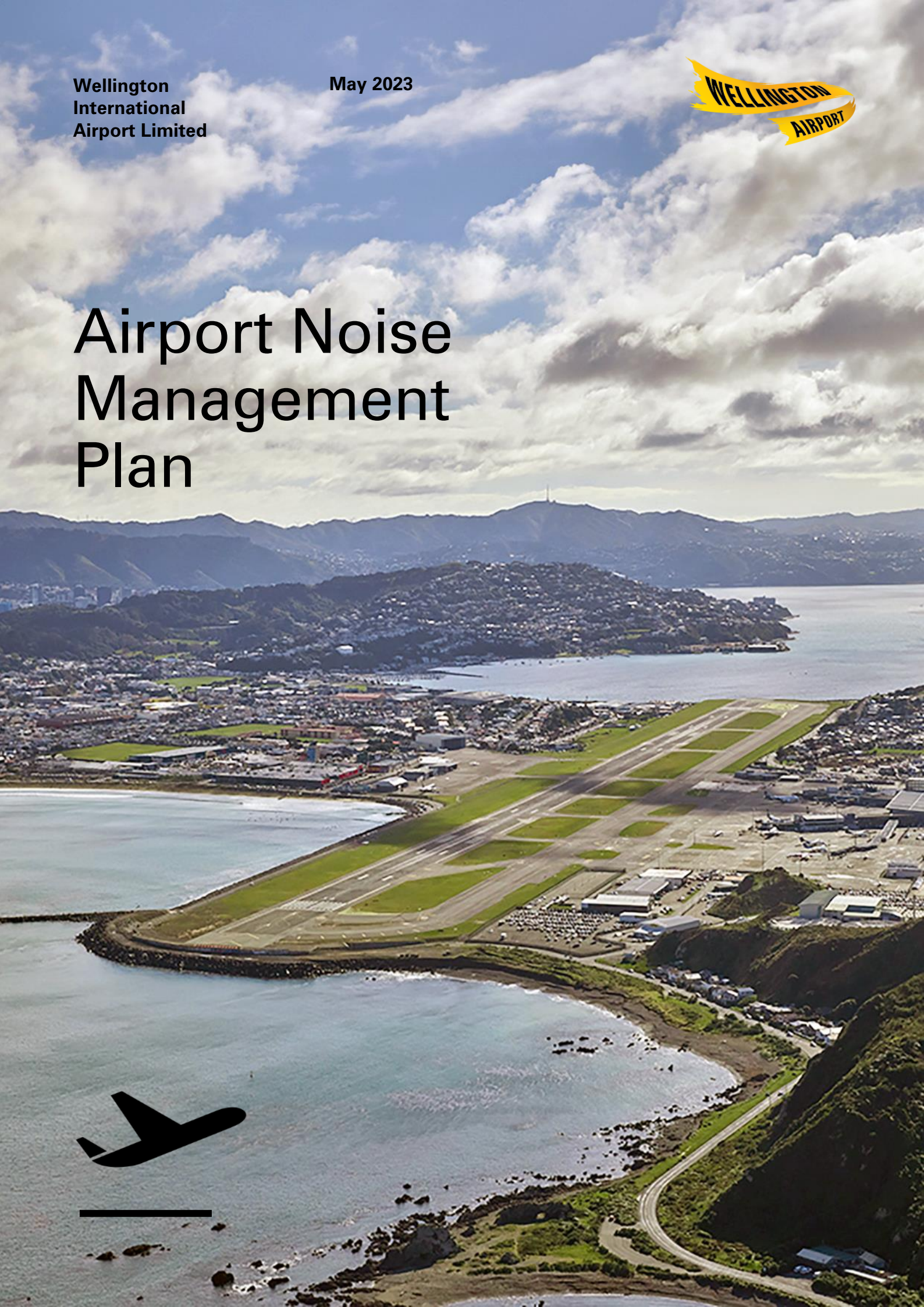


Wellington
International
Airport Limited

May 2023



Airport Noise Management Plan



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Record of amendments

Rev No.	Date	Description	Prepared by	Reviewed by	Certified by WCC (date and signature)
A	18/01/2023	Draft for WCC Certification	JL	ANMC, Public	02/05/2023

Next Review Due: End April 2026



Introduction



1. Introduction

By their very nature, all airports generate noise and Wellington Airport is no exception. Much of this noise is unavoidable and is essential to allow the airport to function, connecting Wellington both economically and socially. Few cities in the world benefit from an airport as conveniently located as Wellington. However, this accessibility also requires that the effects of noise on the local community are carefully monitored and managed.

Over the last 20 years the overall noise generated has significantly declined, even as activity has increased, thanks to substantial investment in new technologies by both Wellington International Airport Limited (WIAL) and airlines.

WIAL is dedicated to careful management and monitoring of airport noise to minimise these impacts as much as possible and practicable. WIAL's approach to noise management at Wellington International Airport (**Wellington Airport or Airport**) is guided by our noise management plan. The Wellington Airport Noise Management Committee (ANMC), which was established in 1997, oversees the compliance, review and implementation of the Noise Management Plan.

To this end, this Airport Noise Management Plan (**ANMP**) has been prepared by WIAL in accordance with the requirements of its designations¹ under the Wellington City District Plan (the District Plan)².

Condition 32 of the Main Site Area Designation requires WIAL to maintain and implement an Airport Noise Management Plan. In accordance with this condition, WIAL has therefore updated its existing Noise Management Plan (which has been operational since 1999) to describe how it proposes to manage the Airport in order to comply with the relevant noise conditions of the designations. Condition 33 requires the ANMP to include the following:

- A statement of noise management objectives and policies for the Airport (Refer Section 1.1 below)
- Details or methods and processes for remedying and mitigating adverse effects of airport noise³ including but not limited to:
 - Improvements to Airport layout to reduce Airport noise;
 - Guidance relating to Auxiliary Power Unit (APU) usage and how that usage will be reduced over time where practicable;
 - improvements to Airport equipment (including provision of engine test shielding such as an acoustic enclosure for propeller driven aircraft) to reduce ground noise;
 - aircraft operating procedures in the air and on the ground procedures to minimise noise where this is practicably achievable;
 - an Airport Wide Construction Noise & Vibration Management Plan which outlines methods for guiding the way construction noise is managed including guidance for where a Project Specific Construction Noise Plan is required for a project.
- The procedures for the convening, ongoing maintenance and operation of the Air Noise Management Committee (refer to Appendix F)
- The mechanisms to give effect to a noise monitoring programme to assess compliance with noise conditions of the designations (refer to Part 6)
- The procedures for reporting to the Air Noise Management Committee any Aircraft operations and engine testing activities which contravene the designation conditions (refer to Part 5)
- Methods necessary for the completion of the implementation of the Quieter Homes Programme (as required) (Refer to Part 8)
- A procedure for dealing with complaints (refer to Part 7)
- The dispute resolution procedures to resolve any disputes between WIAL and the ANMC about the contents and implementation of the ANMP (refer Appendix F)

¹ Main Site Area, East Side Area and Miramar South Area designations (refer to Appendix A for relevant conditions)

² At the time of preparing this ANMP, City Council had notified its Proposed Wellington City District Plan ("Proposed Plan"). This ANMP may need to be updated following the issuing of decisions on the Proposed Plan, to account for any changes to the noise management framework insofar as it relates to activities at Wellington International Airport.

³ Refer to part 5 of ANMP

- Methods by which WIAL and the ANMC can keep in regular touch with the wider community, particularly where that community is affected by Airport noise, including via the preparation and implementation of an annual stakeholder communications plan (Refer to Part 8)
- The procedures for obtaining and making noise monitoring and compliance data obtained by WIAL publicly available on WIAL's website (refer to Part 9); and
- The procedures and required frequency for reviewing and amending the ANMP (refer to Part 10).

This ANMP also ensures that WIAL achieves the general duty set out in section 16 of the Resource Management Act 1991 (RMA or the Act) to adopt the best practicable option (BPO) to ensure that the emission of noise for land or water does not exceed a reasonable level.

While the ANMP has been carefully drafted to ensure it is consistent with the requirements of WIAL's designation, if an unforeseen conflict arises between the designation and the ANMP, the designation conditions prevail.

1.1. Objective of the Airport Noise Management Plan

The overarching objective of this ANMP is that:

Wellington Airport continues to provide for the ongoing operation and growth of the Airport, while minimising the effects of aircraft and airport noise on the surrounding community.

WIAL has identified ten policies or actions to implement this objective, including:

1. To improve awareness of Wellington Airport's noise management obligations and provide the community with certainty as to compliance with the noise limits and effects on all surrounding land uses.
2. To continue dialogue between Wellington Airport and the local community regarding noise management matters at the Airport.
3. To implement the Quieter Homes Programme to ensure the effects of aircraft noise on the community are being appropriately managed.
4. To establish and articulate a clear process for the monitoring and reporting of noise levels at the Airport and actions to be followed in the event of a noise level exceedance.
5. To provide a procedure for dealing with complaints including their recording and any corrective action(s) to be taken, the procedure for identifying non-compliance with designation conditions, and reporting to the Wellington Airport Noise Management Committee (ANMC).
6. To detail noise management practices for engine testing including preferred locations and times.
7. To minimise disturbance to residents at night by means of a curfew.
8. To minimise and mitigate effects of noise from Auxiliary Power Units (APU) and Ground Power Units (GPU).
9. To minimise the amount of construction work carried out at night⁴ and mitigate the effects on residents of noise from work which can only be done at night.
10. To explore opportunities to utilise new and emerging technology to reduce the effects of Airport noise and where appropriate, to advocate for the use of quieter aircraft.
11. To promote best practices for mitigating noise effects during take-off and arrival of aircraft

This ANMP is an evolving document and will be amended and updated in response to noise management practices (including those influenced by technological change) at the Airport and/or changes to the statutory framework (ie as a result of the proposed District Plan becoming operative or the RMA review). Amendments to the ANMP may be initiated by WIAL in consultation with the ANMC or vice versa. Any amendments to the ANMP will need to be certified by Wellington City Council (WCC or the City Council) before taking effect⁵.

⁴ Either during the Airports curfew (ie from 1am, or after last scheduled flight) and before 6am

⁵ Condition 14 of WIAL4 describes the certification process for this ANMP. It is not detailed in this plan.

Some additional matters have been included in the ANMP in the appendices for the assistance of the reader but do not form part of the ANMP. These include for example operational procedures. These matters are clearly identified in the ANMP and are not subject to certification by the Airport Noise Management Committee or the City Council.

1.2. List of Acronyms

Acronym	Description
ANB	Air Noise Boundary
ANMC	Airport Noise Management Committee
ANMP	Airport Noise Management Plan
ANOMS	Airport Noise and Operations Management System
APU	Auxiliary Power Unit
CAA	Civil Aviation Authority
CARs	Civil Aviation Rules
CNVMP	Construction Noise & Vibration Management Plan
GPU	Ground Power Unit
ICAO	International Civil Aviation Organisation
NMT	Noise Monitoring Terminals
RMA	Resource Management Act 1991
WIAL	Wellington International Airport Limited

1.3. List of Definitions

Term	Definition
A-weighting	The process by which noise levels are corrected to account for the non-linear frequency response of the human ear.
Aircraft	As per Civil Aviation Rule Part 1 – Definitions Means any machine that can derive support in atmosphere from the reactions of the air against the surface of the earth
Aircraft Movement (or Aircraft Event)	Either a take-off or a landing by an aircraft. For airport traffic purposes, one arrival and one departure of an aircraft counts as two movements.
Aircraft Noise	The noise from aircraft in while departing from and arriving at an airport. That includes the noise of the take-off ground roll and use of reverse thrust after landing and taxiing. It excludes the noise of all other aircraft and non-aircraft sources within the aerodrome boundaries – which together are referred to as land-based noise
Aircraft Operations	The engine run-up, taxiing, take off or landing at the airport of aircraft, and operate has a corresponding meaning as defined in WIAL 2 and WIAL 5 designations
Aircraft Stand	A designated area on an apron intended to be used for parking, handling, servicing, and maintaining an aircraft
Airport Noise	Noise generation from the airport. Refer to Part 3 of ANMP.
Airport Noise Management Committee (ANMC)	An independent committee comprising of industry and local resident representatives tasked with overseeing the compliance, review and implementation of the ANMP. Described in Part 8 and appendix F of the ANMP.
Airport Noise and Operations Monitoring System (ANOMS)	A system which links the noise monitoring network with radar and flight systems. Described in Part 6.0 of the ANMP.
Air Noise Boundary (ANB)	Means a boundary shown on the district plan maps, the location of which is based on predicted day/night sound levels of L_{dn} 65dB from future airport operations at Wellington International Airport.
Alternate	Aircraft using the airport as planned alternative to landing at a scheduled airport. Note any aircraft landing at Wellington as an alternate during curfew hours cannot depart until 0600 hrs.

Term	Definition
Arrival	Touchdown on landing
Auxiliary Power Unit (APU)	Self-powered unit, commonly mounted on the tail cone of any aircraft, to provide autonomous electrical and mechanical (pneumatic or hydraulic) power when the aircraft's propulsion engines are not in operation for the following: Starting power for main engines Pneumatic power for cabin air conditioning Shaft power for other pneumatic and hydraulic systems Backup electrical and pneumatic power for in-flight operations and emergencies
Best Practicable Option (BPO)	Defined in section 2 of the Resource Management Act as The best method for preventing or minimising the adverse effects on the environment having regard among other things to – The nature of the noise emission and the sensitivity on the environment to adverse effects The financial implications and the effects on the environment, of that option when compared to other options, and The current state of technical knowledge and the likelihood that the option can be successfully applied.
Curfew	Time restriction whereby aircraft are not permitted to depart or arrive except in limited circumstances.
Departure	Start of take-off roll
dB	Decibel - the logarithmic ratio to the base 10 of two numbers
dBA	The A weighted decibel.
Disrupted flight	A flight which is delayed on arrival or departure at Wellington through unforeseen circumstances that could not reasonably be catered for by prudent timetabling, such delay having originated at Wellington or within the previous 4 flight sectors as a result of: Weather (at origin, en-route, or destination causing cancellations, diversions, delays, missed approaches or holding); or Air Traffic Control (congestion, start delays, en-route holding or approach delays); or Closure of a departure or destination aerodrome; or Diversion for in-flight medical condition or flight safety reason to another aerodrome other than the flight planned aerodrome; or Aircraft unserviceability (e.g. mechanical breakdown); or An aircraft being required to wait for crew from a flight delayed as a result of any of the above. Note: An aircraft which has been substituted for an aircraft delayed as a result of any of the above also comes within the definition of disrupted flight Any aircraft may not depart Wellington Airport after midnight and before 0600 hrs to act as a substitute aircraft for another that has become unserviceable at a location other than Wellington.
Emergency	Aircraft landing in an emergency, including but not limited to: The operation of emergency flights required to rescue persons from life-threatening situation or to transport patients, human vital organs or medical personnel in a medical emergency; and The operation of unscheduled flights to meet the needs of a national civil defence emergency declared under the Civil Defence Emergency Management Act 2002
Engine Testing	The testing of one or more engine(s) of a single aircraft. It is the running of engines on an aircraft while it is stationary for the purpose of carrying out mandatory checks following maintenance work.
Ground Power Unit (GPU)	A fixed or mobile stand-alone unit which can be connected to the electrical system of an aircraft while on the ground to provide power to the aircraft while the aircraft is stationary. Some standalone GPUs consist of a diesel-powered generator. Other GPUs utilise a reticulated electricity supply and may be used as a started power source for some aircraft. GPU's do not have the capability to provide aircraft cabin air conditioning.
Heads of State or Senior Dignitary	A Head of State is the public person that officially embodies a state in its unity and legitimacy. Depending on the country's form of government the head of state may be a ceremonial figurehead (such as the British Monarchy) or a president. A Senior Dignitary includes the head of government – either the highest or second highest official in the executive branch of a state such as a prime minister, premier, chancellor or equivalent.
Land Based Noise	Sound or noise emanating from an aerodrome from sources other than aircraft taking off and landing. These include maintenance activities, APU, surface vehicles and any other sources within the aerodrome boundaries. It excludes the noise from aircraft on taxiways, runways and in flight while departing from and arriving at the aerodrome.

Term	Definition
L_{AE} or SEL	Sound Exposure Level The sound level of one second duration which has the same amount of energy as the actual noise event measured. Usually used to measure the sound energy of a particular event, such as a train pass-by or an aircraft flyover.
$L_{Aeq(t)}$	The equivalent continuous (time-averaged) A-weighted sound level. This is commonly referred to as the average noise level. The suffix "t" represents the time period to which the noise level relates, e.g. (8 h) would represent a period of 8 hours, (15 min) would represent a period of 15 minutes and (2200-0700) would represent a measurement time between 10 pm and 7 am.
$L_{AF Max}$	The A-weighted maximum sound pressure level using the fast time weighting. The highest sound level which occurs during the measurement period.
L_{dn}	The day-night sound level which is calculated from the 24 hour L_{Aeq} with a 10dB penalty applied to the night-time (2200-0700 hours) L_{Aeq} .
Minimise	Reduce to the smallest amount reasonably practicable
Noise Monitoring Terminal (NMT)	A fixed or portable long term sound measuring system that constantly records aircraft noise exposure sound levels to determine compliance with noise limits.
Quieter Homes Programme	The Airport is required to offer a noise mitigation package to property owners in the ANB whose properties fall within the Annual Aircraft Noise Contours. The subsidy offered by the Airport depends on the location of the house within the ANB and applies to existing buildings used for noise sensitive activities that existed prior to 22 March 2012. Any buildings commencing use as a noise sensitive activity after this date do not qualify for a noise mitigation package.
Statutory holiday period ⁶	Means: The period from 25 December to 02 January inclusive. Where 25 December falls on either a Sunday or Monday, the period includes the entire of the previous weekend. Where 01 January falls on a weekend, the period includes the two subsequent days. Where 02 January falls on a Friday, the period includes the following weekend. The Saturday, Sunday and Monday of Wellington Anniversary weekend, the Sovereign's Birthday weekend and Labour weekend. Good Friday to Easter Monday inclusive. Matariki Day Waitangi Day. ANZAC Day. Any other day decreed as a national statutory holiday. Where Matariki Day, Waitangi Day or ANZAC Day falls (or is recognised) on a Friday or a Monday, the adjacent weekend is included in the statutory holiday period. The hours from midnight to 06:00am immediately following the expiry of each statutory holiday period defined above.
Taxiing	The movement of an aircraft on the ground, under its own power

⁶ Defined in Condition 27(b) of Designation WIAL4



Statutory Context



2. Statutory Context

There are a number of authorising bodies and key pieces of legislation which collectively manage and monitor aircraft and airport noise generated from Wellington Airport. These are explored further in the following sections.

2.1. International

The International Civil Aviation Organisation (**ICAO**) is a United Nations body that requires all jet aircraft and helicopters to meet internationally accepted noise certification standards. These standards guide aviation-related legislation in member countries, including New Zealand. In order to ensure environmental protection is maintained in the aviation sector, ICAO also issues guidance on the application of noise abatement procedures.

2.2. National

The RMA⁷ is New Zealand's central piece of environmental legislation and provides the foundation for the sustainable management of natural and physical resources. The RMA provides the statutory framework for District Councils to impose controls on noise (via District Plans) and to undertake enforcement action to avoid the generation of unreasonable noise.

Wellington Airport is a network utility and requiring authority under the RMA. This enables Wellington Airport to establish "designations" over land or for activities that relate to its function as an airport authority under the Airport Authorities Act 1966. This is discussed further with respect to the District Plan, in Section 2.3.

The Civil Aviation Act 1990 (the Act) is New Zealand's key piece of aviation legislation⁸. The Civil Aviation Authority of New Zealand (CAA) is responsible for administering and enforcing the Act and for monitoring civil aviation and security standards established under the Act using Civil Aviation Rules (CARs).

CAR Part 91⁹ and 93¹⁰ are particularly relevant to the management of aircraft noise. The specific operating traffic rules and noise abatement procedures applicable to Wellington Airport (under the Act) are detailed in CAR Part 93. This information is also set out in the Aeronautical Information Publications ("AIPs") for the Airport.¹¹ The noise abatement procedures are protocols that Wellington Airport, as the Airport Operator, has put in place for aircraft on approach and departure to and from Wellington Airport to reduce the effects of aircraft noise on noise sensitive receivers located along the approach and departure paths to the Airport.

⁷ The government is in the process of reforming the RMA and enact three new pieces of replacement legislation. The Natural and Built Environment Bill and Spatial Planning Bill were introduced to Parliament on 15 November 2022 and are currently going through Select Committee consultation process. The Climate Change Adaptation Bill will be introduced in 2023.

⁸ The Civil Aviation Bill currently before Parliament will update this legislation but will not materially affect this Noise Management Plan.

⁹ Subpart A Aircraft noise and vibration (section 91.13) and Subpart J Operating Noise Limits (section 91.801 to 91.807), https://www.caa.govt.nz/rules/Rule_Consolidations/Part_091_Consolidation.pdf

¹⁰ https://www.caa.govt.nz/rules/Rule_Consolidations/Part_093_Consolidation.pdf

¹¹ http://www.aip.net.nz/pdf/NZWN_31.3_31.4.pdf, http://www.aip.net.nz/pdf/NZWN_31.5_31.6.pdf, http://www.aip.net.nz/pdf/NZWN_31.5_31.6.pdf

2.3. Local

The WCC District Plan sets out the framework for achieving the sustainable management purpose of the RMA. The District Plan includes objectives, policies and rules and other provisions such as designations, which control the development and use of land within the district, including the development and use of the Airport.

Under the District Plan, Wellington Airport holds five Designations¹², including:

- **Wellington Airport Obstacle Limitation Surfaces Designation (WIAL1):** specifies obstacle limitation surfaces around the Airport and its wider surrounding airspace.
- **Wellington Airport Miramar South Area Designation (WIAL 2):** provides for activities with an airport purpose on the block of land bordered by Broadway, Kauri Street, Kedah Street and Miro Streets, Miramar.
- **Wellington Airport Runway End Safety Area Designation (WIAL 3):** provides for activities associated with the runway end safety area at the southern end of the Airport. This designation will soon be uplifted.
- **Wellington Airport Main Site Area Designation (WIAL 4):** provides for activities with an airport purpose at the main Airport site.
- **Wellington Airport East Side Area Designation (WIAL 5):** provides for activities with an airport purpose on the southern part of the adjacent Miramar Golf Course.

Four of these designations (WIAL2, WIAL3, WIAL4 and WIAL5) essentially establish a "spot zone" over the Airport and enable a broad range of activities to be undertaken at the Airport without the need for land use consent from the City Council, so long as the activities fall within the scope of the designated purpose and comply with the relevant conditions. The potential effects of activities on the surrounding environment are managed by way of conditions imposed on the designation (WIAL2, WIAL4 and WIAL5), and as relevant to this ANMP, include:

1. Limits on the emission of noise from land-based activities;¹³
2. Controls on the hours of operation for land-based activities;¹⁴
3. Controls on construction noise;¹⁵
4. Controls on the emission, monitoring and modelling of aircraft noise;¹⁶
5. Controls on the hours of operation (i.e. a curfew) for aircraft operations;¹⁷
6. Requirements for the "Quieter Homes Programme" - Wellington Airport's programme of retrofitting existing (built before 22 March 2012) residential properties within the ANB;¹⁸
7. Controls on engine testing, including the location and time;¹⁹
8. Limitations on the location of aircraft operations;²⁰ and,
9. Requirements for the development and ongoing implementation of an ANMP.²¹

These conditions are elaborated on further in the following sections and can be found in Appendix A of this ANMP.

