

1 May 2013

Rotorua Regional Airport Limited
PO Box 7221
Te Ngae
Rotorua 3042

Attention: Alastair Rhodes

Dear Alastair

ROTORUA REGIONAL AIRPORT 2013 ANNUAL AIRCRAFT NOISE CONTOURS

Introduction

Marshall Day Acoustics (MDA) has been engaged to prepare projected and actual noise contours based on movements that occurred in the 2012 financial year (1 July 2011 - 30 June 2012) as per rules 12.2.5.2 and 12.2.5.3 of the Rotorua District Plan (District Plan).

The projected contours are termed the 'Annual Aircraft Noise Contours' (AANC) and use the busiest three months of the 2012 financial year, with the projected growth over the next year added to produce the '2013 AANC'.

The purpose of these contours is to identify which properties are eligible for acoustic treatment offers under the Noise Mitigation Programme detailed in the District Plan (rule 12.2.5.2).

The inaugural AANC for Rotorua Airport were prepared by MDA in November 2009 and were termed the 2009/2010 AANC. These contours represented the predicted noise emissions from aircraft operations for the period November 2009 to November 2010.

The 'Actual Noise Contours' (ANC) also use the busiest three months of the 2012 financial year but no growth is added as these contours represent the noise emissions from aircraft operations in the 2012 financial year ('2012 ANC'). The purpose of these contours is to assess compliance with the noise boundaries in the District Plan.

Noise Rules

The noise rules that apply to the airport are contained in sections 12.2.5.2 and 12.2.5.3 of the District Plan. In summary rule 12.2.5.3(a) requires the preparation of an AANC plan indicating which properties are predicted to lie within the 60 and 65 dB L_{dn} contours at a date twelve months from the date of preparation. The contours are based on the busiest three months of the 2012 financial year, with the projected growth over the next year added for the purpose of offering acoustic treatment to eligible dwellings.

Rule 12.2.5.2(a) sets a 65 dB L_{dn} noise limit on airport operations outside the Air Noise Area.

Rule 12.2.5.2(d) requires the Airport to provide a report detailing the calculated noise levels at the boundary between the Air Noise Area and the Inner Control Area on an annual basis. The noise contours calculated for this rule are based on the actual aircraft activity over the previous twelve months and the purpose of the contours is to assess compliance with the Airport's noise limits.

Noise Model Input and Assumptions

Aircraft movement data for the 2012 financial year (July 2011 - June 2012) was obtained from Airways Corporation New Zealand. The busiest three consecutive months were July August and September 2011 and the aircraft movements from these three months were used to calculate the 2012 ANC.

The Airport Company has predicted that there will likely be 3% growth in both general aviation and passenger operations at the Airport for the forthcoming 12 months. Therefore the 2013 AANC have been based on aircraft movement data from the busiest three months (July-September 2011) with 3% growth.

The data obtained from Airways only includes details of aircraft arrivals to the airport so it has been assumed that for every arrival a corresponding departure took place.

Runway usage has been estimated based on typical wind patterns resulting in 60% of movements on Runway 18 (on a southerly heading) and 40% on Runway 36 (on a northerly heading). Helicopter over flights have also been included in the model and use a different flight tracks to fixed wing aircraft.

The 2013 AANC and 2012 ANC have been prepared using the Integrated Noise Model (INM) version 6.1 which is the same software used to produce the airport noise boundaries in the District Plan. The model inputs are based on the actual aircraft activity over the previous twelve months.

Calculated 2013 AANC

Figure 1 shows the calculated 2013 AANC 55, 60 and 65 dB L_{dn} contours.

Figures 2 and 3 have been prepared to identify properties which are included in the 2013 AANC but were not previously included in the 2011 AANC. Generally the 2013 AANC is smaller than the 2011 AANC which means that very few additional dwellings will be eligible for acoustic treatment offers in 2013. However, on both the 65 and 60 dB L_{dn} 2013 AANC contours there are small areas near the terminal, at the southern end of the runway and along the western side that are larger than the 2011 AANC.

A digital copy of the 2013 AANC will be provided to Rotorua District Council to prepare a list of properties in these areas that will now be eligible for acoustic treatment offers.

Calculated 2012 ANC

Figure 4 shows the calculated noise contours for the 2012 ANC compared with the District Plan noise boundaries. This figure shows that noise from aircraft operations in 2012 comfortably complied with the noise limits.

