

TECHNICAL NOTE: Edinburgh Airport ACP – reworking of Leq noise contours with revised traffic numbers (October 2018)

Introduction

ERCD was commissioned by NATS to rework the Edinburgh Airport ACP summer day Leq contours to account for revised traffic numbers on each departure and arrival route. The results of the previous noise assessment were summarised in the CAA Technical Note, *Edinburgh Airport new SIDs ACP – noise contours for final routes*, dated 25 April 2018.

Revised Leq contours were generated for:

- 2019 – ACP implementation of all new SIDs; and
- 2024 – 5-year forecast from ACP implementation.

NATS also advised that the baseline contours with existing SIDs should be revised to reflect the years 2019 and 2024 (instead of 2018 and 2023), using the following traffic growth figures from 2016:

- 2019 = 2016 + 9.6%
- 2024 = 2016 + 15.99%

Methodology

NATS provided updated movement numbers for each ACP departure route as below:

Mode/Route	2019 (9.6% total growth)	2024 (20% total growth)
Runway 24 departures		
ARLER1C (A3)	49.7	53.4
EVTOL1C (A6)	8.2	9.2
LIKLA1C (B2)	65.1	69.9
MAVIX1C (B5)	21.7	23.3
GRICE4C (C5)	12.3	13.3
VOSNE1C (D0)	12.7	14.2
Total	169.7	183.3
Runway 06 departures		
EMJEE1D (E7A)	60.6	65.2
GRICE5D (F2a)	9.9	10.6
VOSNE1D (G5)	56.5	60.8
KRAGY1D (H2)	45.1	48.6
Total	172.1	185.2
Arrivals	173.0	185.0

Note: the above numbers are for single mode operations (i.e. 100% RWY 24 or 100% RWY 06).

The final proposed ACP SID routes are shown in **Figure 1**. The traffic numbers on each route from the previous assessment were adjusted to match the figures in the above table. All other modelling assumptions remained the same, e.g. routes, runway modal split 70%W / 30%E.

Results

The revised 51-72 dBA Leq contours are shown (a) on their own and (b) overlaid onto the previous contours, as follows:

Figure 2 – 2019 summer day Leq revised contours with ACP

Figure 3 – 2019 summer day Leq revised contours with ACP vs previous ACP contours (red)

Figure 4 – 2024 summer day Leq revised contours with ACP

Figure 5 – 2024 summer day Leq revised contours with ACP vs previous ACP contours (red)

The revised baseline contours for 2019 and 2024 are shown in the following diagrams:

Figure 6 – 2019 summer day Leq baseline contours (with existing SIDs)

Figure 7 – 2024 summer day Leq baseline contours (with existing SIDs)

Estimates of the area, population and households within the above contours, using an updated 2016 population database (based on the 2011 Census) supplied by CACI Ltd, are given in **Tables 1-4**.

ERCD

12 October 2018

Table 1 Edinburgh 2019 summer day Leq contours with ACP implementation (OCT 2018 REVISED TRAFFIC NUMBERS) - area, population and household estimates

Leq (dBA)	Area (km ²)	Population	Households
> 51	56.0	19,200	8,100
> 54	30.2	6,600	2,900
> 57	17.0	3,900	1,700
> 60	9.3	2,000	900
> 63	5.2	400	200
> 66	3.0	100	100
> 69	1.7	< 100	< 100
> 72	1.0	0	0

Table 2 Edinburgh 2024 summer day Leq contours for ACP implementation + 5 years (OCT 2018 REVISED TRAFFIC NUMBERS) - area, population and household estimates

Leq (dBA)	Area (km ²)	Population	Households
> 51	60.0	23,600	9,900
> 54	32.1	6,900	3,000
> 57	18.1	4,100	1,800
> 60	10.0	2,100	1,000
> 63	5.5	400	200
> 66	3.2	300	100
> 69	1.8	< 100	< 100
> 72	1.0	0	0

Note: Populations and households are given to the nearest 100. The population database used is a 2016 update of the 2011 Census supplied by CACI Ltd.