The underlying District Plan rules continue to apply to third parties that cannot rely on the designation to operate.

¹² At the time of preparing this ANMP, the City Council had notified its Proposed Wellington City District Plan ("Proposed Plan"). This ANMP may need to be updated following the issuing of decisions on the Proposed Plan, to account for any changes to the noise management framework insofar as it relates to activities at Wellington International Airport.

¹³ Conditions 10 to 11 and 16 of WIAL2, Conditions 30 and 31 of WIAL4 and Conditions 29 to 31 of WIAL5 (refer Appendix A)

¹⁴ Conditions 17 and 18 of WIAL2 and Conditions 33 and 35 of WIAL5 (refer Appendix A)

¹⁵ Condition 12 of WIAL2 and Conditions 35 and 36 of WIAL4 (refer Appendix A)

¹⁶ Condition 23 to 25 of WIAL4 and Conditions 29 to 30 and 32 of WIAL5 (refer Appendix A).

¹⁷ Condition 26 and 27 of WIAL4 (refer Appendix A)

¹⁸ Condition 28 of WIAL4 and Conditions 40-43 of WIAL5 (refer Appendix A)

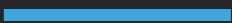
¹⁹ Condition 29 of WIAL4, WIAL5 Condition 34 of WIAL5 (refer Appendix A)

²⁰ Conditions 35 to 37 of WIAL5 (refer Appendix A)

²¹ Condition 32-33 of WIAL4 and Conditions 38 and 39 of WIAL5 (refer Appendix A)



Sources of Airport Noise



3. Sources of Airport Noise

There are a number of noise sources generated by or from Wellington Airport, and much of this is operational and unavoidable.

Noise at the Airport is a result of aircraft operations, ground support activities, airfield maintenance and site development. The extent to which this noise affects the community depends on a wide range of factors including timing of operations, aircraft type, proximity of noise sensitive activities and prevailing weather conditions.

3.1. Aircraft Operations

Aircraft operations means the arrival, taxiing and departure of aircraft. This is the most significant source of noise generated by/from Wellington Airport. This includes scheduled aircraft operated by airlines, private jets, aeroclub planes, emergency response and medical aircraft, and military aircraft. The sound made by different aircraft can vary depending on factors such as type of engine (for example, propeller or jet). Generally, noise from departing aircraft is greater than from that of an arriving aircraft. When departing, the noise level experienced on the ground from particular aircraft is influenced by the aircraft type and size, the way the aircraft is flown by the pilot, the rate of climb and weather conditions.

Refer to section 4.1 below regarding aircraft operation noise limits and section 5.1 for details about how aircraft operations are managed.

3.2. Auxiliary Power Units (APU)

When an aircraft is taxiing to its gate, the pilot will turn on the aircraft's APU. This is a small turbine engine usually located in the rear of an aircraft's fuselage. The APU burns aviation fuel to generate electricity to power the aircraft's systems when the main engines are not running or when not connected to a GPU. APUs are also used to start the aircraft engine.

If aircraft air conditioning is required while at a stand during turn around, the APU is also used to maintain an acceptable temperature onboard. Non operation of the APU during turnaround can result in an unacceptable cabin temperature being reached due to heat from solar gain, presence of passengers, or the running of other onboard systems.

Refer to section 4.3 below regarding noise limits for APUs, and section 5.5 about how APU usage is managed.

3.3. Ground Service Equipment

Ground servicing equipment includes a diverse range of vehicles and equipment necessary to service an aircraft during passenger and cargo loading and unloading, maintenance, and other ground based operations. For example, activities undertaken during a typical aircraft turnaround period include:

- cargo loading and unloading;
- passenger loading and unloading;
- potable water replenishment;
- lavatory waste tank drainage;
- aircraft refuelling;
- aircraft de-icing;
- engine and fuselage examination and maintenance; and
- food and beverage catering.

Airlines employ specially designed ground service equipment to support all these operations. Moreover, electrical power is generally required throughout gate operational periods for both passenger and crew comfort and safety. These services are often provided by ground service equipment.

3.4. Ground Power Units (GPU)

These provide electricity to an aircraft at a stand in order to run the aircraft's electrical systems. An aircraft would otherwise have to generate its own electricity using its APU or main engines. GPUs, however, do not provide sufficient power to run the onboard air conditioning.

A GPU needs to be manually connected to the aircraft after it parks at a stand. Plug in GPUs are connected to a mains power supply and emit less noise than other forms of GPUs.

3.5. Air Start Unit

Air Start Units are used when APUs are not operational. These are basically small jet engines on a trailer and provide low pressure - high volume air to the aircraft to enable the main propulsion engines to be started. When an APU is not operational, a GPU is used to supply electrical power to the aircraft to support onboard systems and an Air Start Unit will be used for the period necessary to start the aircraft's main engine.

Refer to section 4.4 below for noise limits regarding land-based noise which all Ground Service Equipment must comply with.

3.6. Engine Testing

Engine testing is the running of engines on an any aircraft utilising the airport while it is stationary for the purpose of carrying out mandatory checks following maintenance work. There is no aircraft heavy-maintenance base at Wellington Airport therefore high-powered engine testing generally only takes place in unplanned, breakdown situations and is not a regular noise feature from the Airport.

Refer to section 4.2 and 5.4 of the ANMP for how this is managed.

3.7. Construction and Maintenance of Airfield & Night²² Works

Given the operational constraints of the Airport, the general maintenance or upgrade of operational areas (such as the apron, taxiways, the runway and the road network) often needs to be undertaken during the night when there are no scheduled flights. This work can include:

- remedial and preventative maintenance to the pavement areas, and other critical aeronautical infrastructure; and
- other minor and frequent activities such as mowing, spraying and fertilising of the areas within the airfield.

Refer to section 5.6 of the ANMP for details as to how Wellington Airport's construction and maintenance noise is managed.

²² Either during the Airports curfew (ie from 1am, or after last scheduled flight) and before 6am

3.8. Wildlife Management

Keeping birds away from the Airport is important for the safety of aircraft and passengers, and WIAL is required by the CAA to manage this serious risk. The Airport uses a number of controls to manage the risk of bird strike including passive methods such as grass management, tree management, waste management, roosting inhibitors, effigies, chemical deterrents etc. However, on occasion, more active management is required resulting in loud noises to scare away the birds. This tends to be at sunrise and sunset when wildlife is most likely to cause a strike with aircraft due to their behavioural patterns, and increased air-traffic volumes.

These loud noises can include (but are not limited to):

- Vehicle Patrols - vehicle lights and horns can be used to herd and disperse birds.
- Sirens are used in the operations vehicles, and atop the main terminal roof. These can produce a variety of sounds to choose from (different bird species' distress calls, a digital siren, etc) and are changed regularly so birds don't get used to them.
- Firearms²³ - these are used as a last resort when there is imminent danger to aviation or a first resort for pest species such as spur-winged plovers, magpies and rabbits. Best practice dictates that firearms must also be used occasionally to create a negative association with the other (non-lethal) deterrents, improving their effectiveness by preventing the birds from becoming de-sensitised to them. A silencer is quipped to the primary shotgun used for culling wildlife, however, sometimes an un-suppressed shotgun is required to evoke a flight response in the targeted bird.
- Pyrotechnics - Wellington Airport uses various types:
 - Bangers - short range with loud bang often used with a screamer.
 - Screamer - loud screeching noise.

3.9. Airport Fire Station²⁴

The current Airport Fire Station is located on the eastern apron to the north of the terminal building. The majority of the noise generated by the operation of the Airport Fire Station is from routine testing and exercises related to emergency services. These are intermittent but generally occur once or twice a day.

Emergency equipment is tested on a weekly basis, such as chainsaws and cutters. This testing is usually undertaken in the morning and the type of equipment tested varies each day and takes place for less than 10 minutes. There is also the occasional testing of the outboard motors for the emergency marine rescue boats.

3.10. Ancillary Activities

There are a number of activities and services located on the airport site that are ancillary to the operation of the airport. For example, on the Miramar South Site (opposite the Z service station on Broadway) there is an electric bus depot and rental car storage area currently being constructed. Noise from this site is expected to relate to vehicle movements, the EV chargers and pressure washer (for bus washing). An acoustic assessment has been undertaken to ensure that the proposed activities meet the conditions of WIAL2 designation (refer to Appendix A1).

²³ A "firearm" is an object capable of propelling a missile or projectile via explosion. For the purposes of this document, the word "firearm" will also refer to any air rifle, or spring-powered gun that is otherwise not classified as a firearm in the legal sense. Currently, Wellington Airport uses a 12 gauge shotgun and a .22 air rifle.

²⁴ The proposed new Airport fire station, which has been granted resource consent from WCC in 2020, is to be built on the western apron adjacent to Coutts Street. This will have its own bespoke operational noise management plan given its proximity to the nearby residential areas which will be considered by the Airport Noise Management Committee prior to being submitted to WCC for certification.



Noise Limits at Wellington Airport

4. Noise Limits at Wellington Airport

The extent to which the community is affected by noise from Wellington Airport (as outlined in Section 3) is caused by a wide range of factors. These include the type of aircraft, the number of aircraft movements, the hours of airport operations, air space management, the proximity of the activities, topography, and the local weather conditions.

In the following sections, the ANMP details the noise limits for aircraft operations, engine testing and land-based noise at Wellington Airport. The noise limits and rules set out below are in accordance with the noise-related conditions imposed on the relevant Wellington Airport Designations (refer to Appendix A for these conditions).

4.1. Aircraft Operations

The District Plan depicts an Air Noise Boundary (ANB) around the Airport (refer to Appendix B). Within this area, aircraft operations must be managed such that aircraft noise exposure does not exceed 65dBA Ldn at or outside of the ANB. This is based on the total noise produced by all aircraft movements during a typical day, evenly measured over a rolling 90 day (3 month) period. The Ldn is calculated and modelled annually, with the Annual Noise Contour representing the location of the 65dB Ldn contour for that year. The Noise Monitoring Programme is discussed further in Part 6.

The location of the ANB is based on projected aircraft volumes and types, growth estimates, and topography.

4.2. Engine Testing

Engine testing at the Airport is generally restricted to the hours 6am until 8pm, and to the engine testing areas identified in Appendix C²⁵. There shall be no engine testing within the East Side Area.²⁶

Engine testing may also occur outside of the above specified hours under the following limited circumstances:²⁷

- For essential unscheduled maintenance, provided it occurs between 8pm and 11pm, is reported to the ANMC and is published on Wellington Airport's website within three working days.
- To operate an aircraft within flying hours²⁸ provided the engine run is no longer than required for normal procedures and comprises a short duration engine run by way of flight preparation while the aircraft is on the apron; or,
- Between the hours of 11pm and 6am, provided all of the following are complied with:
 - The engine testing does not generate noise at or within the boundary of any residential zone that exceeds the limits described in Table 1;
 - The engine test is for aircraft using the Airport as an alternative landing site;
 - The total number of engine test events shall not exceed 18 in any consecutive 12 month period; and,
 - The total engine test duration is no longer than 20 minutes.

Table 1 Engine testing limits.

Day	Time	Noise Limit
All days	11pm to 6am	60 dB L _{AEQ} (15 min)
All days	11pm to 6am	75 dB L _{Afmax}

²⁵ Condition 29(a) and (b) of WIAL4 (refer Appendix A)

²⁶ Condition 34 of WIAL5 (refer Appendix A)

²⁷ Condition 29(c) to (e) of WIAL4 (refer Appendix A)

²⁸ In compliance with Condition 26 of WIAL 4 (refer Appendix A)

4.3. Operating Ground Power and Auxiliary Power Units

The operation of GPUs and APUs within the Main Site Area shall not exceed the limits set out in Table 2 when measured at any adjoining Residential zone:²⁹

Table 2 GPU and APU noise limits.

Day	Time	Limit
Monday to Saturday	7am to 10pm	55 dB LAEQ (15 MIN)
All other times		45 dB LAEQ (15 MIN)
All days	10pm to 7am	75 dB LAFmax

APU usage associated with the following activities is exempt from the limits set out in Table 2:

- APU usage associated with the towing of aircraft;
- APU usage 60 minutes prior to a scheduled departure or 60 minutes after the aircraft has stopped at on the gate, unless a longer duration is required for operational or public health and safety reasons;
- APU usage associated with engine testing.

The operation of APUs within the East Side Area shall be managed so the rolling 90 day average 24 hour night-weighted sound exposure, when combined with aircraft operations, does not exceed 65 dB Ldn at the location specified in condition 29 of WIAL5 (refer to Appendix A3).

In addition, the usage of APUs within the East Side Area:

- Is restricted to a period not exceeding 15 minutes after an aircraft has stopped at the gate or prior to leaving the gate.³⁰
- Shall cease between the hours of 10pm and 7am, apart from usage associated with aircraft under tow.³¹

Plug-in GPUs are also required to be available at all stands within the East Side Area.³²

4.4. Land Based Noise

4.4.1. Miramar South Area Designation

Noise emission levels from any site within the Miramar South Area, when measured at any location that includes an occupied residence located within the adjacent Outer Residential Area or any location within the Centre Zone, shall not exceed the limits set out in Table 3.³³

Table 3 Noise limits for land based noise within the Miramar South Area.

Day	Time	Limit
Measured at Outer Residential Area		
Monday to Sunday	7am to 10pm	55 dB LAeq(15min)
Monday to Sunday	1am to 6am	40 dB LAeq(15min)
At all other times		45 dB LAeq(15min)
All days	10pm to 7am	75 dB LAFmax
Measures at the Centre Zone		
At all times		60 dB LAeq(15min)
		85 dB LAFmax

²⁹ Conditions 30 WIAL4 (refer Appendix A)

³⁰ Condition 33 of WIAL5 (refer Appendix A)

³¹ Condition 35 of WIAL5 (refer Appendix A)

³² Condition 36 of WIAL5 (refer Appendix A)

³³ Condition 10 of WIAL2 (refer Appendix A)

Noise limits for building services³⁴ are to be at least 10 dB lower than the limits described in Table 3 above.³⁵

The following also apply between the hours of 10pm and 7am:³⁶

- Warehouse doors are to remain closed unless in use; and
- There shall be no outdoor servicing or maintenance of equipment.

4.4.2. Main Site Area Designation

Noise emissions from any activity within the Main Site Area, other than aircraft operations, engine testing and the operation of APUs, when measured at any adjoining Residential Zone shall be managed to ensure the limits identified in Table 4 are achieved.³⁷

Table 4 Noise limits for land based noise within the Main Site Designation.

Day	Time	Limit
Monday to Saturday	0700 to 2200	55 dB LAEQ (15 MIN)
All other times		45 dB LAEQ (15 MIN)
All days	2200 to 0700	75 dB LAfmax

4.4.3. East Side Area Designation

Noise emissions from any activity within the East Side Area, other than aircraft operations and the operations of APUs, when measured at any adjoining Residential Zone shall be managed to ensure the limits identified in Table 5 are achieved.³⁸

Table 5 Noise limits for land-based noise within the East Side Designation.

Day	Time	Limit
All days	7am to 10pm	55 dB LAEQ (15 MIN);
	All other times	45 dB LAEQ (15 MIN);
	10pm to 7am	75 dB LAfmax

³⁴ Building services are electrical, plumbing, mechanical systems in the building

³⁵ Condition 16 of WIAL2 (refer Appendix A)

³⁶ Conditions 17 and 18 of WIAL2 (refer Appendix A)

³⁷ Condition 31 of WIAL4 (refer Appendix A)

³⁸ Condition 31 of WIAL5 (refer Appendix A)



Noise Management



5. Noise Management

This section of the ANMP outlines the measures that will be undertaken by Wellington Airport to progressively remedy and mitigate the potential noise effects from activities being undertaken at Wellington Airport. It includes measures both required by Wellington Airport's designation, as well as other measures volunteered by Wellington Airport as a responsible airport operator and neighbour.

5.1. Managing Airport Noise

Wellington Airport is responsible for providing and maintaining airport infrastructure such as terminals, runways, airport parking and other infrastructure to facilitate the operations of the airport. While Wellington Airport does not directly manage aircraft movements or conduct aircraft engine testing, Wellington Airport is responsible for ensuring all operators conduct airport operations and aircraft engine testing in a way that follows the noise limits specified in its designations.

Wellington Airport is conscious of the effects of airport noise on the local community and the surrounding environment and is dedicated to its ongoing monitoring and continuous management. Over the past 20 years the overall noise generated by the Airport has been significantly reduced, despite an overall increase in activity. This reduction is a result of substantial investment in new technology by the airlines and the Airport, as well as a continuous commitment to reducing airport noise.

Measures that have implemented over time, and maintained in order to help manage the effects of airport noise include:

- Improvements to Airport, airline and contractor equipment such as investment in quieter (electric) ground service equipment and construction machinery, in addition to changes in aircraft technology which have produced new generations of aircraft that are up to 30% quieter;
- The implementation of the Airport's curfew that has effectively eliminated most airport noise between midnight and 6am;
- Working to discourage new noise sensitive activities from being built close to the Airport;
- Providing noise mitigation packages for qualifying homes close to the Airport (Quieter Homes Programme);
- Noise abatement procedures designed especially for Wellington Airport, including smarter flight paths that generate less noise over residential areas; and,
- Giving the public direct and timely access to noise information so anyone can monitor and enquire about flights online.

Wellington Airport continues to look for opportunities to reduce airport noise and reports to the ANMC on international developments in technology or procedures that may assist with achieving this outcome.

When designing changes to the configuration and layout of the Airport, Wellington Airport is conscious of the impact of noise on nearby residents and other activities. Airport Masterplans take noise mitigation into account, balanced with the need for efficient and effective land use for operational purposes. For the upcoming East Side expansion, this balance is reflected in the provision for a remaining green belt between the expanded apron space and residential areas, conditions on the types of activities that can take place within the area, and curfews on particular activities.

5.2. Noise Abatement Procedures

Airways New Zealand is the body responsible for managing the day-to-day air navigation and air traffic management across New Zealand. This includes managing take-offs, landing and taxiing of aircraft at the Airport. Airways New Zealand adhere to the CAA standards and communication procedures, when controlling air traffic movement.

Noise generation after take-off and before landing is authorised under the Civil Aviation Act and related regulation and rules. In general, under the Civil Aviation Rules, aircraft are allowed to fly 500 ft above a non-congested area and 1000 ft above a congested area³⁹, unless there are specified Noise Abatement Procedures. There are Noise Abatement Procedures specific to Wellington Airport (refer to Appendix E) which pilots must comply with which specify areas where aircraft should not overfly at an altitude lower than specified.⁴⁰

Monitoring compliance with these rules are not within the responsibility of the Airport itself. As long as the aircraft operators comply with the CAA rules/Noise Abatement procedures, then they are permitted to fly where they want. If a complaint is received however, the airport will investigate its compliance in consultation with Airways NZ. If it is found that an aircraft operator has not complied with these rules, the matter will be referred to the CAA.

5.3. Wellington Airport Curfew

In order to reduce the effects of night-time noise and to minimise disturbance to residents, Wellington Airport has a curfew⁴¹ which restricts the hours of aircraft operations. Aircraft operations at Wellington Airport are restricted to the following hours:

- Domestic Aircraft Operations⁴²: 6am to 12 midnight
- International Aircraft Operations⁴³: Departure 6am to 12 midnight
Arrival 6am to 1am
- Aircraft Operating under main engine power within the East Side Area⁴⁴: 7am to 10pm

Outside of these hours, some aircraft operations are exempt from the curfew. This includes⁴⁵:

- Aircraft operating in an emergency, including medical and civil defence emergencies;
- Disrupted flights where aircraft operations are permitted for an additional 30 minutes;
- During statutory holiday periods, where aircraft operations are permitted for an additional 60 minutes;
- Aircraft carrying heads of state/senior dignitaries acting in their official capacity or other military aircraft movements; or,
- Up to four aircraft operations per night⁴⁶ with noise levels not exceeding 65 dB LAFmax (1 sec) at the ANB⁴⁷.

Monitoring data from the Airport Noise Monitoring System (refer to Part 6) is used to generate "Night Movement Reports". These reports incorporate flight observation data provided by Airways New Zealand and are used by Wellington Airport to confirm the curfew procedures have been met. Curfew reports are provided to the ANMC as part of the meeting agenda.

Wellington Airport's Operational Curfew and Disrupted Flight Procedures are included in Appendix C. Note that these procedures are included for information purposes and are not subject to certification by the City Council, however any changes to these will be in consultation with relevant stakeholders and the ANMC.

³⁹ Congested is defined in CAA Rules Part 1 as "in relation to a city, town or settlement means any area which is substantially in use for residential, industrial, commercial or recreational purposes."

⁴⁰ Condition 33(iv) of WIAL4 (refer Appendix A)

⁴¹ Condition 26 of WIAL4 (refer Appendix A)

⁴² Condition 26 of WIAL4 (refer Appendix A)

⁴³ Condition 26 of WIAL4 (refer Appendix A)

⁴⁴ Condition 37 of WIAL4 (refer Appendix A)

⁴⁵ Condition 27 of WIAL4 (refer Appendix A)

⁴⁶ Within curfew

⁴⁷ List of exempt aircraft and criteria for this exemption are outlined in Appendix 3

5.4. Engine Testing

Aircraft engine testing is generally required as a part of pre-flight checks following maintenance and repairs. These tests are undertaken by airline operators or repair companies who are responsible for managing when, where, and how these tests are conducted. In general, these tests are completed outdoors which increases the chances that testing could affect neighbouring residents. Engine testing at Wellington Airport generally only takes place in unplanned or breakdown situations. However, to mitigate the effects of engine testing on surrounding residents, and in addition to the noise limits set out in section 4, Wellington Airport has defined specific areas within the Main Site Area where engine tests may not occur (Appendix B). No engine testing is allowed within the East Side Area⁴⁸.

Wellington Airport has established procedures for operators to report engine tests, as well as guidelines to educate and assist airport operators to comply with the engine testing requirements of the designation. If the Airport is given a reasonable advance warning by an aircraft operator of the need for a high-powered engine test, it will endeavour to notify its residential neighbours by posting on local and resident association social media pages.

Wellington Airport ensures it follows best practice engine testing procedures and keeps well informed of potential changes in technology and improvements to airport equipment that could potentially minimise and mitigate the effects of engine testing on surrounding residents⁴⁹.

Wellington Airport's Operational Engine Testing Procedures are provided in Appendix D. Note that these procedures are included for information purposes and are not subject to certification by the City Council, however any changes to these will be in consultation with relevant stakeholders and the ANMC. The Airport Planning Manager provides an annual report to the ANMC detailing the previous year's compliance with the Engine Testing designation conditions and procedures.