Rule 12.2.5.2(e) requires noise measurements be undertaken once the noise level at the boundary between the Air Noise Area and the Inner Control Area reaches 64 dB L_{dn} . The predictions show that this threshold has not been reached yet therefore infield noise measurements are not required at this stage.

We trust this information is satisfactory. If you have any further questions please do not hesitate to contact us.

Yours faithfully

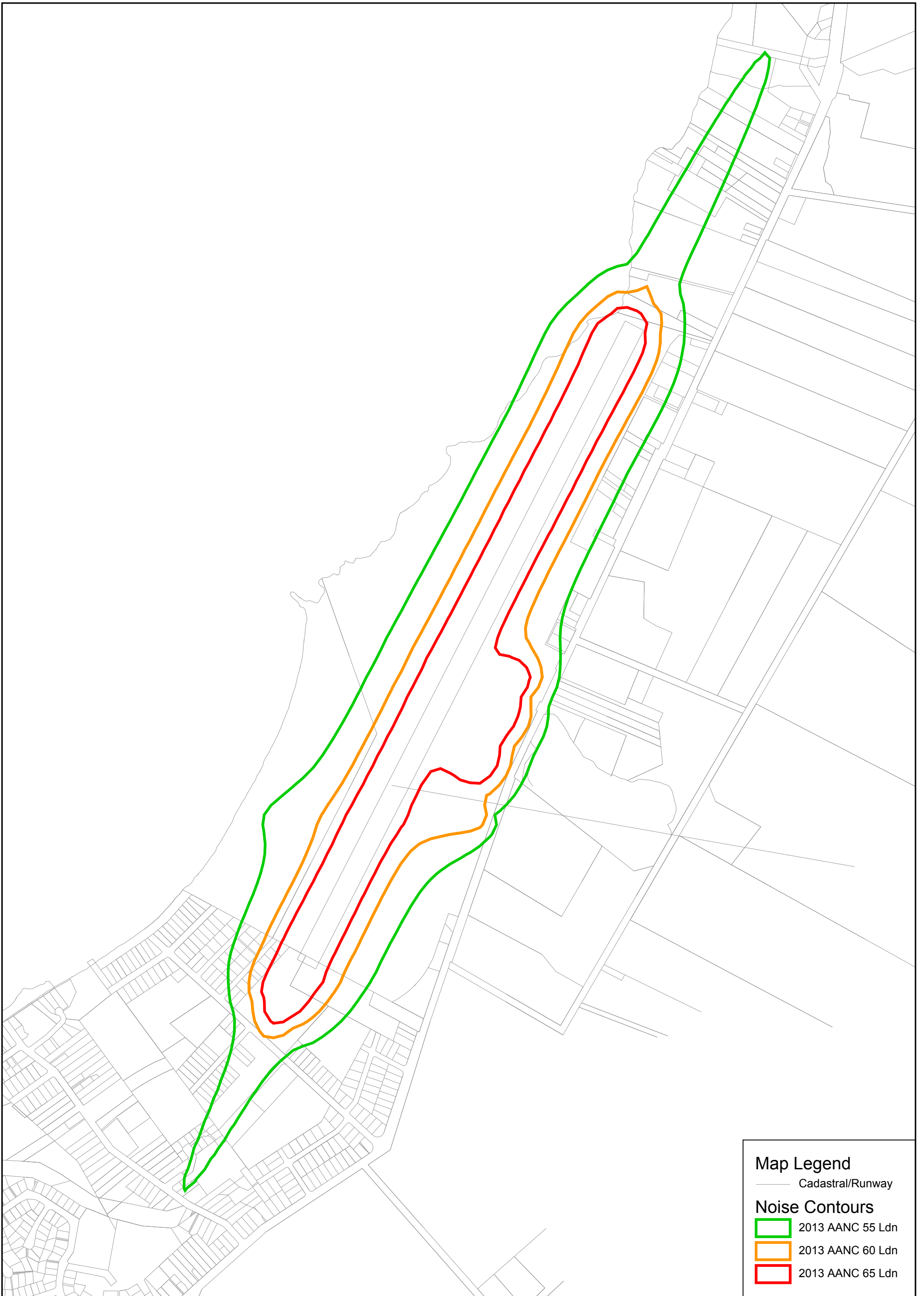
MARSHALL DAY ACOUSTICS LTD



Laura McNeill

Consultant

Enclosed: Figure 1 2013 Annual Aircraft Noise Contours
 Figure 2 Comparison of 2011 and 2013 AANC 65 dB L_{dn}
 Figure 3 Comparison of 2011 and 2013 AANC 60 dB L_{dn}
 Figure 4 2012 Actual Noise Contours