Table 3 Edinburgh 2019 baseline Leq contours with existing SIDs (assuming 9.6% growth from 2016)
- area, population and household estimates

Leq (dBA)	Area (km ²)	Population	Households
> 51	61.3	35,500	14,800
> 54	34.6	12,100	5,100
> 57	19.2	4,200	1,800
> 60	10.2	2,300	1,000
> 63	5.5	400	200
> 66	3.1	200	100
> 69	1.8	< 100	< 100
> 72	1.0	0	0

Table 4 Edinburgh 2024 baseline Leq contours with existing SIDs (assuming 15.99% growth from 2016) - area, population and household estimates

Leq (dBA)	Area (km ²)	Population	Households
> 51	64.4	37,300	15,600
> 54	36.2	13,800	5,800
> 57	20.2	4,600	2,000
> 60	10.7	2,700	1,200
> 63	5.8	400	200
> 66	3.3	300	100
> 69	1.9	< 100	< 100
> 72	1.1	0	0

Note: Populations and households are given to the nearest 100. The population database used is a 2016 update of the 2011 Census supplied by CACI Ltd.

Figure 1 Edinburgh Airport ACP SID final proposed routes

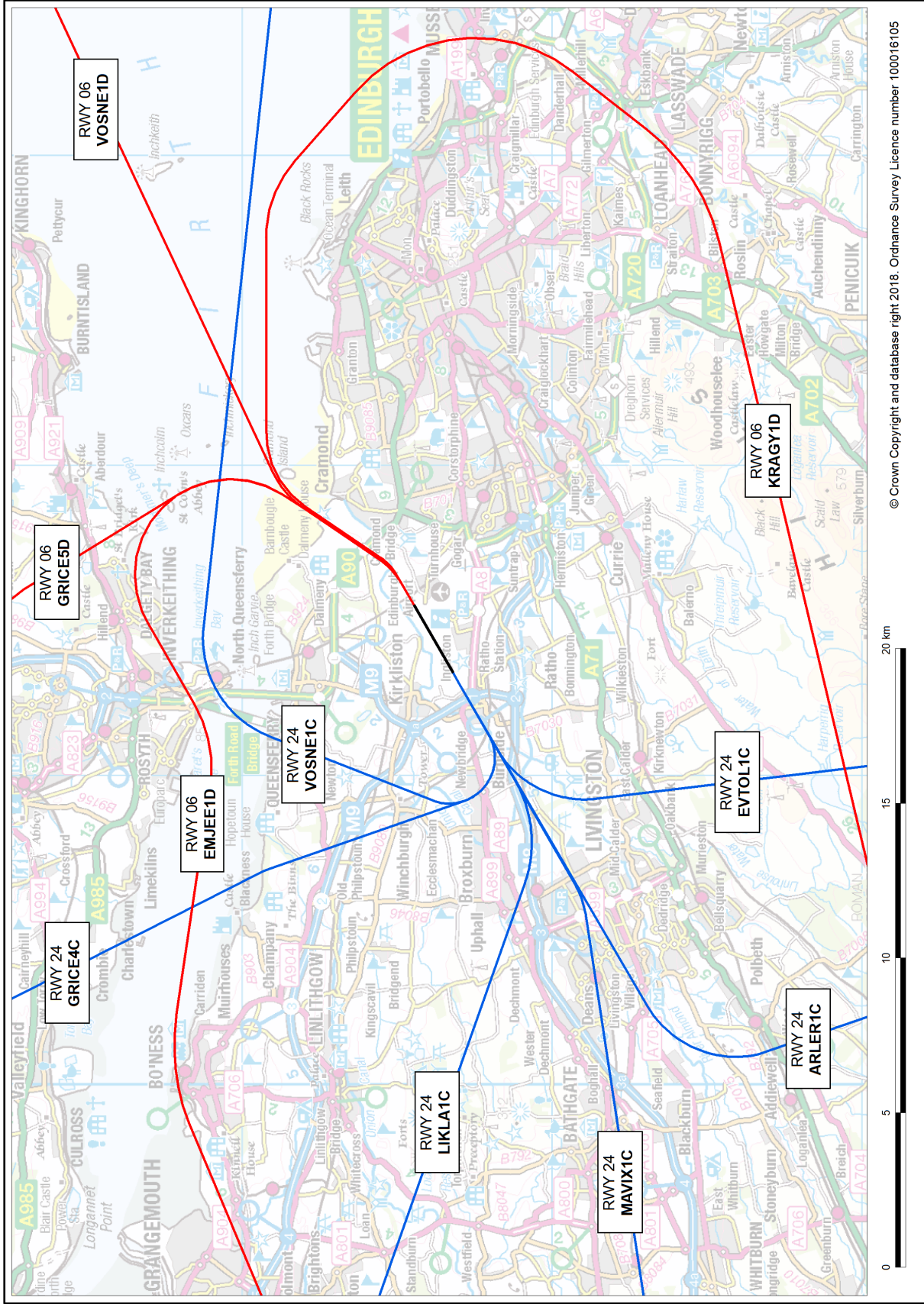


Figure 2 Edinburgh 2019 summer day Leq contours with ACP (OCT 2018 REVISED TRAFFIC NUMBERS)