5.5. Ground Power and Auxiliary Power Units

GPUs are quieter than APUs. Electric GPUs are quieter than diesel GPUs. Ideally, an aircraft after arriving at its allocated gate, will plug into an electric GPU to provide any required power for ground servicing, and turn off its APU until it is needed to start its engines again for departure. However, GPUs do not provide enough power to provide pneumatic air conditioning into some aircraft cabins, and therefore for health and safety reasons, air crews sometimes continue to keep their APUs running to provide cabin air conditioning, especially on short turn arounds (for the comfort of both crew, ground service staff and passengers)⁵⁰.

The Wellington Airport designations (WIAL4 and WIAL5) set noise and operational limits on the use of APUs and GPUs to minimise and mitigate their noise effects on residential neighbours (refer to section 4.3 above).

In terms of GPU infrastructure assets at Wellington Airport, all regional gates have electric plug-in GPUs. Three jet bridge gates also have electric GPUs installed. Other gates have standalone diesel GPUs available. WIAL is working with airlines to phase out the use of diesel GPUs for both noise minimisation and sustainability purposes.

GPU usage is currently performed at the discretion of air crews. WIAL is working with airlines and ground service operators to increase the use of GPUs while aircraft are at the stands and to assess the continued rollout of electric GPU supporting infrastructure across all jet gates.

When the East Side Area designation is developed for aircraft operations into the future, Wellington Airport will also ensure that all stands will be equipped with plug in (i.e. electric) GPUs to minimise the noise effects associated with APU and GPU usage for neighbouring properties within this area. As noted in section 4.3 above, stricter conditions are imposed on the use of APUs within the East Side Area due to its proximity to residential neighbours.

⁴⁸ Condition 34 of WIAL5 (refer Appendix A)

⁴⁹ Condition 33(i) of WIAL4 (refer Appendix A)

⁵⁰ At some airports internationally, the bridges/gates are fitted with pre-conditioned air units (known as PCAs), which can be installed alongside GPUs so that APUs are not required for this purpose. Wellington Airport are investigating the Airport's technical compatibility to support this, with the intention of potentially rolling this out as gate infrastructure is replaced and further development occurs.

5.6. Construction Noise Management Plan

WIAL regularly undertakes construction and maintenance works within the airport. Operational constraints mean that often these works need to be carried out during the night⁵¹.

Wellington Airport currently has an Airport Wide Construction Noise Management Plan (CNVMP) in place. The purpose of the Airport Wide CNVMP is to develop and implement procedures and strategies with the aim to minimise the disturbance to residents and other noise sensitive receivers caused by airport construction and maintenance works⁵². The Airport Wide CNVMP establishes the approach to considering and managing the effects of construction noise for Wellington Airport construction and maintenance projects. A copy of the Airport Wide CNVMP is in Appendix H of this Plan.

The Airport Wide CNVMP is intended for general airport construction and maintenance works. Where more complex projects are proposed (i.e. those that are longer term, include multiple sites or extensive night time works), a detailed project specific CNVMP may be required. Any development of the East Side Area will remain subject to specific CNVMP requirements in accordance with relevant conditions on the East Side Area designation⁵³.

Project specific CNVMP's are discussed with the ANMC, and information regarding these projects are published in the WIAL website⁵⁴.

5.7. Future Development of the East Side Area

The East Side Area currently comprises part of the Miramar Golf Course. In the short term, this use will remain until Wellington Airport requires this land for airport purposes.

Prior to the East Side Area being developed, WIAL shall update this ANMP to set out its intended methodology for providing mechanical ventilation to the 64 residential properties that are identified in the East Side Area designation as been affected by noise emissions from this area⁵⁵.

5.8. Military Aircraft Operations

The New Zealand Defence Force is permitted to undertake activities at Wellington Airport. While the New Zealand Defence Force is responsible for ensuring its own activities either comply with the relevant District Plan requirements and/or have the appropriate authorisations in place, it is WIAL's expectation that the New Zealand Defence will comply with all the relevant requirements set out in this ANMP.

⁵¹ Either during the Airports curfew (ie from 1am, or after last scheduled flight) and before 6am

⁵² Condition 35 and 36 of WIAL4 (refer Appendix A)

⁵³ Conditions 14 to 27 of WIAL. (refer Appendix A)

⁵⁴ www.wellingtonairport/noise/construction-noise

⁵⁵ Conditions 40 to 43 of WIAL5.



Noise Monitoring Programme



6. Noise Monitoring Programme

Noise management and compliance with our noise management obligations is of utmost importance to WIAL. Accordingly, both continuous and periodic monitoring and modelling of noise at Wellington Airport is undertaken by WIAL. This data is used to inform land use practices at the Airport, confirm compliance with noise management obligations, and provide the community with assurances that WIAL is fulfilling its duty to avoid unreasonable noise.

To assist with noise monitoring, Wellington Airport uses an acoustic consultant to operate a monitoring programme that has been designed to capture noise level readings of the on-going operations at the Airport.

The monitoring programme, locations and procedures for reporting exceedances is set out further in the following sections.

6.1. Measuring Aircraft Noise

Aircraft noise at Wellington Airport is measured in accordance with NZS 6805:1992⁵⁶. It is based on the Day/Night Sound Level (Ldn) which measures the cumulative 'noise energy' produced by all flights (landing or take-off) during a typical day, evenly measured over a rolling 90 day period. A 10 decibel penalty is applied to flights from 10pm to 7am to take account of the increased disturbance caused by noise at night.

As described in section 4.1, aircraft operations at Wellington Airport are allowed to generate up to 65dB Ldn when measured at the ANB. This is based on the total noise produced by all aircraft movements during a typical day, evenly measured over a rolling 90-day period. This means that individual aircraft may exceed 65 decibels, so long as the typical day's average does not exceed that level.

Aircraft noise is monitored at three sites around the airport at the ANB. The monitoring system enables WIAL to evaluate whether the total aircraft noise generated is within the levels set out in the designations. As a result of this compliance monitoring, WIAL can demonstrate that noise generating activities consistently comply with its Designations noise requirements.

In addition to the above, each year WIAL prepares an Annual Aircraft Noise Contour which demonstrates compliance with the 65 dB limit at the ANB. These contours also show how Wellington Airport is tracking with respect to the capacity of the for growth of aircraft movements within the ANB and helps to inform the Quieter Homes Programme described in section 5.10. These contours are provided to the ANMC and published on Wellington Airport's website.

6.2. Airport Noise and Operations Monitoring System

WIAL operates the Envirosuite Pty Ltd (Envirosuite) Airport Noise and Operations Monitoring System (ANOMS) for the purpose of monitoring and reporting on aircraft noise which can then be used for demonstrating ANB compliance and investigating noise complaints⁵⁷. ANOMS integrates air traffic control radar information from individual aircraft operations with noise data from ground-based noise monitoring terminals (refer section 6.3 below).

Data from the Noise Monitoring Terminals can be queried to understand the overall Ldn for a specific period of time or the noise from each and every aircraft operation, including the position of the aircraft along the flight track. ANOMS is used by WIAL to collect and report noise monitoring data to demonstrate ANB compliance and to respond to noise complaints.

WIAL receives the following reports from Envirosuite monthly:

- 90 day Ldn (by Noise Monitoring Terminal (NMT));
- Daily Ldn (by NMT);
- Night movement (curfew) report;
- Aircraft Operations (operation type and aircraft type);
- Uncorrelated Aircraft Analysis; and,
- A calibration report (by NMT).

These reports and graphs (i.e. all of the reported information owned by WIAL) are included in the ANMC agenda and published on Wellington Airport's website.

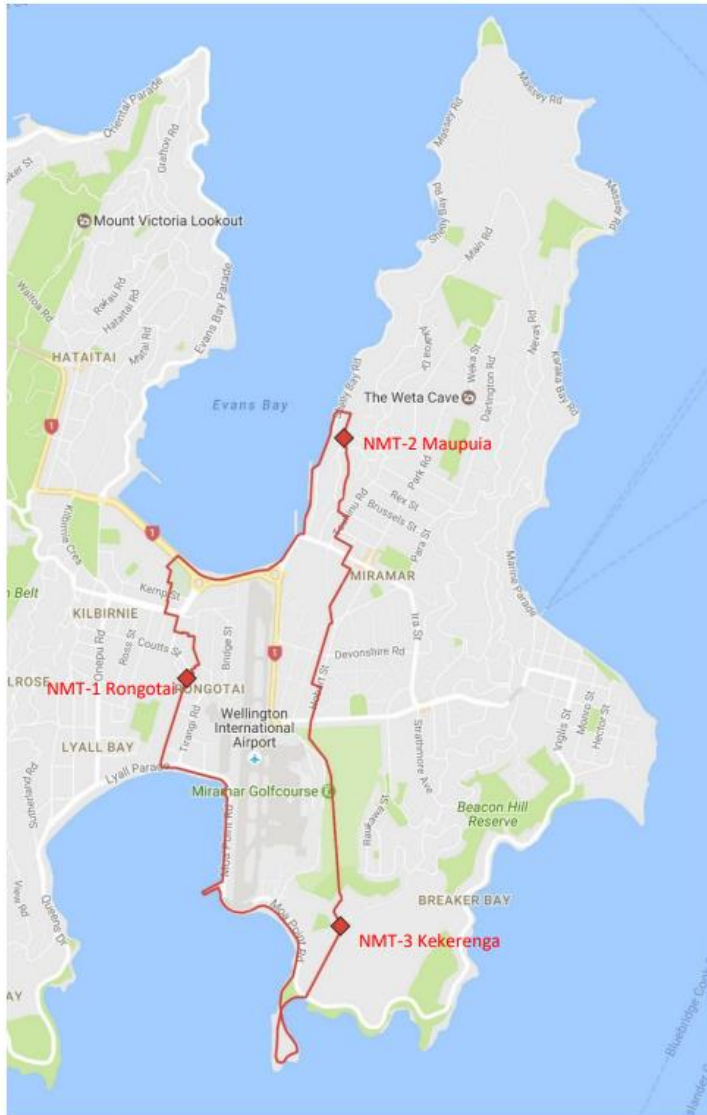
⁵⁶ Condition 24 of WIAL4 (refer Appendix A)

⁵⁷ Condition 23 of WIAL4 (refer Appendix A)

6.3. Aircraft Noise Monitoring locations

Using the ANOMS, noise monitoring is conducted using three 3639-A fixed NMT located within the ANB at NMT 1 -Rongotai (Rongotai College), NMT 2 -Maupuia (Akaroa Drive) and NMT-3 Kekerenga (corner of Ahuriri & Kekerenga Streets, Strathmore Park), as shown in figure below.

Figure 1 Air Noise Monitoring Terminal Locations.



6.4. Land Based Noise Monitoring

Land based noise level monitoring and assessment⁵⁸ must be conducted by a suitably qualified and experienced person in accordance with NZS 6801:2008 Measurement of Environmental Sound. The purpose of the monitoring will be to measure and assess land based airport noise sources. The monitoring results shall be prepared against the applicable land based noise limits⁵⁹ set out under Sections 4.4 of the ANMP. Prior to any land based assessments, Council and WIAL must agree on a testing methodology. The initial (first) land based noise monitoring and assessment report must be prepared and issued to Wellington City Councils Compliance Manager (via the Acoustic Team) and ANMC no later than by the December ANMC meeting held in 2023. Following this initial review report, all land based noise level monitoring, assessment and reporting must then be conducted at least every two years (from the date of the last issued report) or when there is any reasonable request by Council to do so.

⁵⁸ This monitoring must be undertaken by, and at a cost to WIAL

⁵⁹ This excludes noise from aircraft operations, engine testing and APU's

6.5. Noise Level Exceedances

In the event that monitoring determines that noise levels at the Airport have exceeded the limits set out in section 4, including both aircraft and land-based noise, the following procedures will be followed:

1. Within one working day, WIAL will advise the WCC Noise Team and the ANMC of the non-compliance event.
2. Within five working days, or as soon as reasonably practicable, WIAL shall provide a report to the ANMC and the WCC Noise Team, by a person suitably qualified in acoustics stating the extent of the non-compliance and its significance.
3. WIAL will investigate the source and reason for the non-compliance event(s).
4. WIAL will also determine whether the non-compliance event(s) is part of a broader trend or pattern of events.
5. If necessary WIAL will meet with the airport operators concerned and jointly identify possible mitigation measures.
6. WIAL will produce a report outlining the outcome of its investigation into the non-compliance event(s).
7. A review of the report, and any recommendations or mitigation proposed by WIAL, will be undertaken by the ANMC.
8. WIAL will take all practicable steps to:
 - a. remedy the non-compliance.
 - b. ensure that another non-compliance does not occur.

NOTE: WCC will undertake any enforcement action it sees as necessary in accordance with the Resource Management Act 1991.



Complaints



7. Complaints

7.1. Complaint Handling

This section outlines WIAL's standard procedures for recording, responding to, and reporting on any noise complaints it receives from the community in relation to aircraft operations, engine testing and any other noise generated at Wellington.

WIAL documents all noise complaints on a Noise Enquiries Register.

7.2. Lodging a Complaint

Complaints can be made to Wellington Airport via the following means:

- Email: airnoise@wellingtonairport.co.nz
- Telephone: 0508 AIRNOISE (0508 247 664) (voicemail), or via main airport phone number 04 385 5100
- Website: Noise enquiry form (wellingtonairport.co.nz) and via Webtrak in relation to a particular aircraft
- Writing: Airport Noise Team, Wellington International Airport Limited, PO Box 14175, Wellington

WIAL also receive complaints via:

- the WCC Noise Team; and
- the resident representatives on the ANMC.

In order for WIAL staff to investigate a noise complaint, the complainant must provide details including an approximate time, description and location of the noisy activity. WIAL staff will contact the complainant to find out this information if it has not been provided in the initial complaint.

7.3. Complaint Process

WIAL will acknowledge receipt of the complaint within one working day, and also notify the WCC Noise Team of the complaint.

WIAL will investigate the source and cause of the noise, whether correct procedures were followed and if any corrective actions are required.

A written response outlining the conclusion of the investigation undertaken by WIAL staff will be provided to the complainant and the WCC Noise Team within three working days. If further investigation is necessary, WIAL will continue to update both the complainant and the WCC Noise Team on the investigation until the complaint is resolved.

Any complainant unhappy with the outcome of the response or investigation into their complaint can contact the resident representatives on the ANMC to follow up the matter further. Details of how to contact the residents representatives will be provided in WIAL's response to the complainant.

If the investigation reveals that the noise did not originate at the Airport, WIAL will advise the complainant and refer them to the WCC Noise Team.

Low flying and flight path complaints will be reviewed to ensure the flight is in accordance with any relevant CAA flight protocol. If circumstances are unusual, WIAL will refer the matter to the aircraft operator for comment prior to responding to the complainant and if appropriate refer the matter to the CAA for their action.

7.4. Non-Compliances

In the event that a non-compliance with the designation conditions is found, the following procedures will be followed:

- WIAL Planning Manager will within one working day advise the WCC Noise Team and the ANMC of the non-compliance and notify complainant;
- WIAL will investigate the source and reason for the non-compliance event by:
 - meeting with the airport operators concerned to identify if the non-compliance was a result of human error, mechanical/operational issues, or non-conformity of the ANMP (refer below if this is the case); and,
 - determining whether the non-compliance event is part of a broader trend or pattern of events;
- WIAL will take all practicable steps to:
 - remedy the non-compliance; and,
 - ensure that another non-compliance does not occur;
- WIAL will produce a report outlining the outcomes of its investigation into the non-compliance events. This will be sent to the Noise Compliance Team at the City Council; and,
- The outcome of the investigation by WIAL and the City Council will be reported to the next ANMC Meeting.

In the event that a non-compliance with this ANMP is found (i.e. a non-compliance with procedures in the ANMP rather than designation conditions themselves), then the WCC Noise Team will be notified within one working day. The ANMP non-compliance will be reported at the next ANMC meeting outlining any corrective actions that have since been taken to ensure that this is not repeated, and the complainant will be informed

7.5. Analysis and Reporting

A summary of the noise complaints received over the previous three months is included as an agenda item for each ANMC meeting. The summary includes brief details of the complaint, and the outcome of the investigation. A graph showing the number and type of complaint by month over the last three years is included in the summary.

The complaint summary is analysed from time to time to identify any trends that may be occurring. Remedies to mitigate increasing levels of noise will be investigated, with the BPO considered for implementation⁶⁰.

⁶⁰ Best Practicable Option (BPO) is defined in section 2 of the Resource Management Act 1991



Stakeholder Engagement



8. Stakeholder Engagement

8.1. Airport Noise Management Committee (ANMC)

The ANMC was originally formed in 1997 and provides a platform for community and industry representatives to advise on the Airport's ANMP. The ANMC receives the full support of the Airport in the management of air noise at Wellington Airport.

The ANMC's core business is to monitor Wellington Airports compliance with the relevant noise conditions. In undertaking this role, it also oversees the implementation of the Airport's Noise Management Plan. It can make recommendations to WIAL on procedures to ensure that it manages the Airport in a way to both comply with the relevant conditions and minimise its impact on the surrounding community as much as practicable.

The ANMC membership comprises of ten representatives and an independently appointed chairperson. The Terms of Reference for the ANMC, including its purpose, membership, meeting procedures and functioning are set out in detail in Appendix D. The process for electing community representatives is also detailed in the Terms of Reference.

8.2. Quieter Homes Programme

The Quieter Homes Programme works to reduce the effects of aircraft noise on residents. As part of this initiative, WIAL offers homeowners within the Airport's ANB a subsidised package of acoustic mitigation designed to reduce aircraft noise in habitable rooms to a day/night average (Ldn) of 45 decibels⁶¹. The Quieter Homes Programme is offered to all homes within the ANB that receive less than 75 Ldn, and built before 22 March 2012, with either a 100% or a 75% subsidy of the cost depending on the degree of aircraft noise experienced at the property⁶². For properties that receive a noise level of 75 Ldn or greater, due to the fact that noise mitigation measures could not effectively achieve the required internal noise level (45 dB), WIAL instead offers to purchase these under its fair valuation and purchase programme (willing seller/willing buyer basis).

The phased roll out of the "Quieter Homes" acoustic mitigation commenced in April 2016 and is managed by area, starting with those properties that experience the highest exposure to aircraft noise (Appendix G for the Quieter Homes Roll-out map). The Quieter Homes packages are tailored to the individual needs of each property and are based on the proximity to the airport, the dwelling construction and the level of noise exposure. As keeping doors and windows closed substantially reduces the impact of external noise levels, all packages will include a mechanical ventilation system. In some cases, the ceilings, walls, windows and doors may require further treatments such as insulation, acoustic glazing or new seals to be installed.

The ANMC is kept regularly updated on the progress of the Quieter Homes Programme and more information about the offer and additional fact sheets are available on the Wellington Airport website (www.wellingtonairport.co.nz/noise/quieter-homes/).

8.3. Stakeholder Communications Plan

To ensure ongoing dialogue and communication between Wellington Airport and the surrounding community, within six months of this ANMP being certified by the City Council, Wellington Airport will prepare a stakeholder communication plan for the forthcoming twelve-month period⁶³. This plan will be an evolving document and will identify Wellington Airport's intended community engagement initiatives for the forthcoming year with respect to airport noise.

The Stakeholder Communication Plan will be presented to the ANMC, with any updates or changes to the plan presented to the ANMC at their quarterly meetings, along with a brief rationale of the drivers behind the update or change.

The current Stakeholder Communication Plan may be included as part of this ANMP for ease of reference but does not form part of the ANMP.

⁶¹ Condition 28 of WIAL4 (refer Appendix A)

⁶² As defined by the LUMINS study - refer to www.wellingtonairport.co.nz/noise/quieter-homes for more detail.

⁶³ Condition 33(i) of WIAL4 (refer Appendix A)



Noise Management Website



9. Noise Management Website

Wellington Airport has a webpage that is dedicated to airport noise. This includes information about construction noise (outlining current construction projects being undertaken at the Airport), the Quieter Homes programme) and how we manage aircraft noise.

9.1. Airport Noise Management Plan

The current ANMP will be made available for download on Wellington Airport's website.

<https://www.wellingtonairport.co.nz/noise/air-noise/>

9.2. Aircraft Operations

WIAL is committed to providing timely information and giving the community the opportunity to provide feedback on aircraft noise and how it impacts them.

WIAL is not responsible for operating aircraft or setting flight paths, but is responsible for communicating with the public about aircraft noise from planes which use the airport.

WIAL has an online flight monitoring system "Webtrak" which is accessible to the public from Wellington Airport's website. This system can be used to view aircraft movements and make a complaint or enquiry about aircraft noise.

The flight search and display options on Webtrak allows a person to view information about aircraft type, height, origin and destination, and the location of flight paths in relation to their home. By clicking on the aircraft and selecting the speech bubble, feedback can be provided to Wellington Airport about a particular flight.

The information available on Webtrak has a 5 minute delay after the aircraft movement has occurred to calibrate and process data from both Airways NZ and the Noise Monitoring Terminals. The movement data is stored and accessible on Webtrak for up to 90 days.

9.3. Airport Noise Monitoring

As described in section 6, WIAL undertakes comprehensive noise monitoring. Noise monitoring data is reported to the ANMC and is an ongoing agenda item discussed at each meeting.

Following each meeting, the noise monitoring report will be made available for the public to download from Wellington Airport's website.

Following each ANMC meeting, the minutes of the previous meeting are uploaded to the Wellington Airport website, along with noise compliance reports which include Ldn compliance tables for each month and a graph showing the 90-day rolling average and noise enquiries received.

9.4. Noise Enquiries Register

As described in section 7.0 above, WIAL documents all noise complaints, and these are reported to the WCC Noise Team within one working day, and the ANMC at each meeting (for the previous three months). Following each meeting, the Noise Enquiries register will be included in the noise compliance reports which are uploaded to the website.



Review



10. Review

This ANMP is intended to be a dynamic management document to ensure continual improvement and adherence to the overarching objective of the ANMP described in section 1.1. It sets out the management procedures, processes and controls which cover all aspects of mitigating noise impacts.

The ANMP will be regularly reviewed in line with good operational practice and to reflect any improvements in noise measurement techniques and noise mitigation measures and/or changes to the statutory framework (ie as a result of the proposed District Plan becoming operative or the RMA review). It is therefore subject to change, with any revisions being approved by the ANMC and certified by the City Council. Any revised versions will be published on the noise management section of Wellington Airport's website.

The ANMC is the body primarily responsible for the ANMP. However, the day-to-day upkeep of the ANMP is delegated to the Airport Planning Manager at Wellington Airport. The Airport Planning Manager shall be responsible for ensuring the ANMP is kept up to date with decisions of the ANMC, changes in the statutory framework and legislation, standards etc. Accumulated changes shall be disseminated quarterly to all members of the ANMC, and recorded in the changes register, held in the Master Copy of the ANMP. The Master Copy shall be held with the Airport Planning Manager.

Any changes to the Airport Designations that necessitate major changes to the ANMP may constitute grounds for a complete review and restructure of the ANMP. Prior to the East Side Area being developed, WIAL shall update this ANMP accordingly.

A thorough review of the ANMP including all changes made shall be carried out not less than every three years (from the date of its first certification). The purpose of this review will be to determine the effectiveness of the ANMP in achieving the objective of the ANMP and the requirements of Wellington Airport designations. The review should also consider whether the cumulative effect of incremental changes is resulting in a significant deviation from the ANMP's core purpose - and if that is determined to be the case, make the necessary changes to the ANMP as part of the review.