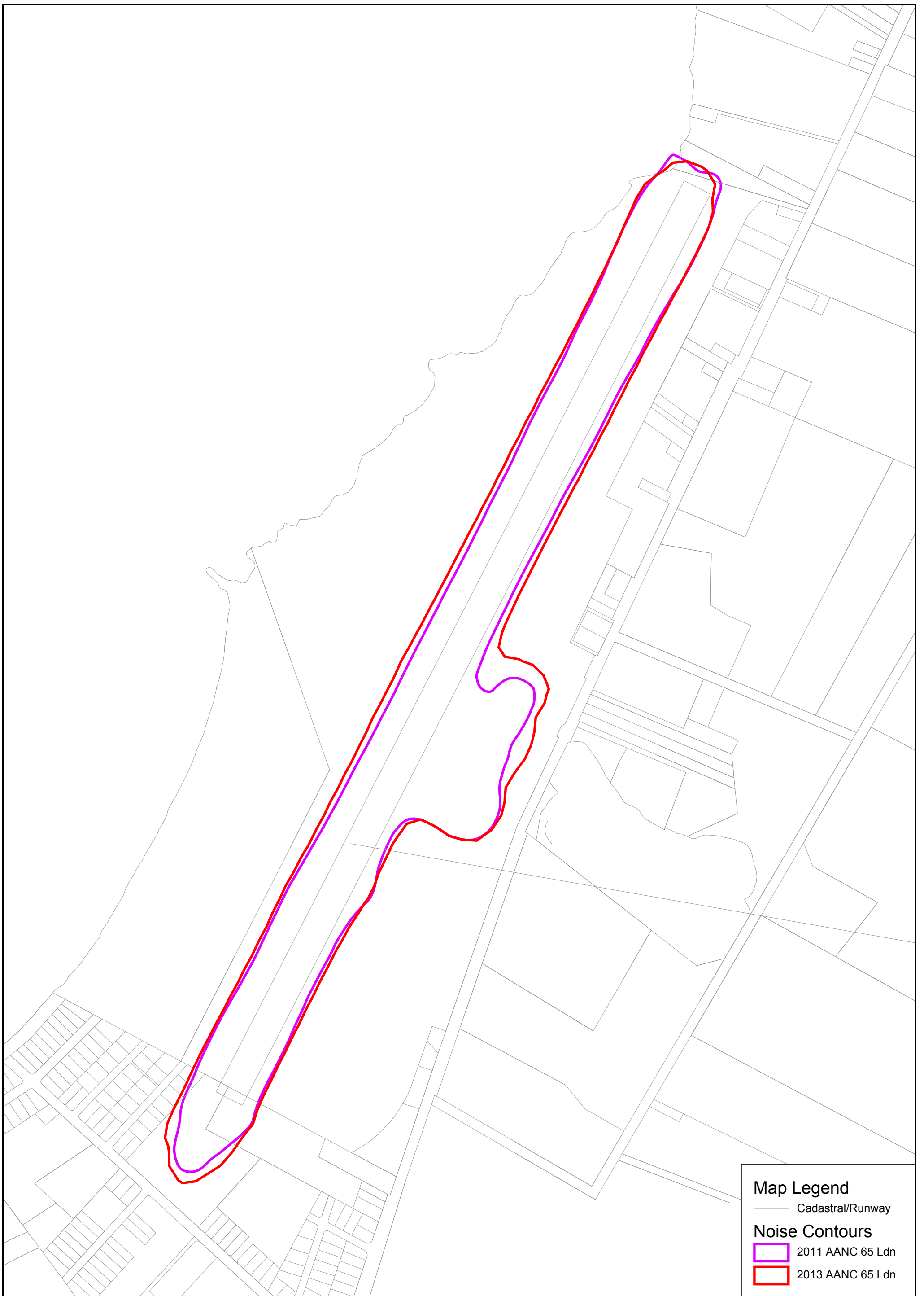


Map Legend

- Cadastral/Runway

Noise Contours

- 2013 AANC 55 Ldn
- 2013 AANC 60 Ldn
- 2013 AANC 65 Ldn



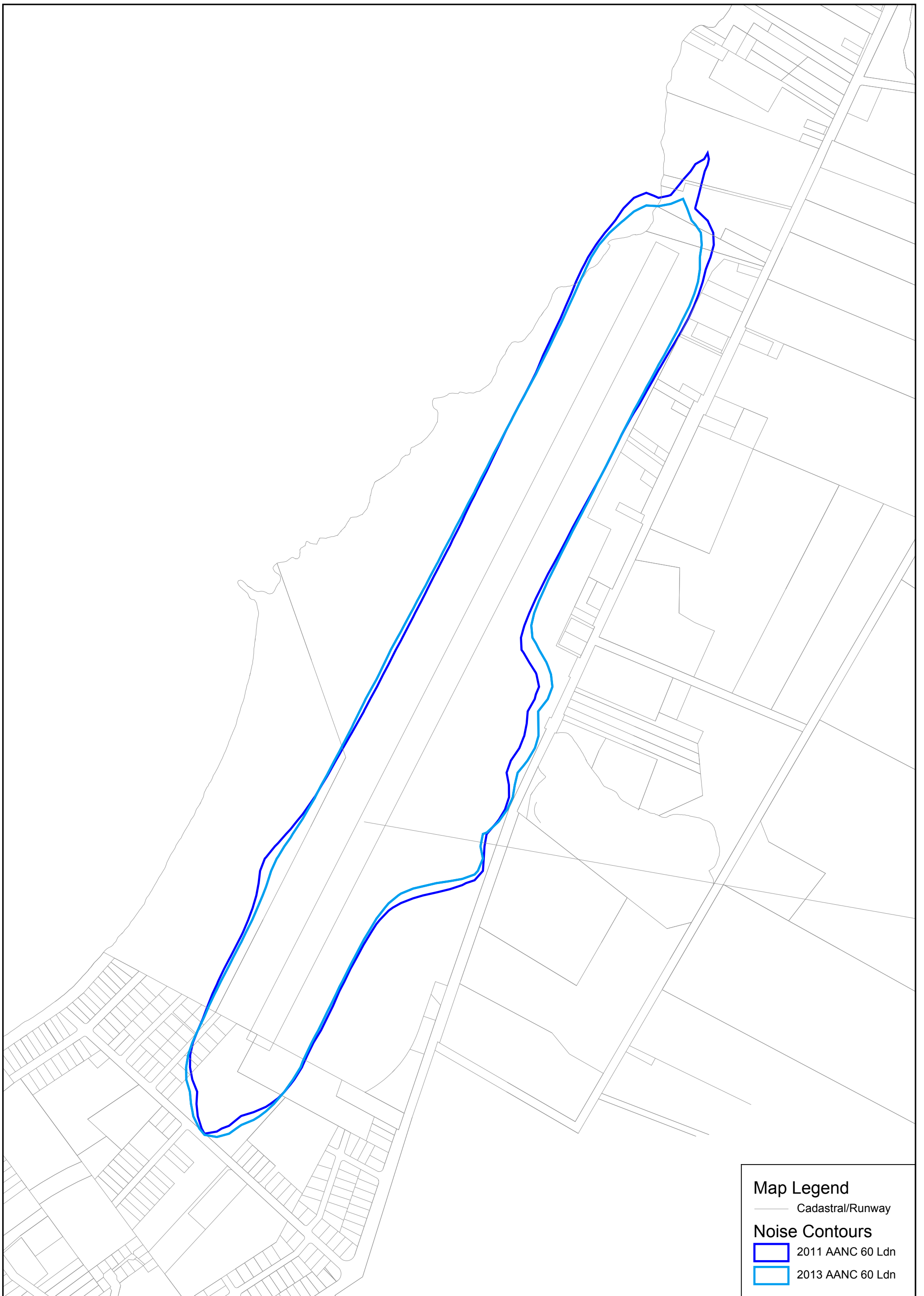
Map Legend

— Cadastral/Runway

Noise Contours

2011 AANC 65 Ldn

2013 AANC 65 Ldn



Map Legend

— Cadastral/Runway

Noise Contours

■ 2011 AANC 60 Ldn

■ 2013 AANC 60 Ldn



Map Legend

- Cadastral/Runway

Noise Contours

- Outer Control Area 55 Ldn
- Inner Control Area 60 Ldn
- Air Noise Area 65 Ldn
- - - 2012 ANC 55 Ldn
- - - 2012 ANC 60 Ldn
- - - 2012 ANC 65 Ldn