

# Annex G: Noise Contours for Heathrow, Gatwick and Stansted airports

The noise contours in this annex have been produced by the Environmental Research and Consultancy Department (ERCD) of the Civil Aviation Authority (CAA) using the UK aircraft noise contour model (ANCON 2.4), which calculates the emissions and propagation of noise from arriving and departing air traffic according to ECAC.CEAC Doc 29 4<sup>th</sup> Edition Volume 2<sup>1</sup>.

Noise contours for the 6.5-hour night quota period (23:30-06:00 local time) have been produced to demonstrate how the current night restrictions regime affects the night-time contour at each airport (Figures 1 to 3). These contours are displayed<sup>2</sup> at 3 dB intervals from 48 dB and have been calculated using data recorded between 28 October 2018 and 27 October 2019 (a full winter and summer season as described in the current night restrictions regime).

For the purposes of this consultation, the corresponding noise contours for the 8-hour night period (23:00-07:00 local time) have also been produced for the same winter and summer seasons (Figures 4 to 6).

Estimates have been made of the numbers of people and households enclosed within the noise contours (Tables 1 and 2). The population data used for the contours are a 2019 update of the 2011 Census supplied by CACI Limited. The areas, population and household data are provided for each contour level, on a cumulative basis, in accordance with normal practice.

These contours should be considered along with the main consultation document.

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<sup>1</sup> ECAC.CEAC Doc 29 4<sup>th</sup> Edition (2016), *Report on Standard Method of Computing Noise Contours around Civil Airports Volume 2: Technical Guide*, European Civil Aviation Conference (ECAC).

<sup>2</sup> For presentational reasons higher contour levels have not been labelled in some cases.

Table 1 Heathrow, Gatwick and Stansted Winter 2018-19/Summer 2019 L<sub>Aeq,6.5h</sub> night contours

<b>Heathrow 2018-19 L<sub>Aeq,6.5h</sub> night</b>			
<b>Contour (dB)</b>	<b>Area (sq km)</b>	<b>Population (1000s)</b>	<b>Households (1000s)</b>
48	30.0	95.7	33.3
51	15.2	47.8	15.6
54	7.6	18.5	5.8
57	3.8	2.8	0.8
60	2.0	1.0	0.3
63	1.1	<0.1	<0.1
<b>Gatwick 2018-19 L<sub>Aeq,6.5h</sub> night</b>			
<b>Contour (dB)</b>	<b>Area (sq km)</b>	<b>Population (1000s)</b>	<b>Households (1000s)</b>
48	32.1	3.9	1.5
51	17.0	1.1	0.4
54	9.2	0.4	0.1
57	4.8	0.3	0.1
60	2.5	0.1	<0.1
63	1.4	0.0	0.0
<b>Stansted 2018-19 L<sub>Aeq,6.5h</sub> night</b>			
<b>Contour (dB)</b>	<b>Area (sq km)</b>	<b>Population (1000s)</b>	<b>Households (1000s)</b>
48	35.7	4.7	1.9
51	18.6	1.5	0.6
54	9.5	0.4	0.1
57	4.8	0.1	<0.1
60	2.6	0.0	0.0
63	1.4	0.0	0.0

Table 2 Heathrow, Gatwick and Stansted Winter 2018-19/Summer 2019 L<sub>Aeq,8h</sub> night contours

<b>Heathrow 2018-19 L<sub>Aeq,8h</sub> night</b>			
<b>Contour (dB)</b>	<b>Area (sq km)</b>	<b>Population (1000s)</b>	<b>Households (1000s)</b>
48	97.6	365.5	144.5
51	58.5	182.2	67.5
54	29.1	79.8	27.0
57	14.9	38.9	12.6
60	7.6	11.8	3.5
63	4.0	2.4	0.7
<b>Gatwick 2018-19 L<sub>Aeq,8h</sub> night</b>			
<b>Contour (dB)</b>	<b>Area (sq km)</b>	<b>Population (1000s)</b>	<b>Households (1000s)</b>
48	61.7	7.8	3.1
51	32.3	2.3	0.9
54	18.2	1.1	0.4
57	10.0	0.5	0.2
60	5.3	0.2	0.1
63	2.8	0.1	0.0
<b>Stansted 2018-19 L<sub>Aeq,8h</sub> night</b>			
<b>Contour (dB)</b>	<b>Area (sq km)</b>	<b>Population (1000s)</b>	<b>Households (1000s)</b>
48	58.1	8.1	3.2
51	31.6	3.9	1.6
54	16.8	1.0	0.4
57	8.8	0.3	0.1
60	4.6	0.1	<0.1
63	2.3	0.0	0.0