Any subsequent update or review undertaken of the ANMP shall be notated in the revision schedule on the first/initial page of the ANMP and is to be certified by the WCC (as required by condition 32 of the Main Site Area Designation).



Appendices



Appendix A

Designations

Appendix A: Designation Conditions

The following appendix contains the purpose and relevant noise conditions of each of the Wellington Airport designations.

Appendix 1A - Wellington Airport Miramar South Area (WIAL 2)

Appendix 1B - Wellington Airport Main Site Area ((WIAL 4)

Appendix 1C - Wellington Airport East Side Area (WIAL 5)

For a full set of conditions, refer to the Designations section in Part 3 of the Wellington City Council Proposed District Plan
WCC Proposed District Plan - WIAL Designations

Appendix A1: Wellington Airport - Miramar south Area Designation (WIAL 2)

Purpose of Designation

The land to which this designation applies ("the Designated Area" or "the Site") may be used for activities for the operation of Wellington International Airport ("the Airport") including:

- Flight catering;
- Rental car storage, maintenance and grooming;
- Freight reception, storage and transfer to/from air;
- Ground Service Equipment (GSE) storage; and
- Associated carparking, signage, service infrastructure and landscaping.

For the avoidance of doubt Aircraft Operations, runways, traffic control structures, aircraft hangars, and Large Format Retail shall not be permitted within the Designated Area.

The Designated Area shall cover the area shown in Figure 1 below, and is subject to the conditions set out in the Conditions section below.

Figure 2 Miramar South Designated Site



Glossary

Aircraft Operations: Means the engine runup, taxiing, take off or landing at the Airport of an aircraft, and "operate" has a corresponding meaning.

Noise Conditions

12. Noise emission levels from the Site when measured on any site that includes an occupied residence in the Outer Residential Area beyond the Site shall not exceed:

Monday to Sunday 7am to 10pm	55 dB LAeq(15min)
Monday to Sunday 1am to 6am	40 dB LAeq(15min)
At all other times	45 dB LAeq(15min)
All days 10pm to 7am	75 dB LAFmax
13. Noise emission levels from the Site when measured on any in the Centre Zone shall not exceed:

At all times	60 dB LAeq(15min)
At all times	85 dB LAFmax
14. Noise during construction activities shall comply with the requirements of NZS 6803:1999 Acoustics - Construction Noise.
15. The first outline plan the requiring authority submits to the WCC under condition 2 shall include a Construction Noise Management Plan (CNMP) which sets out how condition 14 will be achieved. If development of the site is to be staged, then the CNMP shall set out the required methods to manage the effects of construction noise for that stage to achieve compliance with condition 14. An outline plan of works for subsequent stages shall also include a CNMP.
16. As part of the landscape boundary treatment required by condition 36 a close-boarded fence (or other acoustically effective barrier) with a density of at least 10 kg/m² and a height of two metres shall be installed around the perimeter of the site excluding site access points. This shall be inspected regularly and maintained to ensure its continued acoustic effectiveness.
17. Subject to the limitations set out in condition 9(c)⁶⁴ entry / egress for trucks shall not be located opposite residential activities. Trucks shall not drive along the Residential zoned parts of Miro Street, Kedah Street or Kauri Street except where there are specific circumstances where this is necessary.
18. Truck engines shall not be left to idle on the Site and signage shall be placed in appropriate locations within the Site to advise drivers of this requirement. The requiring authority or its agents shall actively monitor this requirement.
19. Building services shall be designed such that noise levels from this source at the Site boundary are at least 10 dB lower than the limits set out in condition 12.
20. All warehouse doors shall be fast closing and shall remain closed at night-time unless in use.
21. There shall be no servicing or maintenance of equipment outdoors at night.
22. The first outline plan of works the requiring authority submits to the WCC under condition 2 shall include an acoustic assessment prepared by a suitably qualified person for all noise-producing activities on the Site which sets out how conditions 12 and 13 will be achieved. Activities taking place within buildings shall be assessed with doors open as applicable. If development of the Site is to be staged, then the requiring authority shall demonstrate how it will employ suitable noise attenuation which is effective for that development stage to meet the operational noise limits set out in condition 12 and 13.

⁶⁴ Condition 9(c): "Only one vehicle access shall be permitted onto Broadway and only one onto Kauri Street. No vehicle access (aside from provision for emergency access if necessary) shall be permitted onto Miro and Kedah Street."

Appendix A2: Airport Purposes Designation - Wellington Airport Main Site Area Designation (WIAL4)

Purpose of the Designation

The designation shall cover the area shown below ("the MSA Designation").



Subject to the conditions set out below, land within the MSA Designation may be used for activities for the operation of Wellington International Airport ("the Airport") including but not limited to:

- Aircraft operations and associated activities, including all ground-based infrastructure, plant and machinery necessary to assist aircraft operations;
- Aircraft rescue training facilities and emergency services;
- Runways, taxiways, aprons, and other aircraft movement areas;
- Airport terminal, hangars, control towers, rescue and fire facilities, navigation and safety aids, lighting and telecommunication facilities, car parking, maintenance and service facilities, catering facilities, freight facilities, quarantine

and incineration facilities, border control and immigration facilities, medical facilities, fuel storage and fuelling facilities, facilities for the handling and storage of hazardous substances;

- Associated administration and office activities;
- Roads, accessways, stormwater facilities, monitoring activities, site investigation activities, infrastructure and utility activities (including sustainable infrastructure), and landscaping;
- Vehicle parking and storage, rental vehicle facilities, vehicle valet activities, and public transport facilities;
- Signage, artwork or sculptures, billboards and flags;
- Hotel/visitor accommodation, conference facilities and services;
- Retail activities, service retail, restaurants and other food and beverage facilities including takeaway food facilities and commercial activities, provided they are located within the Terminal Precinct;
- Industrial and commercial activities provided they are associated with aircraft operations or serve the needs of passengers, crew, ground staff, airport workers, and other associated workers and visitors;
- Structures to mitigate against the impact of natural hazards;
- All demolition (if required) construction and earthworks activities, including associated structures;
- Ancillary activities, buildings and structures related to the above; and
- Servicing, testing and maintenance activities related to the above.

Note: for the avoidance of doubt any third party owned outdoor commercial signage is outside the purpose of the Designation. Any such signage is subject to applicable rules in the district plan and may require resource consent.

Noise Conditions

Aircraft Operations Noise

23. The Requiring Authority shall ensure that all Aircraft Operations are managed so that the rolling day 90 day average 24 hour night-weighted sound exposure level does not exceed a Day/night Level (Ldn) of 65dBA outside the Air Noise Boundary shown within the Wellington City Council District Plan Maps. The Requiring Authority shall demonstrate compliance with this Condition by undertaking continuous noise monitoring in accordance with NZS 6805:1992 and the guidance provided in the Airport Noise Management Plan (ANMP). The noise monitoring data shall be made publicly available on the Requiring Authority's website.
24. Aircraft Operations noise shall be measured and modelled in accordance with NZS6805:1992 1992 Airport Noise Management and Land Use Planning and calculated as a Ldn 90 day rolling average. All terminology shall have the meaning that may be used or defined in the context of NZS:6805 1992 Airport Noise Management and Land Use Planning.
25. The following Aircraft Operations shall be excluded from the calculation of the 90 day rolling average described in Conditions 23 and 24:
 - (a) Aircraft operating in an emergency;
 - (b) The operation of emergency flights required to rescue persons from life threatening situations or to transport patients, human vital organs, or medical personnel in a medical emergency; and
 - (c) The operation of unscheduled flights required to meet the needs of any state of emergency declared under the Civil Defence Emergency Management Act 2002 or any international civil defence emergency.
26. The Requiring Authority shall ensure that:
 - (a) All domestic Aircraft Operations shall not occur during the hours from midnight (12am) to 6am; and
 - (b) All international Aircraft Operations shall not occur during the hours:
 - (i) Midnight to 6am for departures.
 - (ii) 1am to 6am for arrivals.

For the purposes of this condition, "operations" means the start of the take-off roll or touch down on landing.

27. The following are exceptions to Condition 26:

- (a) Disrupted flights where Aircraft Operations are permitted for an additional 30 minutes;
- (b) In statutory holiday periods where Aircraft Operations are permitted for an additional 60 minutes;

For the purposes of this condition, statutory holiday period means:

- (i) The period from 25 December to 2 January, inclusive. Where 25 December falls on either a Sunday or Monday, the period includes the entire of the previous weekend. Where 1 January falls on a weekend, the period includes the two subsequent working days. Where 2 January falls on a Friday, the period includes the following weekend.
 - (ii) The Saturday, Sunday and Monday of Wellington Anniversary weekend, Sovereigns Birthday Weekend, and Labour Weekend.
 - (iii) Good Friday to Easter Monday inclusive.
 - (iv) Matariki Day.
 - (v) Waitangi Day.
 - (vi) ANZAC Day.
 - (vii) Any other day decreed as a national statutory holiday.
 - (viii) Where Matariki Day, Waitangi Day or ANZAC Day falls (or is recognised) on a Friday or a Monday, the adjacent weekend is included in the statutory holiday period.
 - (ix) The hours from midnight to 6am immediately following the expiry of each statutory holiday period defined above.
- (c) Aircraft using the Airport as a planned alternative to landing at a scheduled airport, but which shall not take-off unless otherwise permitted under Condition 26;
 - (d) Aircraft landing in an emergency;
 - (e) The operation of emergency flights required to rescue persons from life threatening situations or to transport patients, human vital organs, or medical personnel in a medical emergency;
 - (f) The operation of unscheduled flights required to meet the needs of any state of emergency declared under the Civil Defence Emergency Management Act 2002 or any international civil defence emergency;
 - (g) Aircraft carrying heads of state and/or senior dignitaries acting in their official capacity or other military aircraft operations; and
 - (h) No more than 4 aircraft movements per night with noise levels not exceeding 65 dB LAFmax (1 sec) at or beyond the Air Noise Boundary.

For the purposes of this condition, night means between midnight and 6am.

Quieter Homes Programme

28. The Requiring Authority shall offer to fund noise mitigation for all existing residential properties within the Air Noise Boundary in accordance with the Quieter Homes Programme. The details and obligations which guide the implementation of the Quieter Homes Programme shall continue to be set out in the ANMP for all residential properties within the Air Noise Boundary. The mitigation shall be designed to achieve an indoor design sound Level of 45 dB Ldn or less, based on the Air Noise Boundary at predicted fully developed capacity.

Engine Testing

29. The Requiring Authority shall ensure that engine testing within the MSA Designation shall:

- (a) only be undertaken during the hours of 6am to 8pm; and
- (b) not occur on the locations shown on the map attached as Attachment 4

Except that compliance with (a) is not required:

- (c) For essential unscheduled maintenance, provided that it occurs between 8pm and 11pm and where these events do occur, they shall be reported to the Airport Noise Management Committee (ANMC) on an annual basis and published on the Requiring Authority's website as soon as reasonably practicable;
- (d) To operate an aircraft within flying hours but provided the engine run is no longer than required for normal procedures, which for the purpose of this condition, shall provide solely for short duration engine runs by way of flight preparation while the aircraft is positioned on the apron; or
- (e) For engine testing from 11pm to 6am where the engine testing can be carried out in compliance with all of the following:
 - (i) measured noise levels do not exceed 60 dB LAEQ (15 min) at or within the boundary of any residential zone;
 - (ii) measured noise levels do not exceed 75 dB LAFmax at or within the boundary of any residential zone;
 - (iii) noise levels shall be measured in accordance with NZS6801: 2008 Acoustics Measurement of Environmental Sound;
 - (iv) the engine testing is for aircraft using the Airport as an alternate landing site;
 - (v) the total number of engine test events shall not exceed 18 in any consecutive 12 month period;
 - (vi) the total duration of engine test events shall be no more than 20 minutes.

Ground Power and Auxiliary Power Units (GPUs/APUs)

30. The Requiring Authority shall ensure that the operation of ground power units (GPUs) and auxiliary power units (APUs) when measured at any adjoining Residential zone shall not exceed the following limits:

- (a) Monday to Saturday 7am to 10pm 55 dB LAeq (15 MIN)
- (b) At all other times 45 dB LAeq (15 MIN)
- (c) All days 10pm to 7am 75 dB LAf max

With the exception that these limits shall not apply to APUs for:

- (i) Aircraft under tow;
- (ii) The first 60 minutes after an aircraft has stopped on the gate, unless the Pilot of an Aircraft requires a longer duration due to operational or public health and safety reasons;
- (iii) 60 minutes prior to scheduled departure unless the Pilot of an Aircraft requires a longer duration due to operational or public health and safety reasons;
- (iv) The use of APUs to provide for engine testing pursuant to Condition 29.

Land Based Noise

31. The Requiring Authority shall ensure that noise emission levels from any activity within the Designated Area, other than aircraft operations, engine testing and the operation of APUs, when measured at any adjoining Residential zone, shall not exceed the following limits:

- (a) Monday to Saturday 7am to 10pm 55 dB LAeq (15 MIN)
- (b) At all other times 45 dB LAeq (15 MIN)
- (c) All days 10pm to 7am 75 dB LAf max

Airport Noise Management Plan

32. The Requiring Authority shall at all times maintain and implement an Airport Noise Management Plan (ANMP). Without in any way limiting its obligations to fully comply with the conditions attaching to this designation, the Requiring Authority shall update its existing ANMP to describe in detail how it proposes to manage the Airport in order to comply with the relevant noise conditions of this designation, and any relevant noise related conditions that attach to any other Wellington Airport designation. The updated ANMP shall be submitted to the Council for certification within six months of this Designation being confirmed. Any subsequent alteration or update to the ANMP shall also be subject to this certification requirement.

33. The ANMP shall include, as a minimum:
- (a) A statement of noise management objectives and policies for the Airport;
 - (b) Details of methods and processes for remedying and mitigating adverse effects of Airport noise including but not limited to:
 - (i) improvements to Airport layout to reduce ground noise;
 - (ii) Guidance relating to APU usage and how that usage will be reduced over time where practicable;
 - (iii) improvements to Airport equipment (including provision of engine test shielding such as an acoustic enclosure for propeller driven aircraft) to reduce ground noise;
 - (iv) aircraft operating procedures in the air and on the ground procedures to minimise noise where this is practicably achievable;
 - (v) an Airport Wide Construction Noise Management Plan which outlines methods for guiding the way construction noise is managed including guidance for where a Project Specific Construction Noise Plan is required for a project.
 - (c) The procedures for the convening, ongoing maintenance and operation of the ANMC as set out in Condition 34;
 - (d) The mechanisms to give effect to a noise monitoring programme to assess compliance with Conditions 23 - 31;
 - (e) The procedures for reporting to the ANMC any Aircraft Operations and engine testing activities which contravene a condition of this designation;
 - (f) Methods necessary for the Requiring Authority to complete the implementation of the Quieter Homes Programme (as required);
 - (g) A procedure for dealing with complaints including: the recording of complaints; acknowledgement to the complainant of receipt of their complaint and the outcome once resolved; any corrective action(s) to be taken including if non-compliance with the conditions of this designation is identified, and reporting to the Council and to the ANMC;
 - (h) The dispute resolution procedures to resolve any disputes between Wellington International Airport Limited (WIAL) and ANMC about the contents and implementation of the ANMP;
 - (i) Methods by which the Requiring Authority and the ANMC can keep in regular touch with the wider community, particularly where that community is affected by airport noise, including via the preparation and implementation of an annual stakeholder communications plan;
 - (j) The procedures for obtaining and making noise monitoring and compliance data obtained by the Requiring Authority publicly available on WIAL's website; and
 - (k) The procedures and required frequency for reviewing and amending the ANMP.
34. The Requiring Authority shall at its cost be responsible for the ongoing membership and function of the ANMC identified in Condition 33(c)). The purpose, membership and functions of the ANMC shall be set out within the Terms of Reference included in the NMP. Reasonable costs associated with members of the community participating on the ANMC (including a stipend) shall be met by the Requiring Authority.

Construction Noise

35. Construction noise from all construction work within the designation shall be managed so that it complies where practicable with the requirements of New Zealand Standard 6803:1999 Acoustics Construction Noise. In managing construction noise, the Requiring Authority shall prepare and implement a Construction Noise Management Plan (CNMP) based on the Airport Wide Construction Noise Management Plan. The CNMP shall be prepared in accordance with the guidance provided by the ANMP. Any construction activity or work that cannot comply with the recommended limits of New Zealand Standard 6803:1999 Acoustics Construction Noise shall be identified and the duration for each activity shall be specified. The best practicable option for reducing noise to a reasonable level shall be adopted for these construction activities.
36. The CNMP shall include the process for identifying the specific management and mitigation required for any night-time construction activity, including measures for consultation with the potentially affected community, procedures for notification prior to night works, maximum duration and frequency of night works, and processes for minimising the need for night-time construction works.

Appendix A3: Wellington Airport East Side Area Designation (WIAL5)

NOTE: This designation has not been given effect to.

Purpose of the Designation

The designation shall cover the area shown below ("**the ESA Designation**").



Subject to the conditions set out below, land within the ESA Designation may be used for activities for the operation of Wellington International Airport ("the Airport"), limited to the following:

- Aircraft operations and associated activities, including all ground-based infrastructure, plant and machinery necessary to assist aircraft operations;
- Taxiways, aprons and other aircraft movement areas;
- Navigation and safety aids, monitoring stations, lighting and telecommunications facilities;
- Car parking, roads, accessways, pedestrian ways, stormwater and wastewater infrastructure, sustainable infrastructure, utility activities and security fencing;
- All demolition (if required), construction and earthworks activities, including associated structures;
- Landscaping, planting, tracks and trails;
- Ancillary activities, buildings and structures related to the above; and
- Servicing, testing and maintenance activities related to the above.

Note: for the avoidance of doubt any third party owned outdoor commercial signage is outside the purpose of the Designation. Any such signage is subject to applicable rules in the district plan and may require resource consent.

Glossary:

Aircraft Operations: Means the engine runup, taxiing, take off or landing at the Airport of an aircraft, and "operate" has a corresponding meaning.

Noise Conditions

Aircraft Operations Noise

29. The Requiring Authority shall ensure that Aircraft Operations and the operation of Auxiliary Power Units (APUs) on land within the ESA Designation are managed so that the rolling 90-day average 24 hours night-weighted sound exposure does not exceed a Day/Night Level (Ldn) of 65 dB outside of the ESA Compliance Line identified on Figure 1 below. In assessing compliance with this limit account shall be taken of the cumulative effect of all aircraft operations and APUs from the Airport. All terminology shall have the meaning that may be used or defined in the context of NZS:6805:1992 Airport Noise Management and Land Use Planning (NZS:6805:1992).
30. The following aircraft operations shall be excluded from the calculation of the rolling 90 day average described in Condition 29:
- (a) Aircraft operating in an emergency;
 - (b) The operation of emergency flights required to rescue persons from life threatening situations or to transport patients, human vital organs, or medical personnel in a medical emergency;
 - (c) The operation of unscheduled flights required to meet the needs of any state of emergency declared under the Civil Defence Emergency Management Act 2002 or any international civil defence emergency.

Land Based Noise

31. The Requiring Authority shall ensure that the noise emission levels arising from any activity (other than aircraft operations and the operation of APUs) from within the ESA Designation, when measured at any residential site, shall not exceed the following limits:
- (a) All days 7am to 10pm 55 dB LAeq (15 MIN);
 - (b) At all other times 45 dB LAeq (15 MIN);
 - (c) All days 10pm to 7am 75 dB LAfmax.

For the purposes of calculating compliance with this limit, the cumulative effect of noise generated from all land based activities undertaken within the Airport, other than aircraft operations, the operation of APUs and any engine testing shall be taken in account.

Noise Compliance Monitoring

32. The Requiring Authority shall demonstrate compliance with Condition 29 by undertaking continuous noise monitoring at a location in the relevant area shown in Figure 1. At this location the rolling 90-day average Ldn noise level from aircraft operations and the operation of APUs shall not exceed the corresponding level determined to correlate with 65 dB Ldn at the ESA Compliance Line. This level shall be determined once the noise monitor location is finalised and shall be recorded in the Airport Noise Management Plan. Noise shall be measured in accordance with NZS 6805:1992. Noise monitoring data shall be made publicly available on the Requiring Authority's website.



Figure 1: ESA Compliance Line

Noise Mitigation Measures

- 33. The operation of APUs on land within the ESA Designation shall be restricted to a period not exceeding 15 minutes after the aircraft has stopped at the gate and 15 minutes prior to leaving the gate. For the avoidance of doubt, noise from APUs is subject to the noise limit in Condition 29.
- 34. There shall be no aircraft engine testing, take-off or landing on land within the ESA Designation.
- 35. There shall be no operating of APUs on land within the ESA Designation between the hours of 10pm and 7am, apart from aircraft under tow. Where aircraft are under tow the use of the APU shall cease as soon as reasonably practicable after completion of the tow.

 Note: It is expected that instances where aircraft need to be towed within the ESA between these hours will be rare.
- 36. Any aircraft stand on land within the ESA Designation shall have a Plug-in Ground Power Unit (GPU) available.
- 37. The Requiring Authority shall ensure that there are no aircraft operating under their main engine power within the ESA Designation between the hours of 10pm and 7am.
- 38. The Requiring Authority shall amend its ANMP in line with conditions 29 - 37 as soon as reasonably practicable once the ESA Designation is confirmed. Additional operational procedures shall subsequently be developed and included in the ANMP once the demand for night-time GSE operations on the eastern stands and the types of equipment are known.
- 39. Without in any way limiting its obligations to fully comply with the conditions attaching to this designation, the Requiring Authority shall update its ANMP which describes in detail how it proposes to manage the Airport in order to comply with the relevant noise conditions, including any relevant noise related conditions that attach to any other Wellington Airport designation. The updated ANMP shall be submitted to the Council for certification within six months of this Designation being confirmed. Any subsequent alteration or update to the ANMP shall also be subject to this certification requirement. Certification shall follow the procedures set out within Condition 3.
- 40. Prior to construction activity occurring to the east of the line shown on the map within Attachment 2, or prior to land within the ESA Designation being used to facilitate Code C (or larger) Aircraft (whichever is the earlier), the Requiring Authority shall offer to install mechanical ventilation to habitable rooms of those residential dwellings listed in

Attachment 2 in accordance with Condition 41. Where the property owner accepts this offer, the requiring authority shall meet the full cost of this ventilation work. For the avoidance of doubt, the offer and outcomes from the ventilation work shall be to no less a standard than similar home ventilation packages provided under the Wellington Airport Quieter Homes programme (as at 2021).

41. An offer made under Condition 40 shall remain open for acceptance by the landowner for a period of 12 months. If the landowner declines or fails to accept the offer within 12 months, they may request to take up the offer at a later date by notifying the Requiring Authority. Acceptance of such a request shall not unreasonably be withheld by the Requiring Authority.
42. Any habitable room within any dwelling listed in Attachment 2 with openable windows and where the owner of the property accepts the offer to provide mechanical ventilation, must be provided with a positive supplementary source of fresh air ducted from the outside of the habitable room. The supplementary source of fresh air is to achieve a minimum of 7.5 litres per second/per person.
43. Prior to the offers under Condition 40 being made, the Requiring Authority shall prepare an ESA Noise Mitigation Plan (NMP) detailing the processes to implement Conditions 40 - 42.