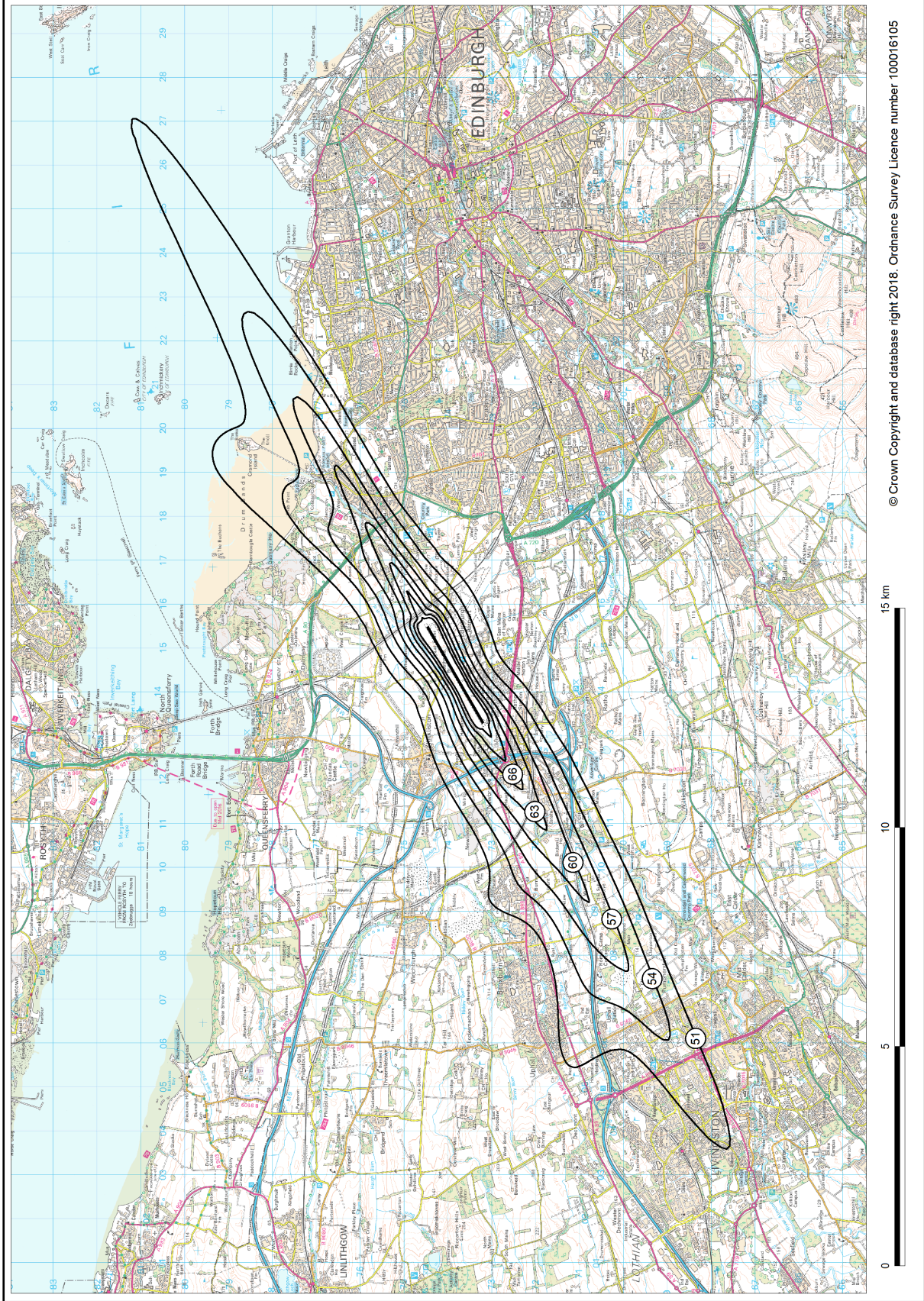


Figure 3 Edinburgh 2019 summer day Leq contours with ACP (OCT 2018 REVISED TRAFFIC NUMBERS) vs previous ACP contours (red)

