery.
- 3 Noise contours were predicted assuming zero meteorological effect on noise propagation. This represents the average propagation over a long-term period taking into account that historical wind data shows a fairly even distribution of wind speeds and directions.
- 4 The noise contours resulting from the above criteria have been used as the basis for establishing the PORT NOISE inner and outer control boundaries as shown in Diagram 12.4.
- 5 The PORT NOISE control boundaries have been developed in accordance with the requirements of section 6.4.2 of NZS 6809:1999 Acoustics – Port Noise Management and Land Use Planning and are based on noise contour modelling carried out by Hegley Acoustic Consultants, Auckland, and Marshall Day Acoustic Consultants, Auckland.