Figure 1 Heathrow Winter 2018-19/Summer 2019  $L_{Aeq,6.5h}$  night contours

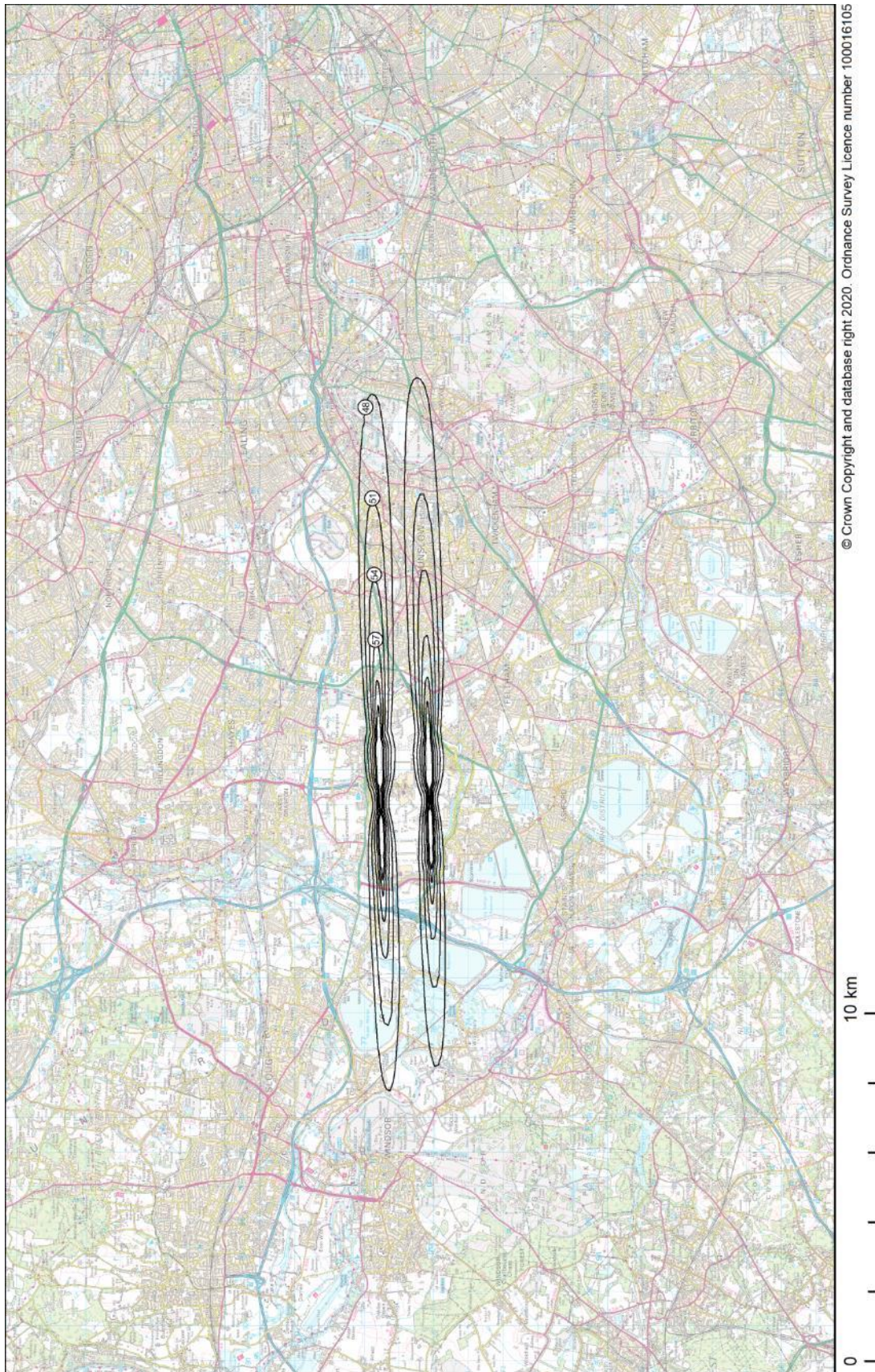




Figure 2 Gatwick Winter 2018-19/Summer 2019  $L_{Aeq,6.5h}$  night contours