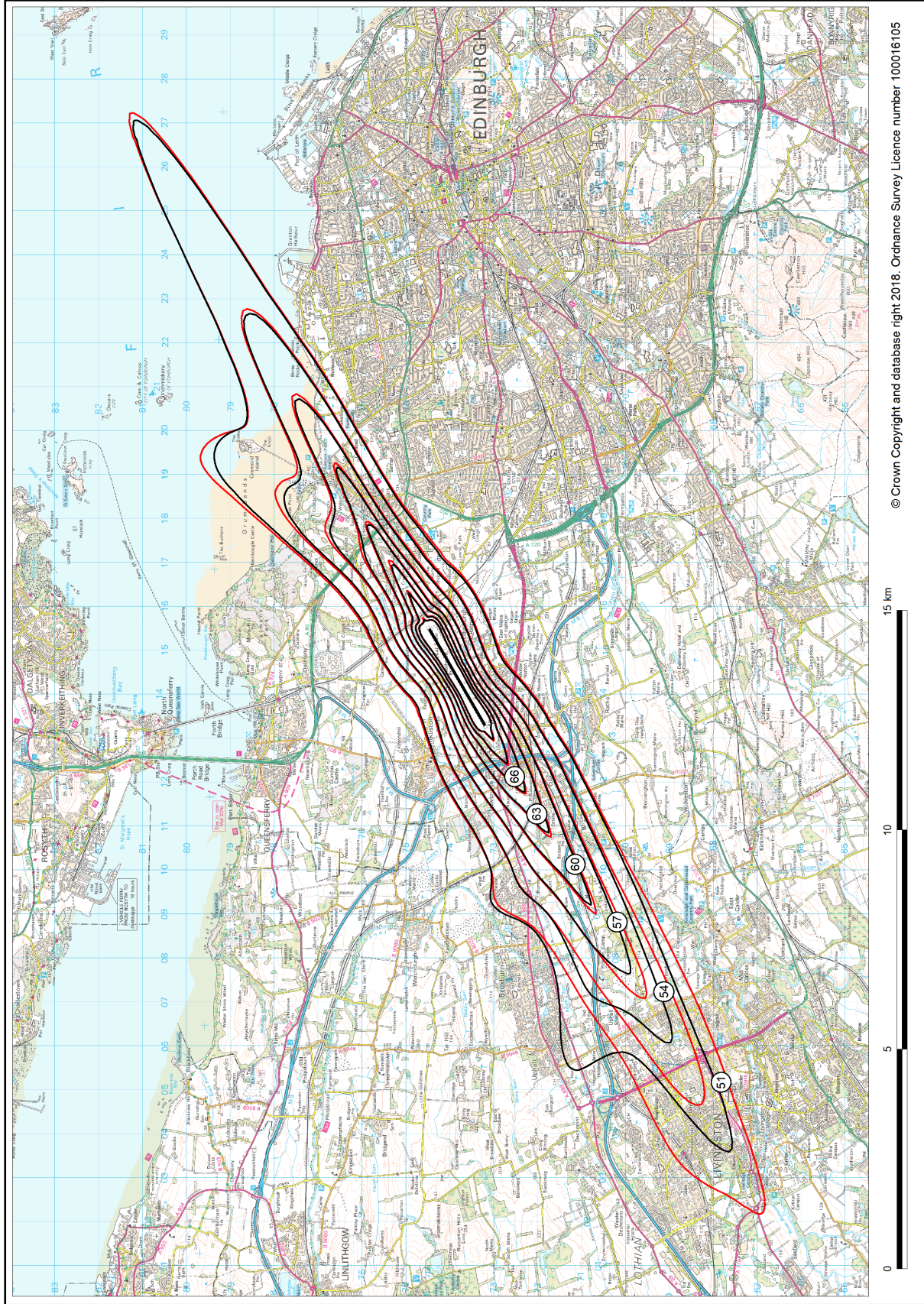


Figure 4 Edinburgh 2024 summer day Leq contours with ACP (OCT 2018 REVISED TRAFFIC NUMBERS)