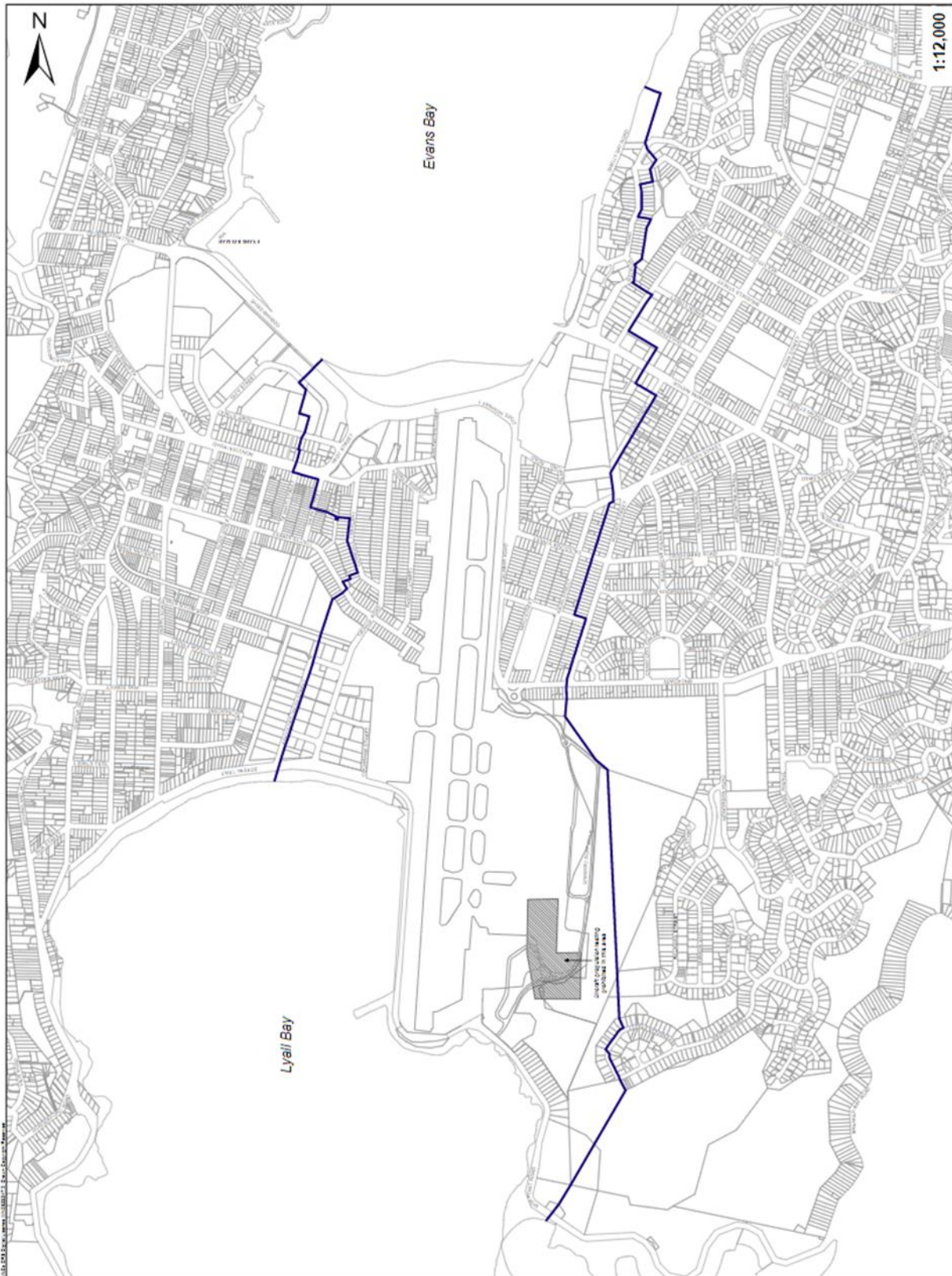


Appendix B

Air Noise Boundary



Appendix B: Air Noise Boundary





Appendix C

Operational Curfew Procedures

Appendix C: Operational Curfew Procedures

Wellington Airport Curfew Procedures

The proximity of Wellington Airport to the city is one of its many appealing benefits to travellers, however this location also poses significant challenges, particularly noise levels on the neighbouring communities and those underneath the approach paths. To better protect those surrounding communities all night flying operations at Wellington Airport must comply with the Airports Designation Conditions.

Throughout this document, and for the purpose of the curfew rule, "operations" means the start of a take-off roll or when the wheels touch down for landing.

Night flying operations at Wellington International Airport must comply with the Wellington International Airport Designation Conditions.

Note: Wellington Airport **cannot** grant exemptions to the curfew restrictions other than those referred to below. The authority to grant any further exemptions rests with the Wellington City Council pursuant to the Resource Management Act 1991 via the resource consent process.

As a general rule, exemptions would only be considered when

- Circumstances are unusual, compelling, and are unlikely to be repeated
- The environmental effect is minor
- There are broad social or environmental benefits
- Where possible there has been a process of consultation

Enquiries in the first instance should be directed to the Wellington International Airport Planning Manager by emailing planning@wellingtonairport.co.nz.

Wellington Airport Curfew Restrictions

The restrictions in place for the curfew at Wellington International Airport mean that aircraft operations must not occur during the following hours:

CURFEW ENFORCED PERIOD:

The curfew for airport operations is active between the following hours:

DOMESTIC OPERATIONS: From 00:00hrs to 06:00hrs

INTERNATIONAL DEPARTURES: From 00:00hrs to 06:00hrs

INTERNATIONAL ARRIVALS: From 01:00hrs to 06:00hrs

Exceptions to the Curfew Restrictions

While the curfew restrictions apply to the majority of aircraft operations, there are number of exceptions provided for in the relevant Designations

The restrictions put in place by the Curfew do not apply in the following situations:

- Aircraft landing in an emergency
- Aircraft using the Airport as a planned alternate to landing at a scheduled airport (such aircraft cannot take off until otherwise permitted under the curfew requirement)
- The operation of 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 to meet the needs of any state of emergency declared under the Civil Defence Emergency Management Act 2002 or any international civil defence emergency
- Aircraft carrying Heads of State and/or senior dignitaries acting in their official capacity or other military aircraft operations

- 4 aircraft movements per night for Curfew Exempt Aircraft (Refer to Curfew Exempt Aircraft Operations below)

Amendments to Curfew Restriction

The Curfew restrictions are amended in the following situations:

- For Disrupted Flights (additional 30 minutes)
- During Statutory Holiday Periods (additional 60 minutes)

Disrupted Flights

In the case of disrupted flights, operations are permitted for an additional 30 minutes beyond the applicable time.

A disrupted flight is defined as:

A flight which is delayed on arrival or departure at Wellington through unforeseen circumstances that could not reasonably be catered for by prudent timetabling, such delay having originated at Wellington or within the previous 4 flight sectors, as a result of:

- Weather (at origin, en-route, or destination causing cancellations, diversions, delays, missed approaches or holding); or
- Air Traffic Control (congestion, start delays, en-route holding or approach delays); or
- Closure of a departure or destination aerodrome; or
- Diversion for in-flight medical condition or flight safety reason to another aerodrome other than the flight planned aerodrome; or
- Aircraft unserviceability (e.g. mechanical breakdown); or
- An aircraft being required to wait for crew from a flight delayed as a result of any of the above.

Note:

- An aircraft which has been substituted for an aircraft delayed as a result of any of the above also comes within the definition of disrupted flight.
- An aircraft may not depart Wellington Airport after midnight and before 0600hrs to act as a substitute aircraft for another that has become unserviceable at a location other than Wellington.

If an aircraft movement qualifies as a "disrupted flight", the attached Disrupted Flights Form must be provided to WIAL-AirsideServices@wellingtonairport.co.nz within three working days of the arrival taking place. Refer to curfew flight observation procedures below.

Statutory Holiday Periods

The start time of the curfew is also extended by 60 minutes during statutory holiday periods.

STATUTORY HOLIDAY CURFEW PERIOD

During statutory holiday periods, the curfew for airport operations is active between the following hours:

DOMESTIC OPERATIONS: From 01:00hrs to 0600hrs

INTERNATIONAL DEPARTURES: From 01:00hrs to 0600hrs

INTERNATIONAL ARRIVALS: From 02:00hrs to 0600hrs

Definition of Statutory Holiday Period:

- The period from 25 December to 02 January inclusive. Where 25 December falls on either a Sunday or Monday, the period includes the entire of the previous weekend. Where 1 January falls on a weekend, the entire period includes the two subsequent working days. Where 2 January falls on a Friday, the period includes the following weekend.
- The Saturday, Sunday and Monday of Wellington Anniversary weekend, Kings Birthday weekend and labour weekend.
- Good Friday to Easter Monday inclusive.

- Matariki Day
- Waitangi Day.
- ANZAC Day.
- Where Matariki Day, Waitangi Day or ANZAC Day falls (or is recognised) on a Friday or a Monday, the adjacent weekend is included in the statutory holiday period.
- The hours from midnight to 06:00am immediately following the expiry of each statutory holiday period defined above.

Curfew Exempt Aircraft Operations

The WIAL4 Designation (Condition 27(h)) allows 4 aircraft movements per night that do not exceed 65 db LAFmax (1 sec) at or beyond the Air Noise Boundary.

Operators must apply to for these slots by emailing the Wellington Airport Planning Manager: planning@wellingtonairport.co.nz. These slots are allocated to operators by the Wellington Air Noise Management Committee, and an Exemption Certificate is issued

Criteria for allowing curfew exempt aircraft operations under Designation WIAL4 Condition 27(h)

The criteria below assume the aircraft has been measured for compliance with this condition.

1. Must be aircraft and operator specific, e.g., C208 operated by SoundsAir.
2. Purpose of the activity is not relevant.
3. In assessing priority if demand exceeds available slots the following rules apply:
 - 3.1 Priority will be given to aircraft/operator combination with best acoustic performance.
 - 3.2 Parties with existing complying operations have precedence over new applicants
 - 3.3 Local operator or operator with other infrastructure at Wellington Airport has priority over non-local
4. The Exemption certificate will lapse in the event of:
 - 4.1 operator ceasing trading
 - 4.2 operator failing compliance check on 3 separate occasions.

Requests for Curfew Exempt Aircraft Operations, confirmation of allocation and supporting Noise Investigation Reports are held by the Airport Planning Manager.

Curfew exempt aircraft operations effective March 2017

As at 22 March 2017 one of the four available slots is allocated to:

- Soundsair (1 slot), for 1 landing per night, specific to the C208 aircraft only.

Effective 27 July 1999

Curfew Flight Observation Procedures

Wellington Airport is responsible for ensuring that all flights meet the curfew requirements of the Airport's designations. This includes monitoring and investigating of flights for compliance with the curfew period, and advising the Wellington City Council of those which are technically considered to breach the curfew provisions. The procedures for this are as follows:

1. Prior to 0800 hrs local time, the Airways NZ Tower will email through a Curfew Observation Form to WIAL-AirsideServices@wellingtonairport.co.nz and AirNoise@wellingtonairport.co.nz each morning prior to 0800hrs local. The Curfew Observation Form outlines all flights between 0001 and 0600 local time Including arrivals, departures and missed approaches).
2. The Airport Operations Coordinator (AOC) will review each flight to ensure that is strictly complied with the curfew provisions of the Airport Designation (i.e. all flights complied without using the disrupt provisions):
 - Separate the legally exempted domestic flights:
 - For Medical/ Rescue flights - beside corresponding line write "medical"

- For approved curfew exempt aircraft (refer curfew procedures): beside corresponding line write "exempt"
 - For Senior Dignitaries - write "VIP"
 - For Diverted flights - Write down next to each corresponding line applicable "divert due" and the reason why it diverted here, e.g. fog in CHC.
 - For Statutory Holidays - write "Stat"
- Identify the international flights to ensure that they complied. They are recorded as "INT"
3. For Disrupted Flights:
- Flights that operated during the disrupt provisions, must be clarified to ascertain whether the explanations are acceptable. Disrupt provisions are mostly used by international flights.
 - AOC to send an email to the aircraft operator concerned for an explanation, requesting details and reasons for the delays over the previous four flights/sectors that contributed to the total delay time (attach "Disrupted Flight Form" to be filled in).
 - Review the explanation to ensure the time delay is acceptable under the disrupt definitions.
4. Non-Compliance/Breaches
- If a flight is considered to have breached the curfew either because of exceeding the time or their explanation does not meet the definition of a disrupt, it must be brought to the attention of the Head of Operations, who will contact the Airport Planning Manager. The Airport Planning Manager will review the data and if a breach is confirmed will advise the WCC Noise Compliance Team.

Example of an Initial Request for Curfew Disrupt Explanation email to operator:

Good morning,

On {date} QFA117, ZK-JTQ, arrived in Wellington during the curfew disrupt period at 0108 this morning. It is the Air Noise Policy that all flights that fall within the disruption time are investigated as to the reasons why.

I would be grateful if you could explain why this flight was delayed; giving detail of delays over the previous four flight sectors that may have contributed to its late arrival, e.g. ATC, weather, mechanical etc.

I have attached the Disrupted Flight Form. If you could fill this in and return within 3 days of the arrival taking place, it would be much appreciated. Please return to **WIAL-AirsideServices@wellingtonairport.co.nz**

Kind regards,

Example of a follow-up request for Curfew Disrupt Explanation email to operator

To Whom It May Concern:

Further to my request on {date of previous request}, a response is urgently required as to the late arrival of QF117 after 0100 NZST on {day} morning.

This information is required as per the Wellington Airport Noise Management Plan to ascertain that the flight qualifies as a disrupted flight for landings between 0100 and 0130 as allowed for by the Airport Designations.

Kind regards

Disrupted flights form

DATE OF LATE ARRIVAL:		
FLIGHT NUMBER		
ACTUAL ARRIVAL TO WLG TIME		
AIRCRAFT REGO/TYPE (ZK-ABC/A320):		
Sector 1		
Route/Flight Number (eg WLG>SYD/NZ123)		
Sector 1 <u>Scheduled</u> Departure and arrival time	Scheduled Departure:	Scheduled Arrival
Sector 1 <u>Actual</u> Departure and arrival Time	Actual Departure:	Actual Arrival:
Delay time (mins)		
Cause of Delay ie weather, ATC, engineering issue		
Sector 2		
Route/Flight Number (eg WLG>SYD/NZ123)		
Sector 2 <u>Scheduled</u> Departure and arrival time	Scheduled Departure:	Scheduled Arrival
Sector 2 <u>Actual</u> Departure and arrival Time	Actual Departure:	Actual Arrival:
Delay time (mins)		
Cause of Delay ie weather, ATC, engineering issue		
Contribution of delay time due to delay on previous sector(s) (if any)		
Sector 3		
Route/Flight Number (eg WLG>SYD/NZ123)		
Sector 3 <u>Scheduled</u> Departure and arrival time	Scheduled Departure:	Scheduled Arrival
Sector 3 <u>Actual</u> Departure and arrival Time	Actual Departure:	Actual Arrival:
Delay time (mins)		
Cause of Delay ie weather, ATC, engineering issue		
Contribution of time due to delay on previous sector(s) (if any)		
Sector 4		
Route/Flight Number (eg WLG>SYD/NZ123)		
Sector 4 <u>Scheduled</u> Departure and arrival time	Scheduled Departure:	Scheduled Arrival
Sector 4 <u>Actual</u> Departure and arrival Time	Actual Departure:	Actual Arrival:
Delay time (mins)		
Cause of Delay ie weather, ATC, engineering issue		
Contribution of time due to delay on previous sector(s) (if any)		

Definition of Disrupted Flight

A flight which is delayed on arrival or departure at Wellington through unforeseen circumstances that could not reasonably be catered for by prudent timetabling, such delay having originated at Wellington or within the previous 4 sectors, as a result of:

- **weather** (at origin, en-route, or destination causing cancellations, diversions, delays, missed approaches or holding); or
- **Air Traffic Control** (congestion, start delays, en-route holding or approach delays); or
- **closure of a departure or destination aerodrome**; or
- **diversion for in-flight medical condition or flight safety reason** to another aerodrome other than the flight planned aerodrome; or
- **aircraft unserviceability** (e.g. mechanical breakdown); or
- the aircraft being required to **wait for crew from a flight delayed** as a result of any of the above.

Note:

- An aircraft which has been substituted for an aircraft delayed as a result of any of the above also comes within the definition of disrupted flight
- An aircraft may not depart Wellington Airport after midnight and before 0600hrs to act as a substitute aircraft for another that has become unserviceable at a location other than Wellington



Appendix D

Engine Testing Procedures

Appendix D: Engine Testing Procedures

Engine testing at Wellington Airport is governed by WIAL's Designations, with specific restrictions in respect of timing, noise levels generated and location.

NOTE: All persons undertaking engine testing have a general duty to avoid any unreasonable noise and shall adopt the best practicable option to ensure that noise from their activities does not exceed a reasonable level (section 16 of the Resource Management Act 1991).

The following procedures outline how Aircraft Operators and Engineers at Wellington Airport are required to follow in order to meet these restrictions and minimise the noise effects on our neighbours.

PRIOR TO ANY ENGINE TESTING:

The operator must call the WIAL Integrated Operations Centre to ensure compliance with Time and Location and Assessment Restrictions (refer below)

Phone: 04 385 5124

ON COMPLETION OF ENGINE TESTING:

The operator is required to complete the Aircraft Engine Test Form (Refer to Attachment 2) which must be emailed to Engineeruntest@wellingtonairport.co.nz

A - Engine Testing Restrictions

Within normal flying hours, an aircraft engine can be run for normal procedures (ie for short duration by way of flight preparation while aircraft is on apron)

Engine Testing may only be undertaken during the hours of 06:00hrs to 20:00hrs and shall not occur in the locations notated in red on the Aircraft Engine Testing Location Map (Attachment 3).

Except that:

Between 20:00hrs to 23:00hrs - To carry out essential unscheduled maintenance only. The aircraft operator must confirm with WIAL Integrated Operations Centre that the purpose of the engine test is for essential unscheduled maintenance.

23:00hrs to 06:00hrs - Only under the following circumstances as per Designation WIAL4 (Main Site Area) condition 29(e):

1. WIAL Integrated Operations Centre has been contacted, and
2. The aircraft operator has confirmed that the engine testing can be carried out in compliance with all of the following conditions:
 - (a) The engine testing is for an aircraft using the Airport as an alternate landing site
 - (b) Measured noise levels do not exceed Leq (15mins) 60 dBA at or within the boundary of any residential zoned site
 - (c) Measured noise levels do not exceed Lmax 75 dBA at or within the boundary of any residentially zoned site
 - (d) Noise levels shall be measured in accordance with NZS6801:1991 'Measurement of Environmental Sound'
 - (e) The total number of engine test events shall not exceed 18 in any consecutive 12-month period
 - (f) The total duration of the engine test will be no more than 20 minutes

The responsibility to comply with the above conditions lies with the aircraft operator.

B - Engine Testing Location

- No engine testing is to be undertaken in the following areas (identified in red on the Aircraft Engine Testing Location Map (Attachment 3)):
 - In the vicinity Stands R1 or R2, or
 - in the area adjacent to Freight Drive Gate
 - Or within the East Side Area designated area

Note: engine testing is prohibited in these areas by the Airport Designations.

- Refer to the Aircraft Engine Testing Chart (Attachment 1) and Location Map (attachment 3) for the locations and procedures for all engine testing.
- Contact WIAL Integrated Operations Centre for any aircraft type that is not listed on the Aircraft Engine Testing Chart (Attachment 1).
- Contact WIAL Integrated Operations Centre for any engine testing that will exceed the maximum duration stated on the Aircraft Engine Testing Chart (Attachment 1).

C - Engine Testing Assessment

In addition to the above requirements, operational and safety requirements must be considered by the aircraft operator in advance of any engine testing at Wellington Airport.

This includes, but is not limited to, the following matters:

- Environmental conditions
- Operational safety
- Infrastructure requirements
- Public safety

The aircraft operator must assess the above in liaison with WIAL Integrated Operations Centre.

D - Non-Compliance

If an engine test is considered to have breached the above engine testing restrictions (refer A above), it must be brought to the attention of the Airport Planning Manager. The Airport Planning Manager will review the relevant Aircraft Engine Test Form and review any other relevant information and if any non-compliance is confirmed, will advise the WCC Noise Team (noiseteam@wcc.govt.nz)

If the engine test is considered to have breached the requirements of the Engine Testing Chart (attachment 1), it must be brought to the attention of the Airport Planning Manager, who will investigate and the outcome reported to the ANMC, including any mitigation measures undertaken to ensure the non-compliance is not repeated.

E - Annual Reporting

At the June Meeting of the ANMC, the Airport Planning Manager shall report on any of the exceptions noted in A Engine Testing Restrictions above, namely:

1. Any essential unscheduled engine tests carried out between 20:00hrs to 23:00hrs within the previous financial year.
2. Any engine tests carried out between 23:00hrs to 06:00hrs within the previous financial year.

Once these have been communicated with the ANMC, the Airport Planning Manager shall publish this information on the WIAL website.