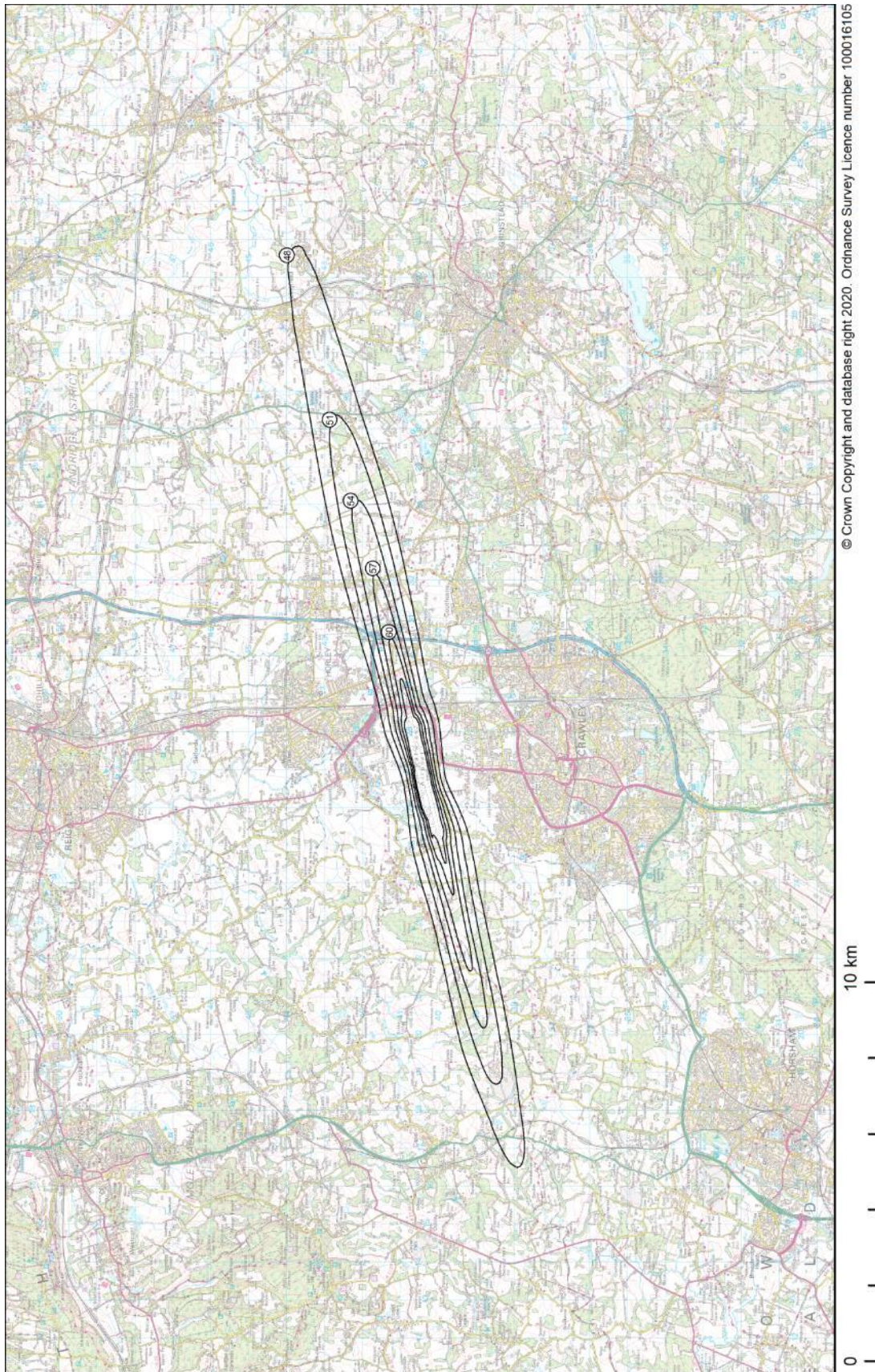
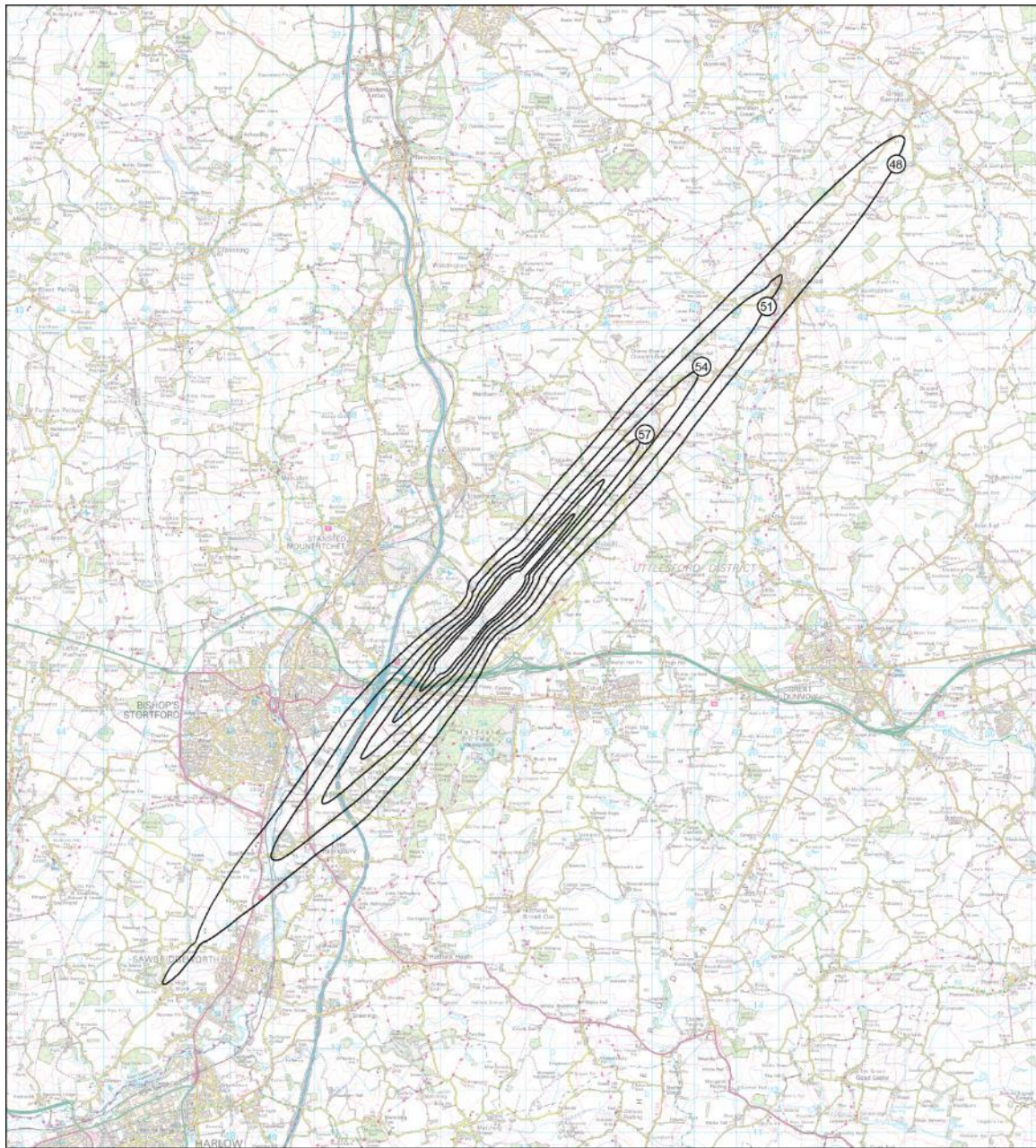