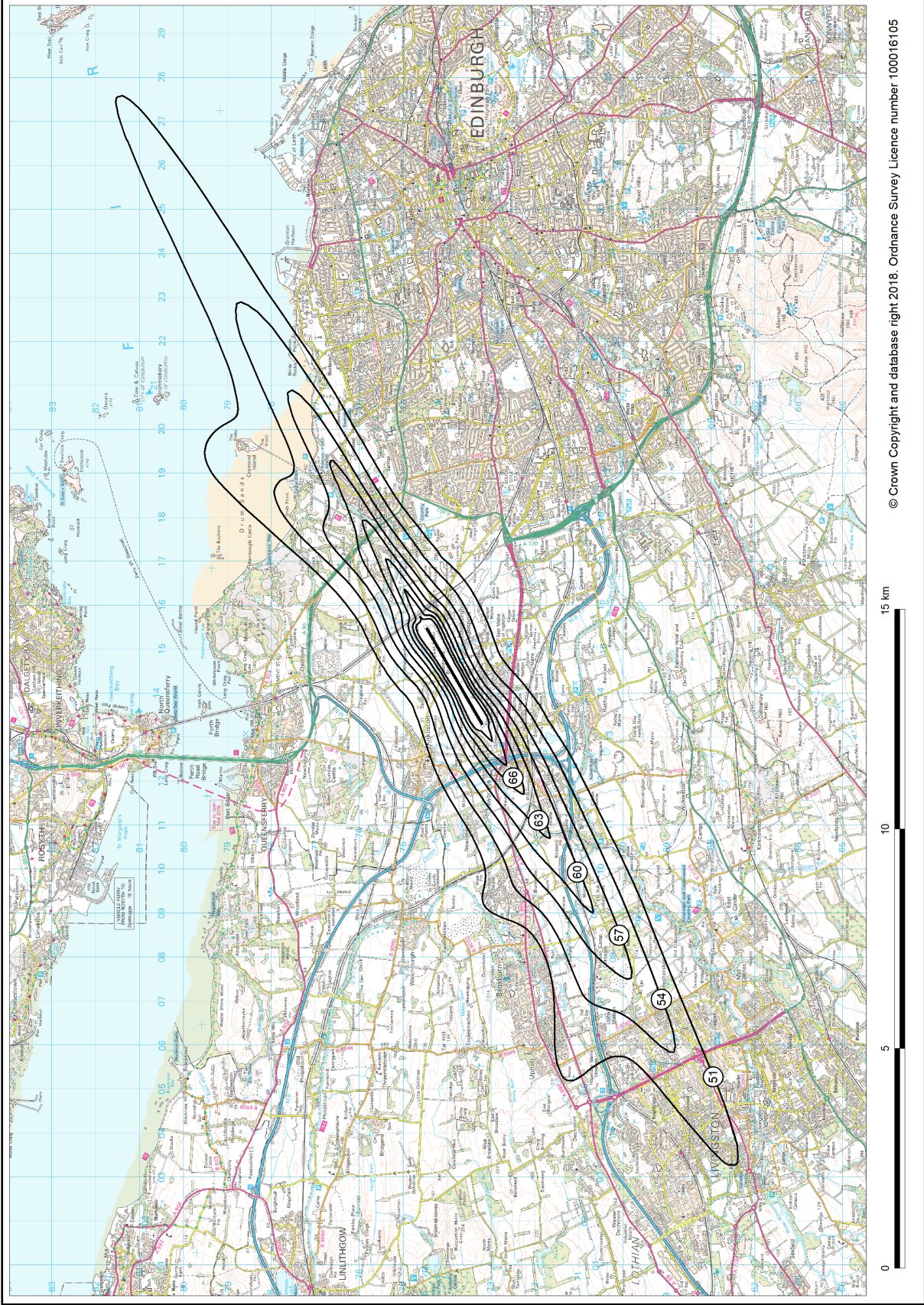


Figure 5 Edinburgh 2024 summer day Leq contours with ACP (OCT 2018 REVISED TRAFFIC NUMBERS) vs previous ACP contours (red)