Attachment 1 - Engine Testing Chart

Power Setting	Aircraft Type	Location	Actions
IDLE	Before commencing all engine runs contact WIAL Integrated Operations Centre (385-5124). See Note 1		
	A350/B777/B757/B787/A330	TWY Alpha South of TWY B10	Advise Wellington Ground (121.9 mHZ), Maximum run duration 12 minutes
	A320/A321	On Stand	Advise Wellington Ground (121.9 mHZ), Maximum run duration 12 minutes
	B737	On Stand	Advise Wellington Ground (121.9 mHZ), Maximum run duration 12 minutes
	ATR	On Stand	Advise Wellington Ground (121.9 mHZ), No engine ground runs Stands 78 & 79, Maximum run duration 12 minutes
	Dash 8 (Q300)	On Stand	Advise Wellington Ground (121.9 mHZ), No engine ground runs Stands 78 & 79, Maximum run duration 12 minutes
	Jetstream 31/32	On Stand	Advise Wellington Ground (121.9 mHZ), No engine ground runs Stands 78 & 79, Maximum run duration 12 minutes
	Metroliner	On Stand	Advise Wellington Ground (121.9 mHZ), No engine ground runs Stands 78 & 79, Maximum run duration 12 minutes
	Pilatus PC12	On Stand	Advise Wellington Ground (121.9 mHZ), No engine ground runs Stands 78 & 79, Maximum run duration 12 minutes
	Cessna C208	On Stand	Advise Wellington Ground (121.9 mHZ), No engine ground runs Stands 78 & 79, Maximum run duration 12 minutes
	SAAB340	On Stand	Advise Wellington Ground (121.9 mHZ), No engine ground runs Stands 78 & 79, Maximum run duration 12 minutes
Medium Power	Before commencing all engine runs contact WIAL Integrated Operations Centre (385-5124). See Note 1		
(Up to 70%)	A350/B777/B757/B787/A330	On TWY A South of TWY B10	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	A320/A321	On TWY B south of Taxilane Romeo	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	B737	On TWY B south of Taxilane Romeo	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	ATR72	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	Dash 8 (Q300)	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	SAAB340	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	Jetstream 31/32	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	Metroliner	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	Pilatus PC12	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	Cessna C208	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
High Power	Before commencing all engine runs contact WIAL Integrated Operations Centre (385-5124). See Note 1		
(70% & above)	A350/B777/B757/B787/A330	On TWY Alpha South of TWY B10	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position , Maximum run duration 5 minutes
	B737	On TWY Alpha South of TWY B10	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position , Maximum run duration 5 minutes
	A320/A321	On TWY Alpha South of TWY B10	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position , Maximum run duration 5 minutes
	ATR	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	Dash 8 (Q300)	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	SAAB340	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	Jetstream31/32	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	Metroliner	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	Pilatus PC12	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position
	Cessna C208	On TWY B south of Taxilane Romeo or South End of the Western Apron	Advise Wellington Ground (121.9 mHZ) before towing to and from engine run position

Attachment 2: Aircraft Engine Test Form

AIRCRAFT ENGINE TEST FORM

To: WIAL Integrated Operations Centre
Company: Wellington International Airport Limited
Email: engineeruntest@wellingtonairport.co.nz
From: _____ **Date:** _____
Page 1 of: _____

Airline: _____
Aircraft Registration: _____ **Type of Aircraft:** _____
 _____ **Assessment:** Yes No

Reason for Test / Specify the Engineering Issue _____

EVENT DETAILS – TEST# 1

Time start:__ **Time end:** __ **Power setting used:** _____
Variance at 100% torque **Port Engine:** _____ **Starboard Engine:**
(If applicable)

SUBSEQUENT TESTS

Duration: _____mins _____mins _____mins _____mins_mins **Power**
setting: _____% _____% _____% _____% ____% **Time**
completed: _____

POSITION OF AIRCRAFT ON AIRPORT

Location: **On stand #:** _____ **OR**
On TWY A South of TWY B10
On TWY B South Taxilane Romeo
On South End of the Western Apron

Comments: _____

Scheduled **Essential and Non-Scheduled** *(tick one)*

Name: _____ **Signature:** _____

Attachment 3: Aircraft Engine Testing Location Map



Engine Testing Procedures – Location Map



Nov-22



Appendix E

Wellington Airport Noise Abatement Procedures

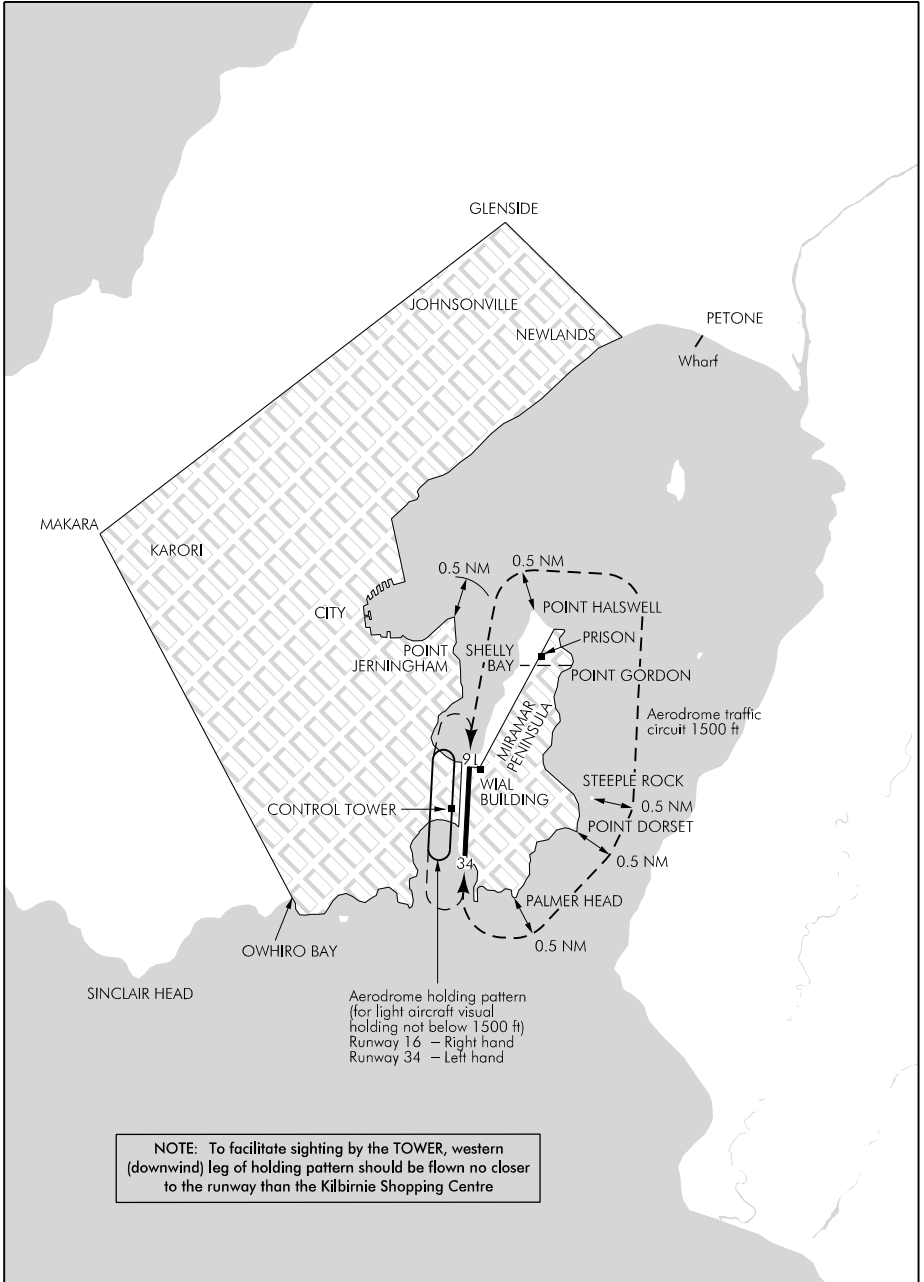
ELEV 41

NZWN

TOWER: 118.8 125.25

WELLINGTON NOISE ABATEMENT (1)

ATIS: 126.9



Changes from 1 FEB 18: WN TWR secondary FREQ.

WNNA-C

Effective: 30 JAN 20

ELEV 41

NZWN

TOWER: 118.8 125.25

**WELLINGTON
NOISE ABATEMENT (2)**

ATIS: 126.9

Derived from an Environmental Court decision dated 19 November 1997**1. GENERAL**

Aircraft operations at Wellington International Airport shall normally be prohibited between 1200 and 1800 UTC (1100 and 1700 UTC during NZDT) with the exception that international arrivals are permitted until 1300 UTC (1200 UTC during NZDT).

The above restriction on hours of operation shall not apply:

- (a) to aircraft landing in an emergency;
- (b) to aircraft using Wellington International Airport as a planned alternate, but which shall not take off until 1800 UTC (1700 UTC during NZDT);
- (c) to emergency flights required to rescue persons from life threatening situations or to transport patients, human vital organs or medical personnel in a medical emergency;
- (d) to the operation of unscheduled flights required to meet the needs of a national or civil defence emergency declared under the Civil Defence Act 1983;
- (e) foreign military aircraft carrying heads of state and/or senior foreign dignitaries;
- (f) in the case of disrupted flights where operations may be permitted for an additional 30 minutes after 1200 UTC (1100 UTC during NZDT) for domestic operations and international departures, and an additional 30 minutes after 1300 UTC (1200 UTC during NZDT) for international landings;

A disrupted flight is defined as a flight which is delayed on arrival or departure at Wellington through unforeseen circumstances that could not reasonably be catered for by prudent timetabling, such delay having originated at Wellington or within the previous 4 sectors as a result of:

- weather (at origin, enroute or destination causing cancellations, diversions, delays, missed approaches or holding)
- Air Traffic Control (congestion, start delays, enroute holding or approach delays)
- closure of a departure or destination aerodrome
- diversion for in-flight medical condition or flight safety reason to another aerodrome other than the flight planned aerodrome
- aircraft unserviceability (e.g. mechanical breakdown)
- the aircraft being required to wait for crew from a flight delayed as a result of any of the above

Note:

- an aircraft which has been substituted for an aircraft delayed as a result of any of the above also comes within the definition of a disrupted flight
 - an aircraft may not depart Wellington after midnight and before 0600 HR (local) to act as a substitute aircraft for another that has become unserviceable at a location other than Wellington
- (g) in statutory holiday periods when operations may be permitted for an additional 1 hour beyond the disrupted schedule allowance;
- The definition of statutory holiday period was the subject of an Environment Court ruling. For details contact WIAL Airside Operations Co-ordinator Tel (04) 385 5164.

ELEV 41

NZWN

TOWER: 118.8 125.25

WELLINGTON**NOISE ABATEMENT (3)**

ATIS: 126.9

2. Non chapter 3 jet aircraft operations shall normally be prohibited except:
 - in the event of unscheduled non-serviceability when substitute aircraft meeting chapter 2 may be used for the period of the non-serviceability
 - to aircraft using Wellington International Airport as a planned alternate but which shall not take off until 1800 UTC (1700 UTC during NZDT)
 - in the event of emergencies
 - to military aircraft, which have their own noise emissions quota

3. REQUESTS FOR ONE-OFF EXEMPTIONS

The authority to grant any exemptions rests with the Wellington City Council pursuant to the Resource Management Act 1991.

As a general rule, exemptions will not be contemplated unless:

- adequate time has been given for full consultation and decision to be made within the terms and provisions of the Wellington District Plan
- circumstances are unusual, compelling and are unlikely to be repeated and the environment effect of the aircraft movement is minor

Enquiries in the first instance should be directed to the Manager, Property and Planning, Tel (04) 385 5153.

4. FLIGHT OPERATION PROCEDURES

No aircraft shall be flown over the noise abatement area (refer Wellington Noise Abatement Chart) at an altitude lower than that required by Civil Aviation Rules Part 91 (generally 1000 ft AGL for flight over a populous area) or 1500 ft, whichever is the higher.

This limit shall not apply:

- to aircraft on approach to land from the airport holding pattern
 - to aircraft conducting operations within the built-up area as approved by the Director
 - to aircraft north of a line joining Point Gordon and Shelly Bay, approaching to land on RWY 16
 - to aircraft operating in accordance with promulgated IFR procedures
 - to helicopters conducting emergency flights
5. Aircraft joining the standard aerodrome traffic circuit pattern shall maintain a distance of not less than 0.5 NM from the Miramar peninsula as depicted on the Wellington Noise Abatement (1) Chart.

ELEV 41

NZWN

TOWER: 118.8 125.25

WELLINGTON
NOISE ABATEMENT (4)

ATIS: 126.9

6. Runway 34

VFR Flights

Aircraft taking off VFR are required to track up the centre of Evans Bay. In conditions of turbulence, aircraft may track along the western side of Miramar peninsula adjacent to the Evans Bay coastline, that is west of a line passing through the WIAL building and Mt Crawford Prison, extended to the shoreline slightly east of Point Halswell.

The minimum altitudes for turns from these tracks are:

- to the west, not below 1500 ft AMSL and when north of Point Jerningham turn left continuing to climb to at least 1000 ft AGL
- to the east, not below 1000 ft AMSL and when north of Shelly Bay, turn right continuing to climb to not less than 1500 ft AMSL

IFR Flights

IFR aircraft cleared for a visual departure to the east of the RWY 34 centreline shall not turn off the centreline or allocated SID track until crossing 3 WN DME.

7. Runway 16

Aircraft cleared by ATC to join right base from over the city must, in addition to 4 above, maintain a distance of not less than 0.5 NM north of Point Jerningham.

Aircraft joining or departing via the aerodrome traffic circuit at altitudes of less than 1500 ft AMSL must maintain a distance of not less than 0.5 NM from the Miramar peninsula, as depicted on the Wellington Noise Abatement Chart.

The noise abatement requirements do not apply to aircraft conducting operations within the built-up area as approved by the Director.



Appendix F

**Airport Noise Management
Committee Terms of Reference and
Dispute Resolution Procedures**

Appendix F Airport Noise Management Committee Terms of Reference and Dispute Resolution Procedures

Purpose

The purpose of the ANMC is establish a partnership between the airport, the community and other stakeholders for issues related to noise at Wellington Airport.

The ongoing maintenance and functioning of the ANMC will be achieved at Wellington Airport's expense.

Membership and Membership Roles

The membership of the ANMC will be structured as follows:

- One independent chair
- Four Community representatives including (as mapped in Figure below):
 - One representative from within the ANB east (where possible);
 - One representative from within the ANB west (where possible); and
 - Two representatives from within the wider airport community (the Eastern Ward).
- One City Council representative
- One Airways representative
- Two Airline Operators, comprising:
 - One representative from the Board of Airline Representative New Zealand; and,
 - One local Airline Operator representative
- At least one WIAL representative

Figure 3 ANMC Resident's Representation Areas.



- ANB east
- ANB west
- Wider airport community (the Eastern Ward)

The role of the members are defined as follows

Chairperson	Wellington Airport will appoint an independent chair for the ANMC in consultation with the City Council.
Community Representatives	<p>Wellington International Airport is located within close proximity to existing residential, commercial and industrial development. The operation and growth of Wellington International Airport has the potential to affect the amenity of the community who live and work in those these areas.</p> <p>Conversely, residential development in the surrounding areas has the potential to generate reverse sensitivity effects on the operation of Wellington International Airport, which is a regionally significant asset.</p> <p>Given the above, the community representatives are tasked with:</p> <p>Presenting the views of the local residents and community (including neighbouring properties and special interest groups);</p> <p>Ensuring resident and community views have a direct route into the noise management process; and</p> <p>Promoting communication and understanding between the residents / community and Wellington Airport and airport users and providing regular feedback on the deliberations of the ANMC.</p>
Wellington City Council	<p>The City Council is the territorial authority within whose jurisdiction Wellington International Airport is located. The City Council has a responsibility to ensure that all activities undertaken within the City, including at Wellington International Airport, are undertaken in accordance with the requirements established in the District Plan. Wellington Airport is also required to provide any amended versions of the ANMP to City Council (as the applicable regulatory body for the management of noise and amenity effects) for certification prior to them being implemented.</p> <p>It should also be noted that the City Council is a partial shareholder in Wellington Airport. However, its involvement in the ANMC is with regard to its regulatory function under the RMA. The expertise of the City Council's representative on the ANMC should suitably reflect this aspect of the City Council's functions.</p>
Airways	Airways Corporation of New Zealand (Airways) is responsible for managing all domestic and international air traffic operating within New Zealand's airspace. Airways operate the Air Traffic Control at Wellington International Airport and is responsible for directing air traffic on the runway, in manoeuvring areas and in the airspace around the airport.
Airlines Operators	Representatives from BARNZ and non-BARNZ airline operators are parties to the ANMC as they represent the airport users who are responsible for the noise generating activities at Wellington International Airport. As such, their involvement in the ANMC is essential to managing noise issues at Wellington International Airport into the future.
WIAL	<p>WIAL is the owner and operator of Wellington International Airport and is responsible for ensuring operations and aircraft movements at the airport comply with requirements of its designation and any CAA requirements. In particular, WIAL is responsible for the development and implementation of the ANMP and for all subsequent amendments.</p> <p>While WIAL acknowledges it has responsibility for managing noise at Wellington International Airport, other stakeholders have a role in ensuring the ANMP is workable and commercially viable, i.e. airlines.</p> <p>WIAL also has a responsibility under section 16 of the RMA to adopt the best practicable option⁶⁵ to ensure that the emission of noise from Wellington International Airport does not exceed a reasonable level.</p>

⁶⁵ Best Practicable Option (BPO) is defined in section 2 of the Resource Management Act 1991

Meeting Procedures

While it is expected that the ANMC will develop its own processes for the facilitation of meetings over time, the following procedures are expected to be followed:

1. Chairperson - WIAL, in consultation with the City Council, will appoint an independent chair to convene and facilitate all meetings of the ANMC.
2. Notice of Meeting - WIAL will arrange for a notice of meeting, together with any relevant information, to be sent to all ANMC representatives at least 3 working days prior to each meeting. The notice of meeting will set out the time and place of the meeting and the nature of the business to be discussed. Representatives may advise WIAL of items to be included in the notice of meeting. For each meeting, WIAL will report on:
 - Noise Enquiries
 - Noise Monitor Reports (LdN compliance, aircraft operations analysis and NMT calibration analysis)
 - Update on Airport Noise Treatment Progress (Quieter Homes)
 - Anything else that WIAL or WCC considers relevant.
3. Method of Holding Meeting - A meeting will be held by a number of representatives, who constitute a Quorum, being assembled together at the place, date and time appointed for a meeting.
4. Quorum -A quorum exists if there are at least four members present, including one of the community representatives, the Council representative, a representative from BARNZ and at least one WIAL representative. No business may be transacted at a meeting of the representatives if a Quorum is not present.
5. Members may act by Representative - A member of the ANMC may appoint a substitute to attend one or more meetings of the ANMC provided this is communicated to the Chairperson in advance of the meeting.
6. Minutes - WIAL will ensure that accurate minutes of all ANMC meetings are produced and circulated to all representatives within 10 working days of each meeting occurring.

ANMC Functioning

The ANMC shall meet up to 4 times per annum. The meeting schedule and need for additional meetings per year will be decided at the discretion of the ANMC.

WIAL will provide a venue and secretarial and support services to the ANMC at its own expense.

WIAL will provide any necessary data and technical information on aircraft movements and any update of the noise complaint register as set out in Section 6 of this ANMP to all ANMC representatives in advance of each meeting.

Community Representatives

The community representatives shall be appointed for a term of three years, to align with the Local Government election cycle. At the end of each term, new community representatives will be selected using a public election procedure as follows:

A call will be made for nominations for representatives from the three mapped areas shown in Figure 5 above. The call for nominations will be made via the following mediums:

- a. A public notice in the Dominion Post;
 - b. A letter to all current Resident Association's in the Airports neighbourhood;
 - c. A public notice on the Wellington Airport website; and
 - d. A letter to all properties within the ANB.
7. All nomination forms and election procedures are to be set out in full on the City Council's website or can be provided by emailing noise@wcc.govt.nz.
 8. Where more than one nomination is received for each of the defined community areas, it will be at the discretion of the Chairperson to determine whether a City Council returning officer needs to be appointed (in accordance with the City Council's electoral policy), or whether the matter can be resolved by allowing all nominees onto the ANMC. The Chairperson must take into account the efficient functioning of the ANMC when exercising their discretion.

The community representatives are required to attend the scheduled ANMC meetings. Reasonable costs (including a stipend) associated with members of the community participating on the ANMC are paid to the community representatives by WIAL.

After three consecutive absences, a community representative is considered to have resigned from the ANMC, unless the ANMC considers extenuating circumstances apply to their absences.

ANMC Dispute Resolution Procedure

WIAL is committed to a process whereby differences between the parties represented on the ANMC are resolved within the Committee through the provision of information, analysis, consultation and the development of a consensus.

WIAL recognises however that there may be occasions where a consensus does not emerge in an area where a decision is required. In the first instance the difference will be noted, but, if in the view of the Committee it is essential to resolve the difference the following will apply:

9. WIAL accepts that it is the prerogative of the Chairperson of the ANMC to determine that a point of difference exists and that the Chairperson may endeavour to resolve the issue within the ANMC, with the Chairperson acting as mediator.
10. If the Chairperson determines the issue is of significance and the point of difference within the ANMC cannot be reasonably resolved, the Chairperson may appoint an independent mediator at the cost of WIAL.
11. To facilitate mediation, WIAL will provide the Chairperson (at WIAL's cost) with whatever information and advice the Chairperson considers reasonably necessary. This includes obtaining a legal opinion on the issue (or aspects of it). Any information provided to the independent mediator and legal advice obtained will also be made available to the members of the ANMC and WIAL.
12. If despite best efforts (including an independent mediator if the Chairperson so chooses) a consensus cannot be reached within the ANMC, the Chairperson will make any decisions necessary to resolve the dispute.



Appendix G

Quieter Homes Programme Roll out Map



Appendix G Quieter Homes Programme Roll out Map, November 2022





Appendix H

Airport Wide Construction Noise and Vibration Management Plan



Airport wide Construction Noise Management Plan

Prepared for

Wellington International Airport Limited

Prepared by

Tonkin & Taylor Ltd

Date

May 2023

Job Number

1012279.4000 v2.0



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Document control

Title: Airport wide Construction Noise and Vibration Management Plan					
Date	Version	Description	Prepared by:	Reviewed by:	Authorised by:
4/11/22	1.0	Draft	D Humpheson		
16/11/22	1.1	Draft – including maintenance works	D Humpheson		
23/11/22	1.2	Draft for ANMC	D Humpheson	L Leitch	
19/12/22	1.3	ANMC updated	D Humpheson	L Leitch	
24/05/23	2.0	Final	D Humpheson	L Leitch	C Hillman

Distribution:

Wellington International Airport Limited

1 electronic copy

Tonkin & Taylor Ltd (FILE)

1 electronic copy

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1 Introduction

Wellington International Airport Ltd (WIAL) is committed to managing noise and vibration caused by airport related construction and maintenance works¹ such that it remains reasonable at neighbouring noise sensitive properties. This updated² Construction Noise and Vibration Management Plan (CNVMP) formalises this commitment and provides the necessary guidance and methods to manage noise from airport-wide construction works. This airport-wide CNVMP is an integral part of the Airport Noise Management Plan (ANMP).

This CNVMP is a requirement of the Main Site Area Designation³ (see Section 4). Condition 35 requires WIAL to:

- prepare and implement a CNVMP
- comply, where practicable with the requirements of New Zealand Standard 6803:1999 *Acoustics - Construction Noise*
- implement the best practicable option for reducing noise to a reasonable level if the noise cannot comply with the noise limits of NZS 6803:1999 and that the duration for each activity shall be identified

Condition 36 requires WIAL to identify the specific management and mitigation required for any night-time construction activity, including:

- measures for consultation with the potentially affected community
- procedures for notification prior to night works
- maximum duration and frequency of night works
- processes for minimising the need for night-time construction works

The objectives of this CNVMP are:

- Establish an airport-wide approach to construction noise management
- Identify appropriate noise limits and performance standards which balance residential noise amenity and the need to undertake works efficiently
- Develop and implement procedures and strategies to reduce noise impacts on the local community
- Develop an engagement procedure that will be undertaken with affected communities
- Provide a framework for project-specific noise management plans for ‘significant’⁴ construction works/projects
- Monitor and report on the effectiveness of the mitigation measures implemented in the CNVMP

Although this CNVMP focuses on noise management, vibration from construction activities also needs to be appropriately managed to minimise disturbance to buildings and their occupiers. The spatial separation between on-airport work sites and off-airport vibration sensitive sites will often negate the need to assess and manage vibration.

Management of noise other than construction works is documented in the ANMP.

¹ Maintenance includes any construction works occur on existing airport infrastructure such as buildings, pavement surfaces, seawall defences, etc.