Figure 3 Stansted Winter 2018-19/Summer 2019  $L_{Aeq,6.5h}$  night contours



0 5 km

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Figure 4 Heathrow Winter 2018-19/Summer 2019  $L_{Aeq,8h}$  night contours

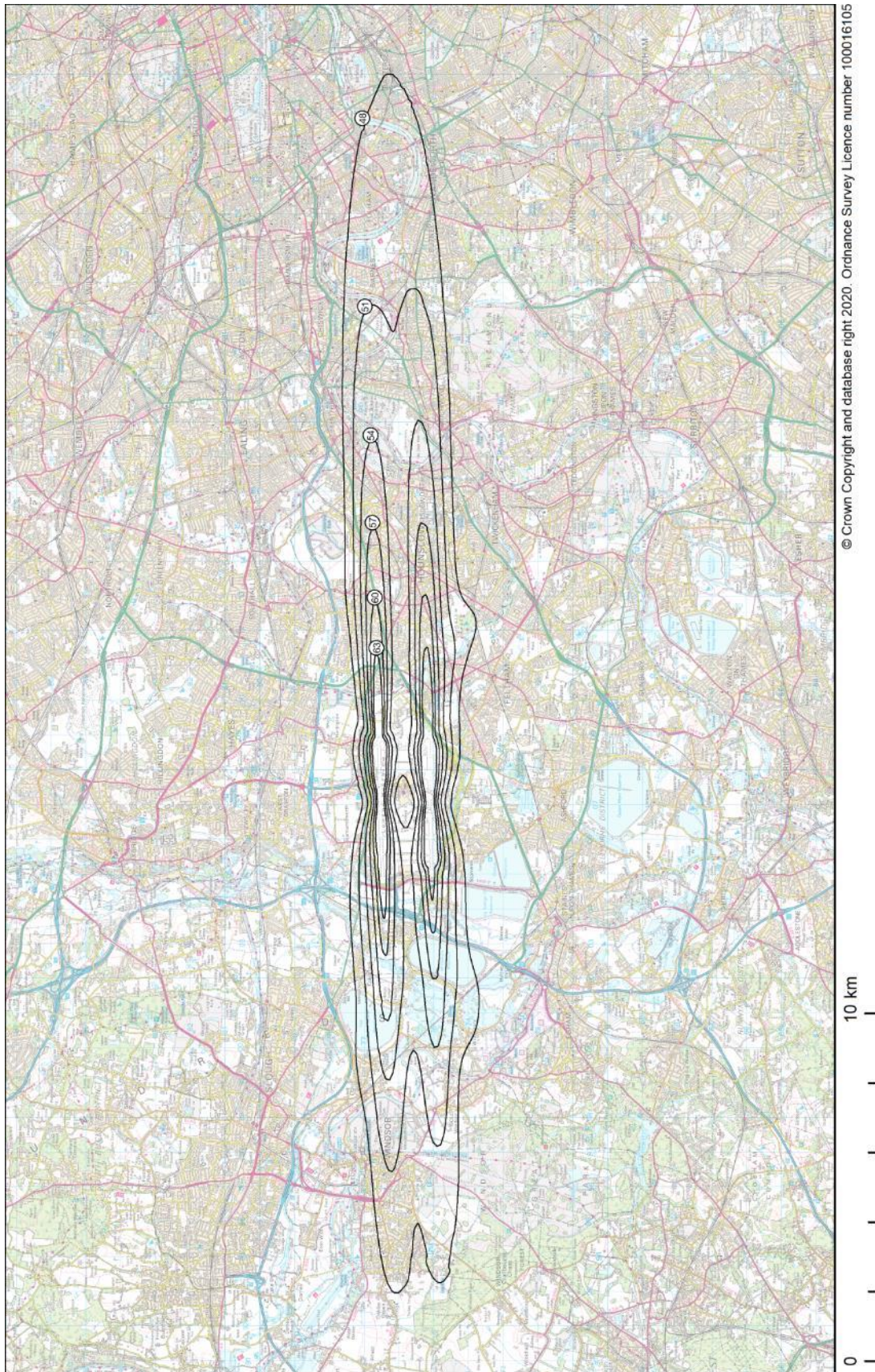




Figure 5 Gatwick Winter 2018-19/Summer 2019  $L_{Aeq,8h}$  night contours

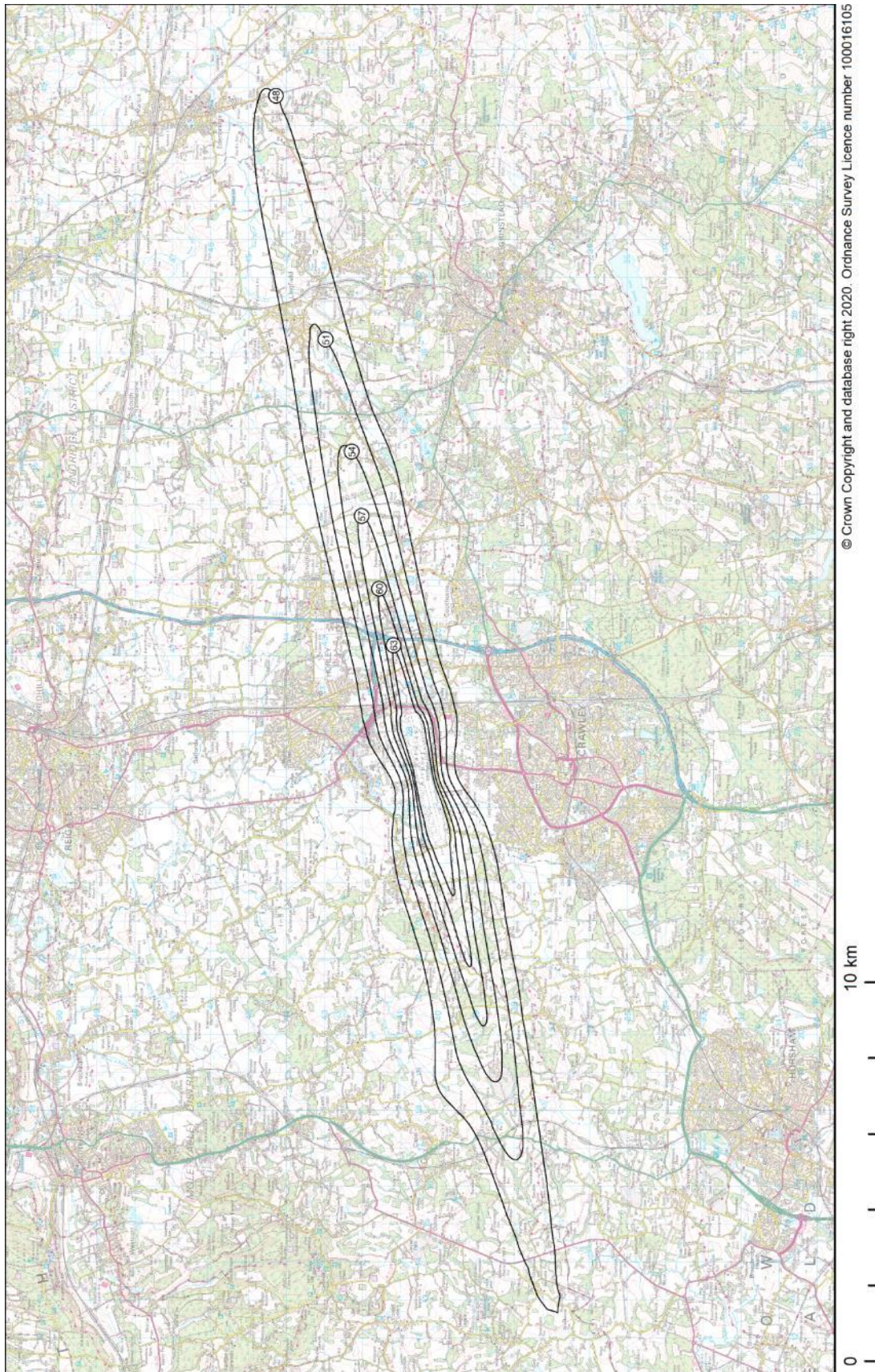




Figure 6 Stansted Winter 2018-19/Summer 2019  $L_{Aeq,8h}$  night contours

