

Memo

To:	Emma Ensor	Job No:	1013185
From:	Darran Humpheson	Date:	03 December 2020
Subject:	Te Kowhai Airfield airnoise contours		

Tonkin & Taylor Ltd (T+T) has undertaken an assessment of aircraft noise on behalf of Waikato District Council (WDC) as part of their district plan review. T+T has modelled aircraft noise contours of the Te Kowhai Airfield as part of the review process and compared these contours against those provided by Marshall Day Acoustics (MDA) in their consultant advice note (CAN) dated 8 October 2018.

MDA subsequently provided their noise model's input in a spreadsheet on 23 October 2020. T+T received this information from WDC on 27 October 2020 and have used this information to generate new contours using the US FAA's AEDT 3c¹ aircraft noise modelling software. These new contours are near identical to those provided in the MDA CAN, which was generated using the FAA's INM² software. The additional noise contribution from taxiing aircraft has a minimal effect on the size and shape of the contours and has been ignored.

WDC requested a further set of noise contours to reflect an operational scenario of 15,000 aircraft movements per year, no flights between 10pm and 7am and no flight training school or circuit training flights. The no flights request between 10pm and 7am was already included within the MDA contours.

New 55 dB Ldn Outer Control Boundary (OCB) and 65 dB Air Noise Boundary (ANB) contours are included at Enclosure 1. The contours include a comparison to the MDA OCB and ANB contours, which were based on 21,000 aircraft flight movements per annum, which is the equivalent of 25,5538 annualised busy day movements. The revised aircraft movement numbers (omitting the training school movements and all touch and go movements) are included at Enclosure 2.

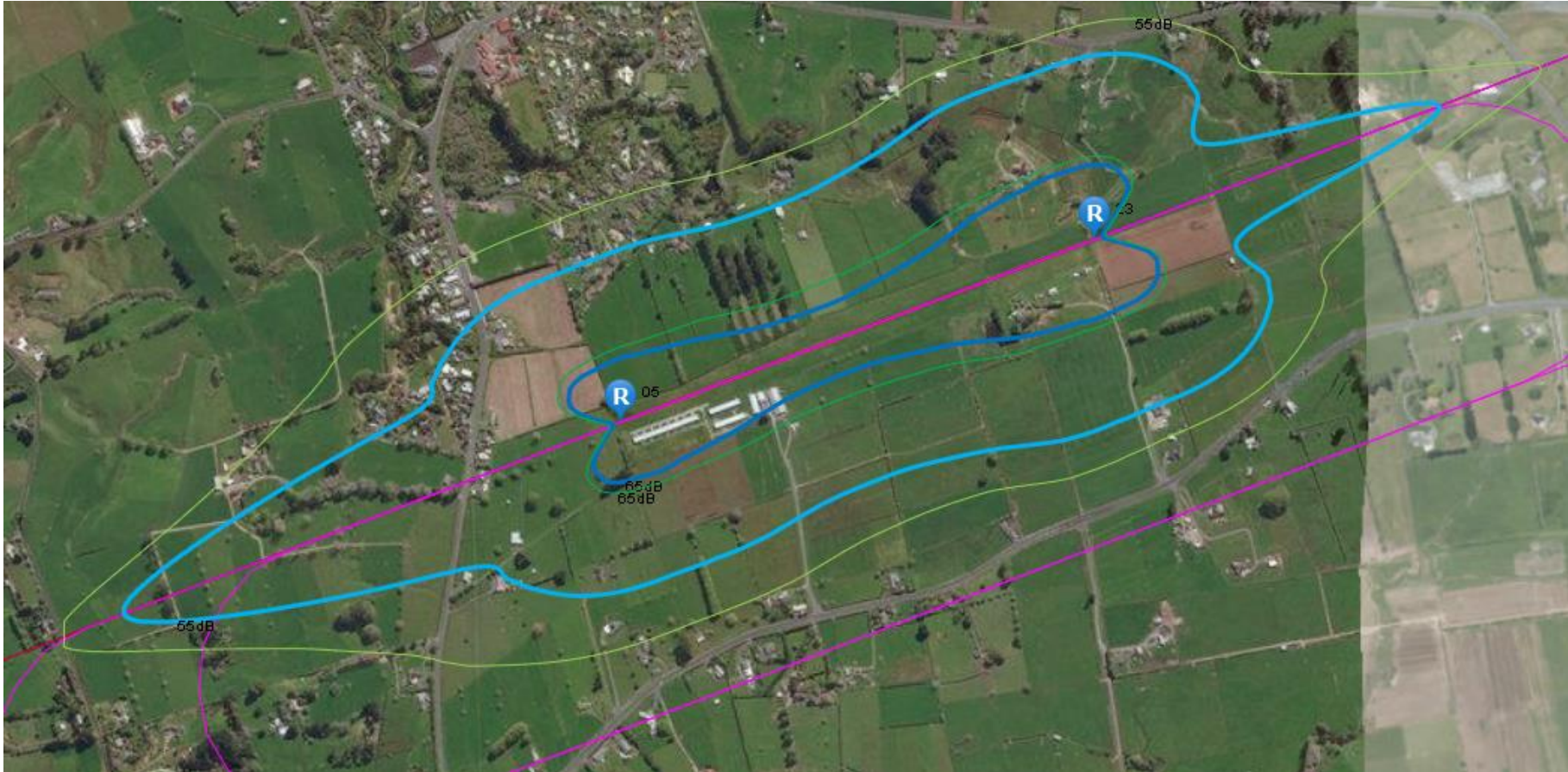
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¹ United States Federal Aviation Administration Aviation Environmental Design Tool noise modelling software version 3c

² United States Federal Aviation Administration Aviation Integrated Noise Model noise modelling software

Enclosure 1 – 65 dB Ldn ANB and 55 dB Ldn OCB - new 15,000 contours shown as blue and MDA contours for 21,000 movements shown green



Enclosure 2 - Revised 15,000 annual movements

ACFT_ID	AIRCRAFT MODEL	AEDT AIRFRAME TYPE	OP_TYPE	RWY_ID	OPS_DAY
CPL_PPL	GASEPF	Cessna 150	Arrival	23	1.109099
CPL_PPL	GASEPF	Cessna 150	Arrival	05	0.597207
CPL_PPL	GASEPF	Cessna 150	Departure	23	1.109099
CPL_PPL	GASEPF	Cessna 150	Departure	05	0.597207
HUCOM	CNA206	Cessna 206	Arrival	23	5.941605
HUCOM	CNA206	Cessna 206	Arrival	05	3.199327
HUCOM	CNA206	Cessna 206	Departure	23	5.941605
HUCOM	CNA206	Cessna 206	Departure	05	3.199327
ITINRNT	GASEPV	Cessna 400	Arrival	23	3.696999
ITINRNT	GASEPV	Cessna 400	Arrival	05	1.990691
ITINRNT	GASEPV	Cessna 400	Departure	23	3.696999
ITINRNT	GASEPV	Cessna 400	Departure	05	1.990691
RESIDENT	GASEPV	Cessna 400	Arrival	23	5.494665
RESIDENT	GASEPV	Cessna 400	Arrival	05	2.958666
RESIDENT	GASEPV	Cessna 400	Departure	23	5.494665
RESIDENT	GASEPV	Cessna 400	Departure	05	2.958666
Busy day average					49.98
Annualised day average					41.10
Annualised total (from busy day average)					18,241
Annualised total					15,000
Increase – busy day compared to annualised average day					22%