² Initial CNVMP – AECOM 11 August 2017

³ Environment Court, Decision No. [2022] NZEnvC 106, Airport Purposes Designation – Main Site Area (MSA) – Consent Order, 21 June 2022

⁴ For example, works close to residential neighbours (<50 m).

This CNVMP has been reviewed by Wellington Airport's Air Noise Management Committee (ANMC) and Wellington City Council (WCC).

A glossary of terms is included in Appendix A.

2 Airport wide construction activities

WIAL regularly undertakes construction works within the airport precinct⁵ shown in Figure 2.1, including:

- Pavement construction and resurfacing
- General maintenance works to the runway/taxiway infrastructure, which includes vertical structures and ground level (and below) works
- Capital work projects such as new/replacement buildings
- Airfield Ground Lighting (AGL) installation and maintenance
- Work on marine defence systems including seawalls and structures

WIAL has extensive experience of undertaking these construction works and is mindful of the close proximity of its neighbours (residents and other noise sensitive properties) to the airport boundary. Figure 2.1 shows the residential areas near the airport - Miramar to the north east, Strathmore Park to the South East, and Rongotai to the west.

Construction works can include scheduled and unscheduled works:

- Scheduled works include planned pavement upgrades to aircraft operating areas, pavements such as runway overlays and taxiway and apron resurfacing, upgrading building structures and internal access roads, or constructing new infrastructure, including buildings.
- Unscheduled works will generally include non-critical maintenance and repairs of aircraft operating areas and other facilities within the airport boundary

Where practicable, noisy works are to be undertaken during standard daytime hours of 7:30 am to 6 pm. However, maintenance of aircraft operating areas including runways, taxiways and aprons may often necessitate certain activities taking place at night during the curfew period (1 am to 6 am). WIAL will implement the Best Practicable Option (BPO) to minimise the impact of noisy works at night including the time, duration and frequency of occurrence. Further details are provided later in this CNVMP, including the scheduling of night works⁶.

The requirements of this CNVMP do not restrict the delivery of emergency⁷ construction works at Wellington Airport. Emergency works⁸ may include critical pavement repairs and works associated with critical infrastructure such as utilities and Airfield Ground Lighting (AGL) or navigational aids. The delivery of emergency works must consider methods to manage noise effects. Any emergency works carried out that involve noisy works shall be notified to the Airport Planning Manager⁹ within 24 hours and records kept.

This CNVMP has been produced in accordance with best practice as detailed in NZS 6803:1999 (see Section 6).

⁵ Development of the East Side Area is excluded from this Main Site Area (MSA) CNVMP – see ESA designation conditions.

⁶ WIAL's construction working week currently runs from Sunday night (Monday morning) to Thursday night (Friday morning).

⁷ Resource Management Act 1991 – s330 Emergency works – to take preventative or remedial works.

⁸ Emergency works relate to works required for the continued safe operation of the airport, which includes aircraft operating areas and safety critical infrastructure. It does not relate to the same definition of emergency in the ANMP which relates to aircraft operations.

⁹ airnoise@wellingtonairport.co.nz



Figure 2.1: Airport layout (source WIAL)

3 Approach to construction noise and vibration management

The effects of construction noise and vibration can be mitigated using both management and engineering controls. Mitigation measures should be planned and implemented for all projects in a structured hierarchy depending on the extent of the likely noise effects.

Each project, whether carried out under this CNVMP or a project specific CNVMP, should address the following questions (hierarchy of controls):

- 1 Is there anything preventing the works being done during normal construction work hours (7.30 am to 6 pm Monday – Saturday)?
- 2 Is it imperative that night-time works are undertaken, or can works be rescheduled to daytime?
- 3 Can the works be sequenced to avoid sensitive times for neighbouring residents/businesses?
- 4 Scheduling the noisiest work at the beginning of the shift. For example, performing concrete cutting during the day and then breaking and resurfacing at night, where practicable.
- 5 Minimising the number of consecutive nights that noisy works are to take place and not working Friday or Saturday nights, where practicable. The general shift pattern is Sunday-Thursday nights.
- 6 Use of broad band reversing alarms rather than tonal alarms for all moving plant within the construction site.
- 7 Use of quietest equipment and methodology available to minimise noise. This may include a balance between the overall noise level and the duration of noise. In some situations it may be preferable to undertake short term noisy works rather than having lower noise levels which may occur for a significant period of time.
- 8 Use of temporary construction noise barriers or mobile screens to provide effective acoustic shielding of the equipment/activity. Use of screens may be limited depending upon wind conditions and stability of these structures. Use of mobile screens will not be practicable when conducting milling or paving over large areas.
- 9 Use of multiple items of plant to shorten the construction period, e.g. two items of plant may halve the duration of the activity but at most only lead to a ‘just’ perceptible (3 dB) increase in noise level.
- 10 Use of equipment and construction techniques in accordance with manufacturer’s instructions / site protocols (method statements).

WIAL and its contractors will also consider these controls when planning and undertaking maintenance of the airport’s pavement infrastructure. As these maintenance works can include scheduled and unscheduled activities, this CNVMP addresses these works as a separate section to this management plan to reflect their routine/repetitive nature.

A key requirement of this CNVMP is to provide information to the local community to raise awareness of planned construction works at Wellington Airport, either via WIAL’s website¹⁰ or via letterdrops for significant projects (as required by their own individual CNVMPs). Further information is provided in Section 7.

There is a duty on all persons carrying out construction activities to adopt the BPO to ensure noise does not exceed a reasonable level. This underpins WIAL’s approach to all construction projects. Accordingly, all projects which fall within the framework of this CNVMP should record in the project’s construction methodology how the BPO has been adopted (with reference to the 10 questions listed above and the communication strategy).

¹⁰ <https://www.wellingtonairport.co.nz/noise/construction-noise/>

4 Standards

4.1 Noise

Designation condition 32 requires WIAL to prepare an ANMP and condition 33 requires that the ANMP includes an airport wide CNVMP.

Designation condition 35 requires that:

'35. Construction noise from all construction work within the designation shall be managed so that it complies where practicable with the requirements of New Zealand Standard 6803:1999 Acoustics Construction Noise. In managing construction noise, the Requiring Authority shall prepare and implement a Construction Noise Management Plan (CNVMP) based on the Airport Wide Construction Noise Management Plan. The CNVMP shall be prepared in accordance with the guidance provided by the ANMP. Any construction activity or work that cannot comply with the recommended limits of New Zealand Standard 6803:1999 Acoustics Construction Noise shall be identified and the duration for each activity shall be specified. The best practicable option for reducing noise to a reasonable level shall be adopted for these construction activities.'

and condition 36:

36. The CNVMP shall include the process for identifying the specific management and mitigation required for any night-time construction activity, including measures for consultation with the potentially affected community, procedures for notification prior to night works, maximum duration and frequency of night works, and processes for minimising the need for night-time construction works.

The Foreword of NZS 6803:1999 notes that:

'the generally acceptable level of intrusive noise in the community is assessed under the provisions of NZS 6802:1999 [current version 2008]. However, construction noise is outside the scope of NZS 6802:1999 because it usually cannot be kept within the specified limits. Although this may mean that the noise is undesirable, it is not necessarily unreasonable when all the relevant factors are taken into consideration. Construction noise is an inherent part of the progress of society.' table and requirements

NZS 6803:1999 includes guidance on recommended noise limits, which depend on the time of day and the duration of construction noise. Table 4.1 and Table 4.2 provide the relevant NZS 6803:1999 noise limits depending upon the duration of noise:

- 'Short-term' means construction work at any one location for up to 14 calendar days
- 'Typical duration' means construction work at any one location for more than 14 calendar days but less than 20 weeks; and
- 'Long-term mean's construction work at any one location with a duration exceeding 20 weeks.

In most cases, construction noise limits are less restrictive than operational noise limits, on the basis that the effects of construction activities are of limited duration.

The Standard's noise limits apply at 1 m from external façades of occupied buildings. Noise is typically assessed over a representative 15-minute period of construction activity. A representative period of activity considers the number of construction plant present, how long they operate for and how the noise varies over the 15-minute period; i.e., whether constant or fluctuating.

NZS 6803:1999 recognises that there may be situations when the recommended noise limits may be exceeded. In these situations, NZS 6803:1999 states that BPO for noise avoidance or mitigation must

be implemented. NZS 6803:1999 includes a detailed section on managing construction noise including the preparation of CNVMPs. Section 8 of the Standard sets out a range of noise management measures, which includes:

- Noise management planning – via good project management to minimise noise problems arising;
- Noise reduction at source – including choice of machinery, noise enclosures and screens;
- Community relations – consultation and co-operation between the contractor and neighbours; and
- Site factors – such as the existing noise environment, distance between the activity and neighbours, sensitivity of the neighbours (residential / commercial), and duration and hours of working, etc.

If the relevant noise limits of NZS 6803:1999 are met then construction noise can be considered reasonable. In situations when the limits are exceeded and BPO has been adopted and community engagement has taken place to raise awareness, then the resulting noise effects can also be considered reasonable.

Table 4.1: Construction noise limits for residential dwellings - NZS 6803 Table 2

Time of week	Time period	Duration of work					
		Typical duration dB		Short-term duration dB		Long-term duration dB	
		L _{Aeq}	L _{Amax}	L _{Aeq}	L _{Amax}	L _{Aeq}	L _{Amax}
Weekdays	6:30 am – 7:30 am	60	75	65	75	55	75
	7:30 am – 6:00 pm	75	90	80	95	70	85
	6:00 pm – 8:00 pm	70	85	75	90	65	80
	8:00 pm – 6:30 am	45	75	45	75	45	75
Saturdays	6:30 am – 7:30 am	45	75	45	75	45	75
	7:30 am – 6:00 pm	75	90	80	95	70	85
	6:00 pm – 8:00 pm	45	75	45	75	45	75
	8:00 pm – 6:30 am	45	75	45	75	45	75
Sundays and public holidays	6:30 am – 7:30 am	45	75	45	75	45	75
	7:30 am – 6:00 pm	55	85	55	85	55	85
	6:00 pm – 8:00 pm	45	75	45	75	45	75
	8:00 pm – 6:30 am	45	75	45	75	45	75

Table 4.2: Construction noise limits for commercial and industrial buildings - NZS 6803 Table 3

Time period	Typical duration dB	Short-term duration dB	Long-term duration dB
	L _{Aeq}	L _{Aeq}	L _{Aeq}
7:30 am – 6:00 pm	75	80	70
6:00 pm – 7:30 am	80	85	75

4.2 Vibration

There is no New Zealand standard for vibration, however the German Industrial Standard is typically referenced for vibration limits to avoid cosmetic damage to buildings and the British Standard for human perception of vibration within buildings:

- DIN 4150-3:2016-12 *Vibration in buildings – Part 3 - Effects on structures* (DIN 4150-3)
- BS 5228-2:2009 *Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration* (BS 5228-2).

4.3 DIN 4150-3:2016

DIN 4150:2016-12 is an internationally recognised standard used to assess the effects of vibration on structures. The Standard is commonly used across New Zealand as there are no vibration standards specific to New Zealand. The DIN 4150-3 criteria to evaluate the effects of short-term vibration on structures are shown in Table 4.3 and summarised in Figure 4.1. Short-term vibration is vibration that does not occur often enough to cause structural fatigue, and which does not induce resonance in a building structure.

The table and figure show the recommended vibration limits in terms of Peak Particle Velocity (PPV) as this is directly related to strain, and hence potential for damage to structures. They are lowest in the frequency range of 1-10 Hz, which is the normal range of natural frequency of most structures. The limits increase at higher frequencies where the potential harmonic effects are reduced. The guideline values for PPV are at the foundation and in the plane of the highest floor of various types of building.

Table 4.3: DIN 4150-3:2016 guidelines for evaluating the effects of short-term vibration on structures

Line	Type of structure	Vibration at the foundation at a frequency of			Vibration at horizontal plane of the highest floor
		1 Hz to 10 Hz	10 Hz to 50 Hz	50 Hz to 100 Hz	All frequencies
1	Buildings used for commercial purposes, industrial buildings, and buildings of similar design	20 mm/s	20 to 40 mm/s	40 to 50 mm/s	40 mm/s
2	Dwellings and buildings of similar design and/or occupancy	5 mm/s	5 to 15 mm/s	15 to 20 mm/s	15 mm/s
3	Structures that, because of their particular sensitivity to vibration, cannot be classified under lines 1 and 2 and are of great intrinsic value	3 mm/s	3 to 8 mm/s	8 to 10 mm/s	8 mm/s

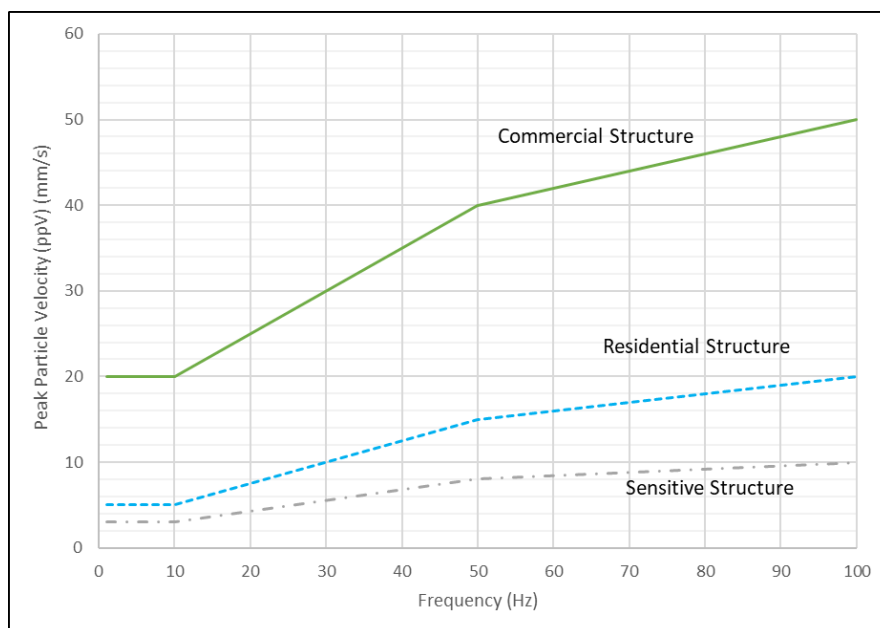


Figure 4.1: DIN 4150-3:2016 Short-term standard baseline curves.

4.4 BS 5228-2: 2009

Human perception and response to vibration varies depending upon the sensitivity of the individual, the tasks being performed, the magnitude, frequency and duration of the vibration, whether the vibration is expected, and whether there is concern that structural damage may occur.

Low levels of vibration can cause fixtures and fittings, such as door and windows, to rattle and the noise that is sometimes generated by the 'rattling' can draw an individual's attention to the original source of the vibration. Humans perceive vibration at much lower magnitudes than the levels of vibration that are likely to cause building damage and as such homeowners are likely to complain about vibration significantly below the levels likely to result in cosmetic damage of buildings.

Within New Zealand there are no national vibration standards for the effects on human exposure within buildings, however, it is accepted practice to apply the guidance from BS 5228-2:2009¹¹. BS 5228-2:2009 discusses vibration levels at which adverse comment is likely from building occupants. The guidance values of Table B.1 of BS 5228-2 are provided in Table 4.4.

Table 4.4: Guidance on effects of vibration levels - BS 5228-2:2009

Vibration level (PPV)	Effect
0.14 mm/s	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.
0.3 mm/s	Vibration might be just perceptible in residential environments.
1.0 mm/s	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents.
10 mm/s	Vibration is likely to be intolerable for any more than a very brief exposure to this level in most building environments.

¹¹ The previous version of this standard is referenced extensively throughout NZS 6803:1999 as a method for predicting the noise levels from specific construction activities. The current version is considered appropriate.

As stated in the Introduction, vibration from construction works is unlikely to be significant when experienced at sites outside the airport boundary. Works that generate ground vibration, such as vibratory compaction or driven piling, within 30 m of a sensitive site may require vibration management and therefore a screening exercise will be undertaken to identify whether vibration producing activities are within 30 m of a vibration sensitive receiver, regardless of whether it is occupied or unoccupied.

A separation distance of 30 m is sufficiently conservative that structural effects are highly unlikely from typical construction techniques (DIN 4150-3) but at a distance at which human perception may occur (BS 5228-2). When impact/vibratory piling, percussive concrete breaking or vibratory compaction activities take place within 20 m of an occupied building there is likely to be adverse effects for the building occupier (i.e. annoyance).

5 Noise management

5.1 Project risk rating

All construction activities at Wellington Airport have the potential to generate noise and potentially result in a disturbance to residents and other noise sensitive occupied properties. A noise risk assessment is required to ensure there is a comprehensive assessment of potential adverse effects. Each project will need to be ranked according to the noise risk as follows:

- **Low** – predicted noise levels are not considered to be significant and are below the relevant performance noise standard(s) of NZS 6803:1999
- **High** – predicted noise levels without mitigation are likely to meet or exceed the performance noise standard(s) of NZS 6803:1999.

To make this assessment, each project will need to be screened against the performance standards using a simple setback distance approach (see below and Appendix B). The setback distances for routine airport maintenance works, as discussed in Section 6, are provided in Appendix C.

Two tables are provided at Appendix B. The first table provides unmitigated sound levels at 10 m from typical construction plant that may operate at Wellington Airport. Calculated setback distances in metres are provided for each item of plant to achieve the different NZS 6803:1999 performance standards (day of week and time of day). The second table provides similar information but includes an 8 dB reduction¹² for situations when either a proprietary noise barrier/screen has been used or there is no line of sight from the activity to the receiving location; i.e. from carpark or terminal buildings, or local topography. The contractor will determine the closest distance from the work site to the nearest off-site noise sensitive receiver and select the most appropriate items of plant. This will then help to inform the risk assessment.

The overall noise risk for a project should be determined based on the highest risk type of construction activity. If applicable, the cumulative effects of multiple projects / work sites should also be considered. The risk rating should also consider the duration of the works, a single night will be less disturbing than works which span consecutive nights, and the character of the noise, i.e. whether it is likely to attract attention due to the presence of tonality or impulsivity.

If a project is deemed high risk and involves multiple activities¹³ taking place for more than 14 calendar days¹⁴, then a project specific CNVMP should be produced.

Risk screening assessment	Risk rating
Activities are outside the minimum setback distances and noise is below the relevant performance standard	LOW
Activities are within the minimum setback distances and noise is above the relevant performance standard	HIGH
Night works which span consecutive nights (at least 3) and are required within 100 m of residential (or other sensitive land use) neighbours of the Airport.	HIGH
Night works which may have noticeable audible characteristics but may marginally fall outside the minimum setback distance – examples including pavement grooving or use of impact tools.	HIGH
Works involving impact/vibratory piling, percussive concrete breaking or vibratory compaction within 20 m of a residential/commercial or industrial building.	HIGH

¹² 8 dB is a typical level of reduction if there is no line of sight between the noise source and the receiving location. If there is partial line of sight then a lower level of reduction such as 3-5 dB is likely.

¹³ Different plant, different locations and different noise characteristics.

¹⁴ To be consistent with the typical and long-term project durations of NS 6803:1999.

5.2 Project-specific CNVMPs

If warranted by the risk screening exercise, the appointed contractor shall prepare and implement a project specific CNVMP throughout the entire construction period of the project. The CNVMP must describe the measures adopted to seek to meet the NZS 6803:1999 noise limits, where practicable, and the vibration standards of DIN 4150-3. Where it is not practicable to achieve these performance standards, alternative strategies should be described to address the effects of noise and vibration.

The CNVMP shall be provided to WIAL for approval prior to commencement of the construction project. The CNVMP shall, as a minimum, address the following:

- Description of the works, anticipated equipment/processes and their scheduled durations.
- Hours of operation, including times and days when construction activities causing noise will occur.
- The applicable construction noise/vibration performance standards for the project.
- Identification of affected dwellings and other sensitive locations where noise/vibration limits apply.
- Mitigation options, including alternative strategies where full compliance with the relevant limits cannot be achieved.
- Construction equipment operator training procedures and expected construction site behaviours.
- Methods and frequency for monitoring and reporting on construction noise/vibration.
- Procedures for maintaining contact with stakeholders, notifying of proposed construction activities and handling noise/vibration complaints.

Where vibration risk is identified, the project CNVMP shall also include the following:

- The construction vibration limits for the project.
- Identification of affected dwellings and other sensitive locations where vibration limits apply.
- Methods required to mitigate adverse construction vibration.

5.3 General noise and vibration management – airport-wide works

Complaints can arise whether or not noise/vibration complies with the relevant limits. To avoid complaints, general mitigation and management measures include, but are not limited to, the following good practice (most of these requirements equally apply to vibration management, e.g. maintenance and operator best practice):

- 1 Avoid unnecessary noise, such as shouting, the use of horns, loud site radios, rough handling of material and equipment, and banging or shaking excavator buckets.
- 2 Locate equipment at a distance greater than the minimum set back distances where practicable.
- 3 Orient machinery to maximise the distance between the engine exhaust and the nearest sensitive building façade (e.g. excavators).
- 4 Selection of equipment and methodologies to restrict noise and vibration.
- 5 Utilise noise barriers and/or enclosures where appropriate.
- 6 Liaising with neighbours so they can work around specific activities.
- 7 Trucks should enter site without engine brakes and leave site with smooth acceleration and low engine revs.
- 8 When arriving at work, drive slowly on site and keep engine revs to a minimum. Keep stereos off and do not slam vehicle doors.

- 9 Equipment and vehicles should not be left running when not in use.
- 10 Limit vehicle horns to emergency purposes only.
- 11 Where possible, avoid reversing beepers on trucks, opting for flashing lights, broadband alarms or rear sensors where practicable. This is particularly important for any night works to minimise tonal noise.
- 12 All equipment is to be well maintained - simple maintenance can reduce noise levels by as much as 50 %. For example, preventing tracked vehicles from 'squealing' will help to minimise disturbance.
- 13 Do not slam tailgates of vehicles.
- 14 Do not drag materials on the ground. Place them down when you arrive at the work area.
- 15 When loading and unloading trucks do not drop material from a height. Load softer material at the bottom.
- 16 It is essential that good relationships are maintained with local residents. Any queries from members of the public shall be responded to politely and referred to Wellington Airport's point of contact. Staff shall assist the public to contact this person. Staff shall not enter into a debate or argue with members of the public.
- 17 No potentially noisy work will be conducted until all staff involved in the task understands the required noise controls for that task.

5.3.1 Staff training

All site personnel will be made aware of the need to control noise from site activities and any specific noise or vibration mitigation relating to site activities. This can be included in the site induction or toolbox talks. In particular, attention shall be given to the following matters:

- Activities with the potential to generate high levels of noise and/or vibration
- Noise and vibration mitigation and management procedures
- The sensitivity of local properties and any operational requirements and constraints identified through communication and consultation.

5.3.2 Noise Barriers

If noise barriers are considered practicable, panels should be positioned as close as possible to the construction activity to block line-of-sight between the activity and noise sensitive receivers. Additional local barriers may be necessary near the activity to ensure effective mitigation. The panels should be a minimum height of 1.8 m, and higher if practicable to block line-of-sight¹⁵. The panels must be abutted or overlapped to provide a continuous screen without gaps at the bottom or sides of the panels.