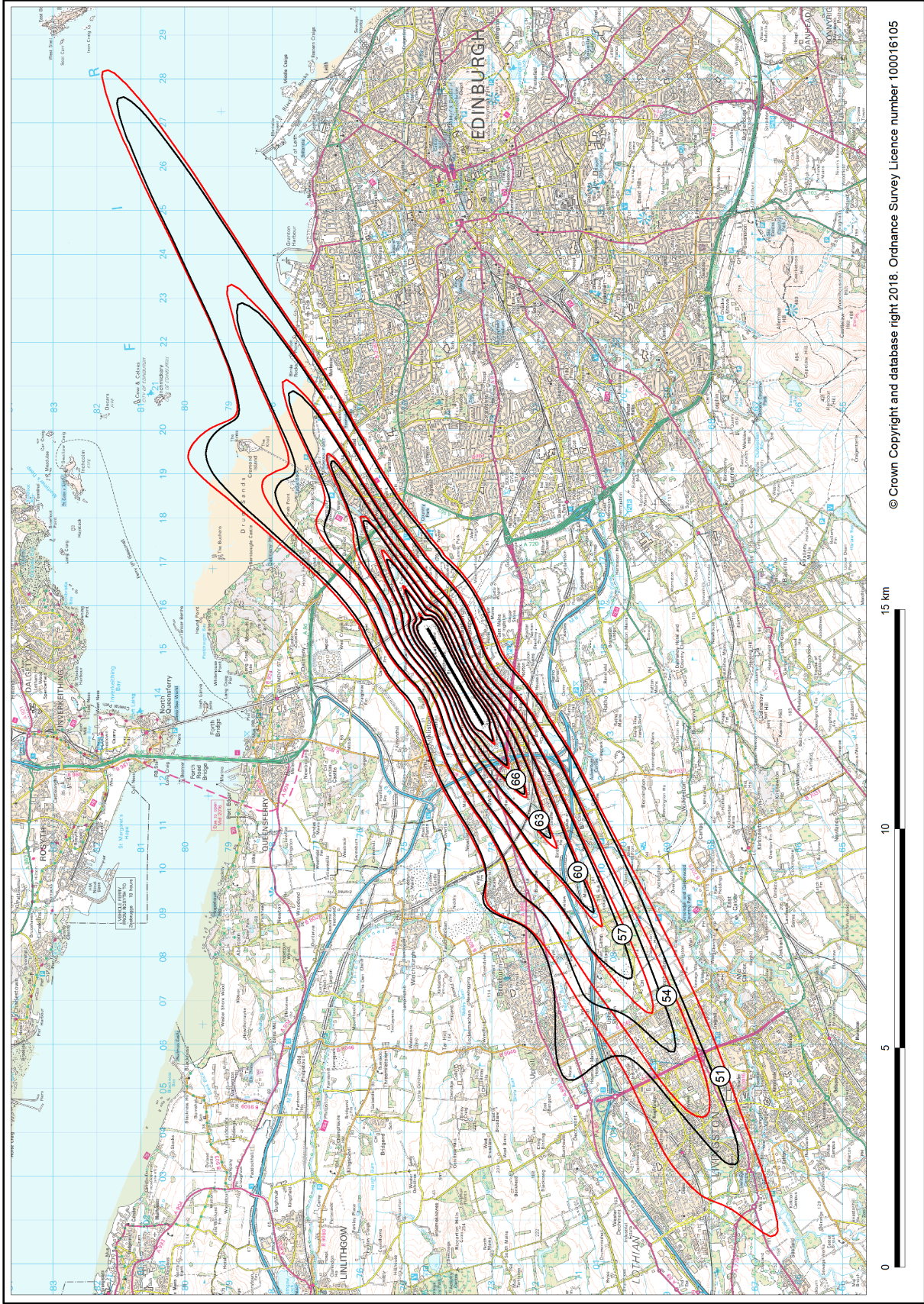
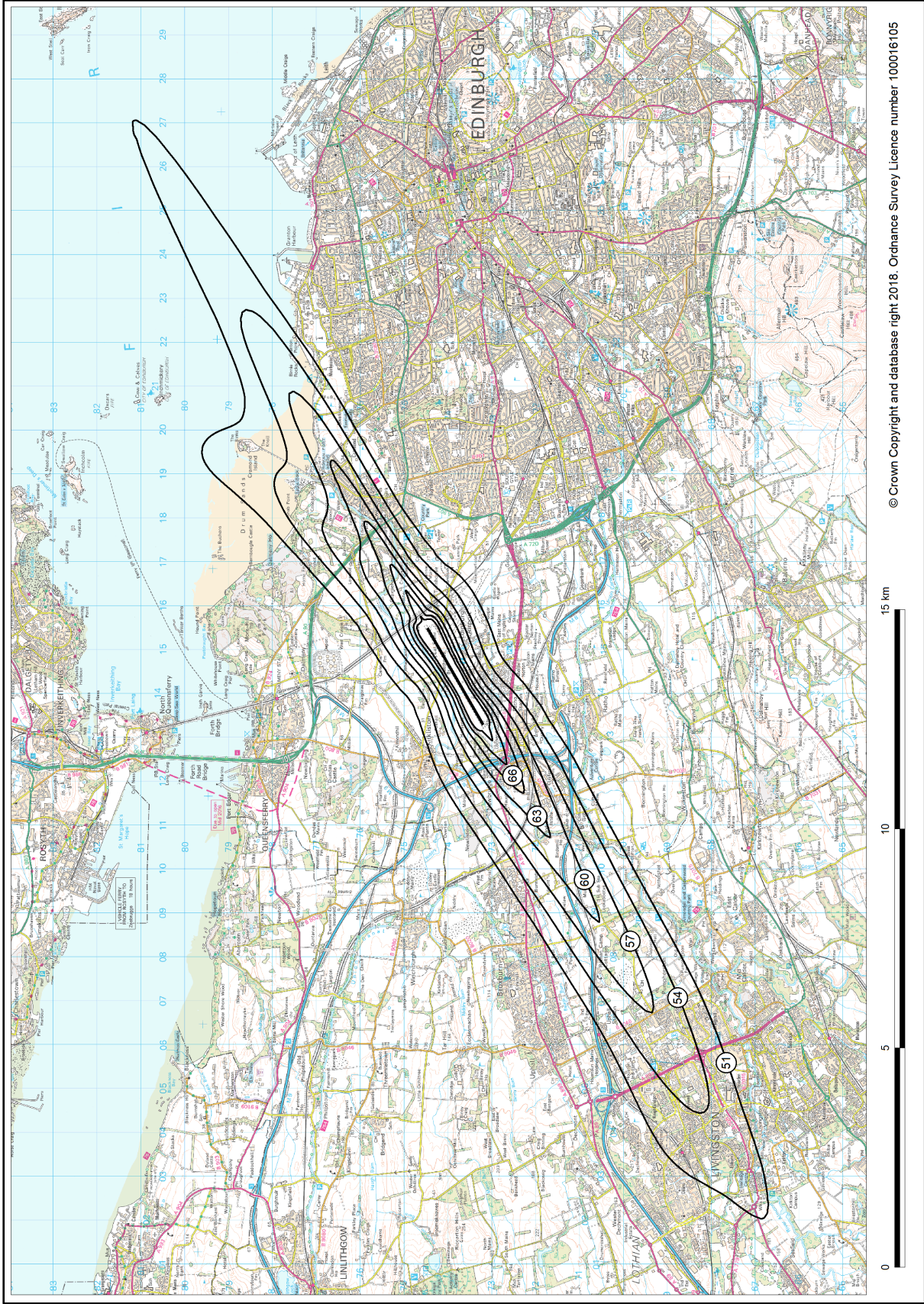
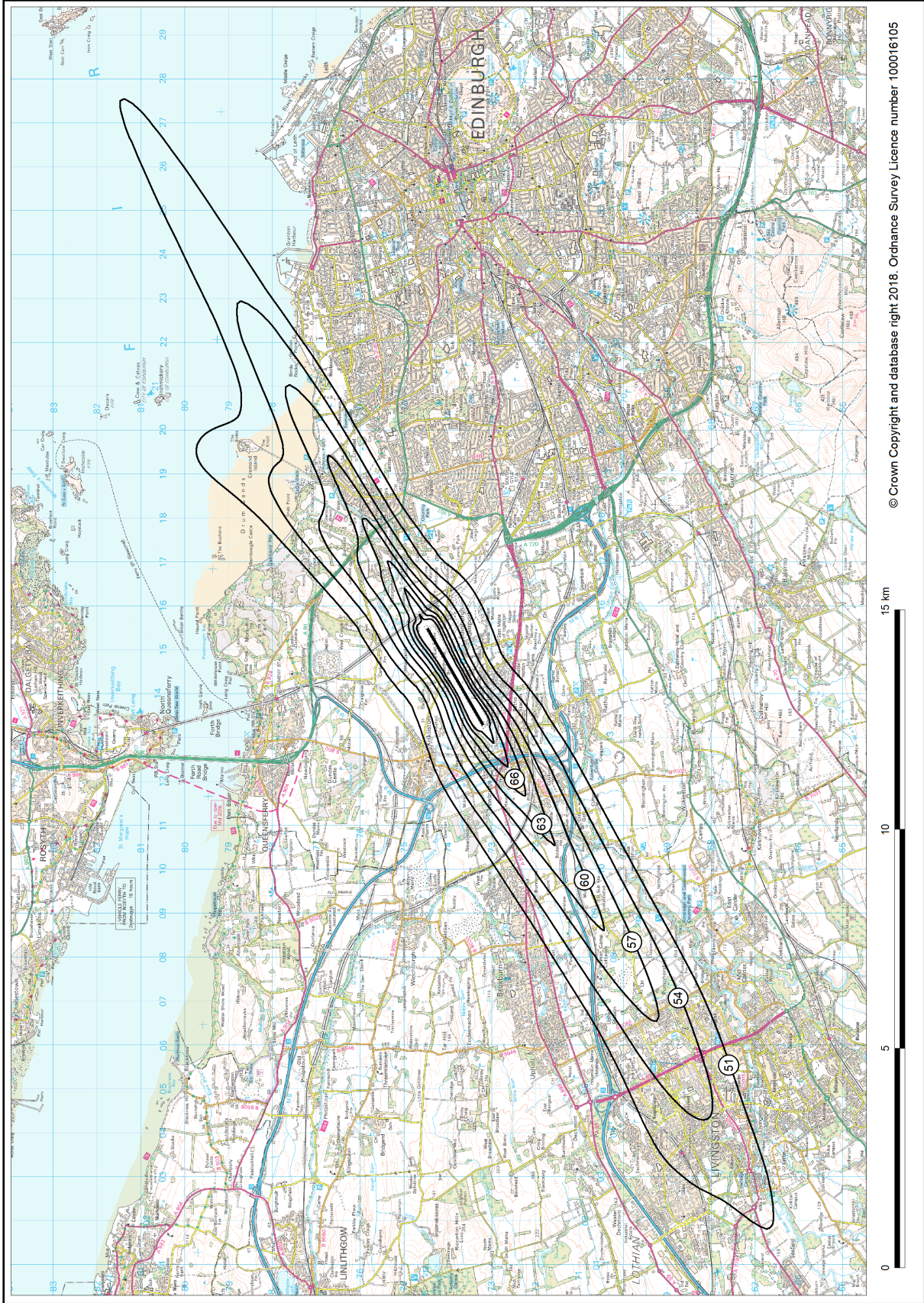


Figure 5 Edinburgh 2019 summer day Leq baseline contours with existing SIDs



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Figure 6 Edinburgh 2024 summer day Leq baseline contours with existing SIDs



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