Examples of temporary noise barriers include the following proprietary 'noise curtains':

- Echo Barrier Temporary Acoustic Noise Barrier (<http://www.supplyforce.co.nz/>)
- Duraflex 'Noise Control Barrier – Performance Series' (www.duraflex.co.nz)
- Soundex 'Acoustic Curtain – Performance Series' (NZ)
- Flexshield 'Sonic Curtain with 4 kg/m² mass loaded vinyl backing' (NZ)

Movable screens may be more practicable for pavement works.

¹⁵ Temporary barriers greater than 2 m are generally impracticable to construct due to wind loading constraints within the aircraft operating areas of the airport.

If there is no line of sight between the source of the noise and receiving location then the mitigated setback distances of Appendix B and Appendix C can be used.

5.4 Noise and vibration monitoring

5.4.1 Noise monitoring

Noise monitoring may be undertaken at locations representative of the nearest noise sensitive properties as follows:

- In response to a reasonable noise complaint
- At the start of any night works to demonstrate BPO is being implemented
- As required by the contractor's site manager / WIAL Airport Planning Manager.

Noise monitoring will be in accordance with the requirements of NZS 6803:1999, measured at 1 m from the façade of the most affected building or representative proxy location. The LAeq and LAmx levels will be recorded over a representative period as a minimum.

5.4.2 Vibration monitoring

Vibration monitoring is not considered necessary due to the separation distances between vibratory works and sensitive properties. If reasonable complaints are received, then monitoring can be undertaken as part of the response if deemed appropriate.

All monitoring will be undertaken by a suitably qualified and experienced individual.

6 Routine airport maintenance works

6.1 Work types

Regular maintenance works include pavement construction and resurfacing and maintenance of runway and taxiway infrastructure. Depending upon their location, i.e. within active operating areas of the airport, works may need to be undertaken at night during the flight curfew.

Works can include localised repair of surfaces, which can typically be undertaken in one shift, to replacement of larger areas of pavement, which may last a number of days or weeks depending upon the scale of the works and the ability to schedule works around aircraft operations.

To facilitate these routine works, a similar risk based approach as per Section 5.1 of this CNVMP has been adopted. This approach is derived from activity noise levels rather than from individual items of plant.

6.2 Risk management

As this work is routine and repetitive in nature, rather than preparing specific CNVMPs for each work package, maintenance works are managed as part of this airport-wide CNVMP. For works which involve extensive work across large areas of the airport, e.g. runway / taxiway rehabilitation works, then a project specific CNVMP will be prepared.

For the purposes of this airport-wide CNVMP, pavement maintenance works will typically include:

- Breakout of existing surface
- Excavation and preparation of the subbase
- Milling of the existing surface for larger areas
- Paving of the new surface
- Line markings if needed and final cleaning.

For each activity, different plant will be used. For some works, such as saw cutting and use of breakers, localised noise screens can be used or there may be screening from building structures. For larger items of plant or for mobile activities, such as milling and paving, barriers will not be practicable.

Appendix C provides a breakdown of the noise levels for the activities outlined above for unmitigated and mitigated scenarios. This data is summarised in Table 6.1 and Table 6.2 for unmitigated and mitigated noise sources respectively. The mitigated data should be used when there is a commitment that localised noise screens can be used or there is no line of sight between the work site and noise sensitive properties.

The distances quoted are based on indicative plant that would operate either at the same time, e.g. paving and rolling plant, or noise dominant plant which would operate in isolation, e.g. saw cutting. The set back distances can be used to determine whether notification is needed to potentially affected properties¹⁶. For the majority of works, notification is likely for works taking place on:

- Weekdays from 8:00 pm to 6:30 am
- Saturdays from 6:00 pm to 6:30 am
- all day Sundays and public holidays

¹⁶ Notification will normally be undertaken for those occupied properties that are within the setback distances as determined by GIS / online mapping services. The Airport Planning Manager may extend the area of notification to include additional properties that adjoin these buffer areas, for example to include a row of buildings on the same street.

WIAL's construction working week currently runs from Sunday night (Monday morning) to Thursday night (Friday morning). Night-time working on Friday and Saturday night may occur in response to unscheduled/emergency works that require urgent remediation.

The lower daytime and evening noise thresholds of NZS 6803:1999 on Saturdays and Sundays ignore that aircraft operations will likely mask daytime maintenance works. If properties are within the 'after 8pm' set back distances (as highlighted in the tables) then engagement with affected property occupiers should be undertaken.

Table 6.1: Maintenance activity sound levels and set back distances – not mitigated

Activity	Lp @ 10m dB	Set back distance to NZS 6803 threshold (LAeq) / m						
		80 dB	75 dB	70 dB	65 dB	60 dB	55 dB	45 dB
Sawcut/Breakout Removal	87	20	25	40	65	100	160	400
Excavation & Prep	76	5	10	20	25	35	60	145
Milling	83	15	25	25	40	65	105	265
Paving	81	10	20	20	35	55	85	220
Line marking	77	5	15	25	25	40	65	160

Table 6.2: Maintenance activity sound levels and set back distances – mitigated (where practicable)

Activity	Lp @ 10m dB	Set back distance to NZS 6803 threshold (LAeq) / m						
		80 dB	75 dB	70 dB	65 dB	60 dB	55 dB	45 dB
Sawcut/Breakout Removal	79	10	15	20	30	50	75	190
Excavation & Prep	74	5	10	15	20	30	50	120
Milling	83	15	25	25	40	65	105	265
Paving	81	10	20	20	35	55	85	220
Line marking	77	5	15	25	25	40	65	160

As mentioned previously, maintenance may involve unscheduled (and emergency) works which, due to operational needs, may have to be undertaken at short notice. In these situations WIAL will endeavour to contact homeowners prior to works. The most practicable method in these situations is to provide timely notification via electronic means either by email or via WIAL's website.

The next section outlines WIAL's approach to engagement / notification. Community engagement should be a priority for all works which fall within the scope of this CNVMP; providing advanced notice of works and the adoption of BPO will likely result in minimal disturbance effects.

7 Community engagement and complaints

7.1 Engagement

Effective stakeholder engagement is a critical part of managing construction noise/vibration. Stakeholder engagement can have a greater bearing on acceptance of the works and complaints than the actual noise levels. Neighbours who understand what, when and why the works are happening are often able to adjust their activities accordingly and are generally more tolerant of construction activities.

Stakeholder engagement for construction noise should be integrated with the wider project requirements. Engagement measures include:

- Updating the WIAL website¹⁷ with a list of works both current and planned.
- Prior notification of the high risk works via directed email/letterbox drops or supplemented by other means (news article, website etc) to affected neighbours. The email/letterbox drop will provide contact details and will detail the overall nature and expected duration of the works.

In general, neighbours should be informed at least one week before construction work starts and any local issues/requirements should be identified. For larger projects, stakeholder engagement should commence during the planning and mobilisation phases.

Information provided should include:

- Reason for the works
- Reason for the construction methodology proposed
- Overall timeframe and timing of specific noisy or vibration producing activities
- Reason for any night or weekend works
- Expected noise and/or vibration effects
- Point of contact including name and the air noise phone number - 0508 AIRNOISE (0508 247 664).

Occasionally works may need to be undertaken for emergency repairs/maintenance. In these situations WIAL will use best endeavours to provide advanced warning if works are to occur at night. In this situation, electronic means of notification is appropriate.

7.2 Complaints

This section should be read in conjunction with Section 7 of the ANMP.

The following procedure shall be followed for all noise complaints received:

- All queries/complaints should be directed to the Airport Noise Team via email: airnoise@wellingtonairport.co.nz or via the website noise enquiry form: (www.wellingtonairport.co.nz/noise/construction-noise/) or by phoning Wellington Airport on 04 385 5100
- As soon as the complaint is received it will be recorded on the complaints register as per Section 7 of the ANMP to detail:
 - Time and date the complaint was received and who received it;
 - Time and date of the activity subject to the complaint (estimated where not known);

¹⁷ <https://www.wellingtonairport.co.nz/noise/construction-noise/>

- The name, address and contact details of the complainant (unless they elect not to provide);
- The complainant’s description of the activity and its resulting effects;
- Any relief sought by the complainant (e.g. scheduling of the activity).
- An initial response will be made and recorded within one working day. Depending on the nature of the complaint the initial response could be to determine if the complaint is justified and reasonable. If justified then immediately cease the activity pending investigation or to replace an item of equipment. However, in some cases, it might not be practicable to provide immediate relief.
- Where the initial response does not address the complaint, further investigation, corrective action and follow-up monitoring shall be undertaken as appropriate. The complainant will be informed of actions taken; and
- All actions will be recorded on the project complaints register.

If complaints are made during construction about vibration, or if monitoring determines it necessary, then building condition surveys may need to be undertaken.

Full details of each complaint will be provided to WCC Noise Team (noiseteam@wcc.govt.nz) within one working day of receiving a complaint, and be included as an agenda item for each ANMC meeting to discuss any corrective actions if the complaint is deemed justified.

7.3 Responsibilities

WIAL, in conjunction with its contractors, will be responsible for ensuring that the relevant management plan(s) are correctly implemented. They will review all documentation relating to construction noise and vibration before it is issued.

The contractor for each project shall carry out a screening exercise using this CNVMP to determine if the works are considered high risk. If required the contractor will then:

- Prepare and implement a project specific CNVMP.
- Engage an acoustic specialist if complex noise calculations are required.
- Monitor at the beginning of the project and when methodology or plant changes.¹⁸
- Liaison with the WIAL project manager on any complaints received and undertake investigation and reporting on complaints as required by the WIAL Project Manager/ Airport Planner.
- Ensure all staff including subcontractors participate in an induction training session on the CNVMP, including:
 - team roles and responsibilities for management of noise matters
 - noise mitigation and management procedures
 - sensitivity of neighbouring properties to noise and any operational requirements or constraints identified through communication and consultation
 - complaints management procedure.

Awareness of current noise matters on, or near active worksites, will be addressed during site meetings and/or toolbox training sessions.

¹⁸ Monitoring at the start of works helps to confirm the noise levels stated in the project’s CNVMP – if there are notable difference (typically greater than 2 dB) then the CNVMP may require updating. Further monitoring may be required if there is a subsequent change in work practices or the introduction of a noisier activity or item of equipment.

7.4 WIAL Project Manager / Airport Planning Manager

The WIAL Project Manager / Airport Planning Manager will:

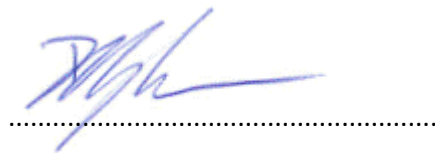
- Identify and communicate across project teams actual/potential concurrent projects.
- Provide notification to WCC Noise Team for any night-time works, weekdays from 8:00 pm to 6:30 am, Saturdays from 6:00 pm to 6:30 am and all day Sundays and public holidays. The notification will include the general nature and scale of the works, what activities are being undertaken, the location and proximity to the closest noise sensitive sites.
- Undertake consultation with the community, particularly potentially affected residents and businesses prior to works being undertaken.
- Direct the contractor to undertake investigations, monitoring and methodology changes if required in light of monitoring results of complaints.

8 Applicability

This report has been prepared in accordance with our scope of works dated 27 October 2022 and for the exclusive use of our client Wellington International Airport Limited, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Tonkin & Taylor Ltd
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Appendix A Glossary

Term	Definition
dB	A unit of measurement on a logarithmic scale which describes the magnitude of sound pressure with respect to a reference value (20 μ Pa)
$L_{Aeq(t)}$	The A-weighted time-average sound level over a period of time (t), measured in units of decibels (dB)
L_{Amax}	The maximum A-weighted sound pressure, measured in units of decibels (dB)
PPV	Peak particle velocity. This is the instantaneous maximum velocity reached by the vibrating surface as it oscillates about its normal position
Noise	Unwanted sound

Every 10 dB increase in sound level doubles the perceived noise level. A sound of 70 dB is twice as loud as a sound level of 60 dB and a sound level of 80 dB is four times louder than a sound level of 60 dB. An increase or decrease in sound level of 3 dB or more is perceptible. A change in sound level of less than 3 dB is not usually discernible.

As sound level is measured on a logarithmic scale, the following table provides examples of typical sources of noise.

Decibel (dB)	Example
0	Hearing threshold
20	Still night-time
30	Library
40	Typical office room with no talking
50	Heat pump running in living room
60	Conversational speech
70	10 m from edge of busy urban road
80	10 m from large diesel truck
90	Lawn mower - petrol
100	Riding a motorcycle at 80 kph
110	Rock band at a concert
120	Emergency vehicle siren
140	Threshold of permanent hearing damage

Appendix B Construction activities

These tables provide an inventory of activities/plant, sound power and sound pressure level and the distance at which the NZS 6803:1999 noise thresholds are met.

Appendix B Table 1: Equipment sound levels and set back distances – not mitigated

Plant	Lw	Lp @ 10m	Set back distance to NZS 6803 threshold (LAeq) / m						
			80 dB	75 dB	70 dB	65 dB	60 dB	55 dB	45 dB
2.5m Rotomill	111	83	15	15	30	45	70	110	275
Bobcat	104	76	5	10	20	25	35	60	145
Compressor	101	73	5	10	15	15	30	45	110
Concrete pump	103	75	5	10	20	20	35	50	130
Crane 25T	99	71	5	5	10	20	25	35	90
Dozer D61 18t	118	90	20	35	50	85	130	210	525
Drill Rig	111	83	15	15	30	45	70	110	275
Drop hammer 16T	124	96	35	60	90	145	230	365	910
Dumper 30T	108	80	10	20	20	35	50	85	210
Emulsion sprayer	97	69	5	5	10	15	20	30	75
Excavator 10T	94	66	0	5	5	10	20	25	60
Excavator 12T	94	66	0	5	5	10	20	25	60
Excavator 13T	94	66	0	5	5	10	20	25	60
Excavator 15t	96	68	5	5	10	15	15	30	70
Excavator 23t	102	74	5	10	15	20	30	50	120
Excavator 40T	115	87	20	25	40	65	100	160	400
Excavator 6t	92	64	0	5	5	10	15	20	50
Excavator Long Reach	115	87	20	25	40	65	100	160	400
Grader 110kW	110	82	15	20	25	40	65	100	250
Grader 13T	110	82	15	20	25	40	65	100	250
Impact wrench	104	76	5	10	20	25	35	60	145
Jackhammer	108	80	10	20	20	35	50	85	210
Line marking plant	104	76	5	10	20	25	35	60	145
Loader 10T	104	76	5	10	20	25	35	60	145
Loader 25T	112	84	15	20	30	50	75	120	300
Loader 5T	96	68	5	5	10	15	15	30	70
Paver	104	76	5	10	20	25	35	60	145
Road sweeper	98	70	5	5	10	20	20	35	85
Roller 12T Smooth	110	82	15	20	25	40	65	100	250
Saw cutter	121	93	30	45	70	110	175	275	690
Suction sweeper	105	77	5	15	20	25	40	65	160
Trench rammer	106	78	10	15	15	30	45	70	175

Truck 6-Wheeler	106	78	10	15	15	30	45	70	175
Trucks	99	71	5	5	10	20	25	35	90
Ute	98	70	5	5	10	20	20	35	85
Vac Truck	100	72	5	5	15	20	25	40	100
Vibratory plate	108	80	10	20	20	35	50	85	210
Vibro 5T	115	87	20	25	40	65	100	160	400
Water Cart	94	66	0	5	5	10	20	25	60
Water Pump	92	64	0	5	5	10	15	20	50
Water tanker	98	70	5	5	10	20	20	35	85
Welder	90	62	0	0	5	5	15	20	40

Appendix B Table 2: Equipment sound levels and set back distances – mitigated

Plant	Lw	Lp @ 10m	Set back distance to NZS 6803 threshold (LAeq) / m						
			80 dB	75 dB	70 dB	65 dB	60 dB	55 dB	45 dB
2.5m Rotomill	111	83	5	10	20	20	35	50	130
Bobcat	104	76	5	5	10	15	15	30	70
Compressor	101	73	0	5	5	10	20	20	50
Concrete pump	103	75	0	5	5	15	20	25	65
Crane 25T	99	71	0	5	5	10	15	15	45
Dozer D61 18t	118	90	15	20	25	40	65	100	250
Drill Rig	111	83	5	10	20	20	35	50	130
Drop hammer 16T	124	96	15	30	45	70	110	175	435
Dumper 30T	108	80	5	5	15	20	25	40	100
Emulsion sprayer	97	69	0	0	5	5	10	20	35
Excavator 10T	94	66	0	0	5	5	10	15	30
Excavator 12T	94	66	0	0	5	5	10	15	30
Excavator 13T	94	66	0	0	5	5	10	15	30
Excavator 15t	96	68	0	0	5	5	10	20	35
Excavator 23t	102	74	0	5	5	10	20	25	60
Excavator 40T	115	87	10	15	20	30	50	75	190
Excavator 6t	92	64	0	0	0	5	5	10	25
Excavator Long Reach	115	87	10	15	20	30	50	75	190
Grader 110kW	110	82	5	10	15	20	30	50	120
Grader 13T	110	82	5	10	15	20	30	50	120
Impact wrench	104	76	5	5	10	15	15	30	70
Jackhammer	108	80	5	5	15	20	25	40	100
Line marking plant	104	76	5	5	10	15	15	30	70
Loader 10T	104	76	5	5	10	15	15	30	70
Loader 25T	112	84	5	10	20	25	35	60	145

Loader 5T	96	68	0	0	5	5	10	20	35
Paver	104	76	5	5	10	15	15	30	70
Road sweeper	98	70	0	0	5	5	15	20	40
Roller 12T Smooth	110	82	5	10	15	20	30	50	120
Saw cutter	121	93	20	20	35	50	85	130	330
Suction sweeper	105	77	5	5	10	15	20	30	75
Trench rammer	106	78	5	5	10	20	20	35	85
Truck 6-Wheeler	106	78	5	5	10	20	20	35	85
Trucks	99	71	0	5	5	10	15	15	45
Ute	98	70	0	0	5	5	15	20	40
Vac Truck	100	72	0	5	5	10	15	20	50
Vibratory plate	108	80	5	5	15	20	25	40	100
Vibro 5T	115	87	10	15	20	30	50	75	190
Water Cart	94	66	0	0	5	5	10	15	30
Water Pump	92	64	0	0	0	5	5	10	25
Water tanker	98	70	0	0	5	5	15	20	40
Welder	90	62	0	0	0	5	5	10	20

Appendix C Maintenance works

Appendix C Table 1: Maintenance activity sound levels and set back distances – not mitigated

Activity	Lp @ 10m	Set back distance to NZS 6803 threshold (LAeq) / m						
		80 dB	75 dB	70 dB	65 dB	60 dB	55 dB	45 dB
Sawcut/Breakout removal	87	20	35	55	85	130	210	525
• Roadsaw for AC cutting	87	20	25	40	65	100	160	400
• Handsaw for concrete cutting	85	20	20	35	50	85	130	330
• Slurry vacuum	78	10	15	15	30	45	70	175
• 5T excavator rubber tracked	72	5	5	15	20	25	40	100
• Handheld breaker	80	10	20	20	35	50	85	210
• 4.5m ³ Tip Truck	70	5	5	10	20	20	35	85
Excavation & prep	76	10	15	20	30	50	80	200
• 5T Excavator rubber tracked	72	5	5	15	20	25	40	100
• 4.5m ³ Tip Truck	68	5	5	10	15	15	30	70
• 450kg Reversible Plate	76	5	10	20	25	35	60	145
• 88kg Trench Rammer	74	5	10	15	20	30	50	120
Milling	83	20	25	40	65	100	160	400
• Rotomill - 1.3m 19 ton	82	15	20	25	40	65	100	250
• Bobcat with broom attachment	74	5	10	15	20	30	50	120
• Tipper trucks 7m ³	68	5	5	10	15	15	30	70
• Concrete saw	85	20	20	35	50	85	130	330
Paving	81	10	20	20	35	55	90	225
• Paver 1.7m - 3.4m 14 ton	77	5	15	20	25	40	65	160
• Roller twin steel 10 ton	72	5	5	15	20	25	40	100
• Roller 5 ton	72	5	5	15	20	25	40	100
• PTR 12 ton	74	5	10	15	20	30	50	120
• Tipper trucks 7m ³	68	5	5	10	15	15	30	70
• Spray truck 10 ton load	64	0	5	5	10	15	20	50
• Water cart 10 ton	64	0	5	5	10	15	20	50
Line marking	77	10	15	20	30	50	80	200
• Ute	70	5	5	10	20	20	35	85
• Flatbed truck	72	5	5	15	20	25	40	100
• truck (mobile)	71	5	5	10	20	25	35	90
• Line marking plant	76	5	10	20	25	35	60	145
• Road sweeper	70	5	5	10	20	20	35	85

Note – equipment may differ depending on project details and contractor

Appendix C Table 2: Maintenance activity sound levels and set back distances – mitigated (where practicable)

Activity	Lp @ 10m	Set back distance to NZS 6803 threshold (LAeq) / m						
		80 dB	75 dB	70 dB	65 dB	60 dB	55 dB	45 dB
Sawcut/Breakout removal	79	10	15	20	30	50	75	190
• Roadsaw for AC cutting	79	10	15	20	30	50	75	190
• Handsaw for concrete cutting	77	5	15	20	25	40	65	160
• Slurry vacuum	78	10	15	15	30	45	70	175
• 5T excavator rubber tracked	72	5	5	15	20	25	40	100
• Handheld breaker	75	5	10	20	20	35	50	130
• 4.5m ³ Tip Truck	70	5	5	10	20	20	35	85
Excavation & prep	74	5	10	15	20	30	50	120
• 5T Excavator rubber tracked	72	5	5	15	20	25	40	100
• 4.5m ³ Tip Truck	68	5	5	10	15	15	30	70
• 450kg Reversible Plate	71	5	5	10	20	25	35	90
• 88kg Trench Rammer	74	5	10	15	20	30	50	120
Milling	83	15	25	25	40	65	105	265
• Rotomill - 1.3m 19 ton	82	15	20	25	40	65	100	250
• Bobcat with broom attachment	74	5	10	15	20	30	50	120
• Tipper trucks 7m ³	68	5	5	10	15	15	30	70
• Concrete saw	77	5	15	20	25	40	65	160
Paving	81	10	20	20	35	55	85	220
• Paver 1.7m - 3.4m 14 ton	77	5	15	20	25	40	65	160
• Roller twin steel 10 ton	72	5	5	15	20	25	40	100
• Roller 5 ton	72	5	5	15	20	25	40	100
• PTR 12 ton	74	5	10	15	20	30	50	120
• Tipper trucks 7m ³	68	5	5	10	15	15	30	70
• Spray truck 10 ton load	64	0	5	5	10	15	20	50
• Water cart 10 ton	64	0	5	5	10	15	20	50
Line marking	77	5	15	25	25	40	65	160
• Ute	70	5	5	10	20	20	35	85
• Flatbed truck	72	5	5	15	20	25	40	100
• truck (mobile)	71	5	5	10	20	25	35	90
• Line marking plant	76	5	10	20	25	35	60	145
• Road sweeper	70	5	5	10	20	20	35	85

Note – equipment may differ depending on project details and contractor

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