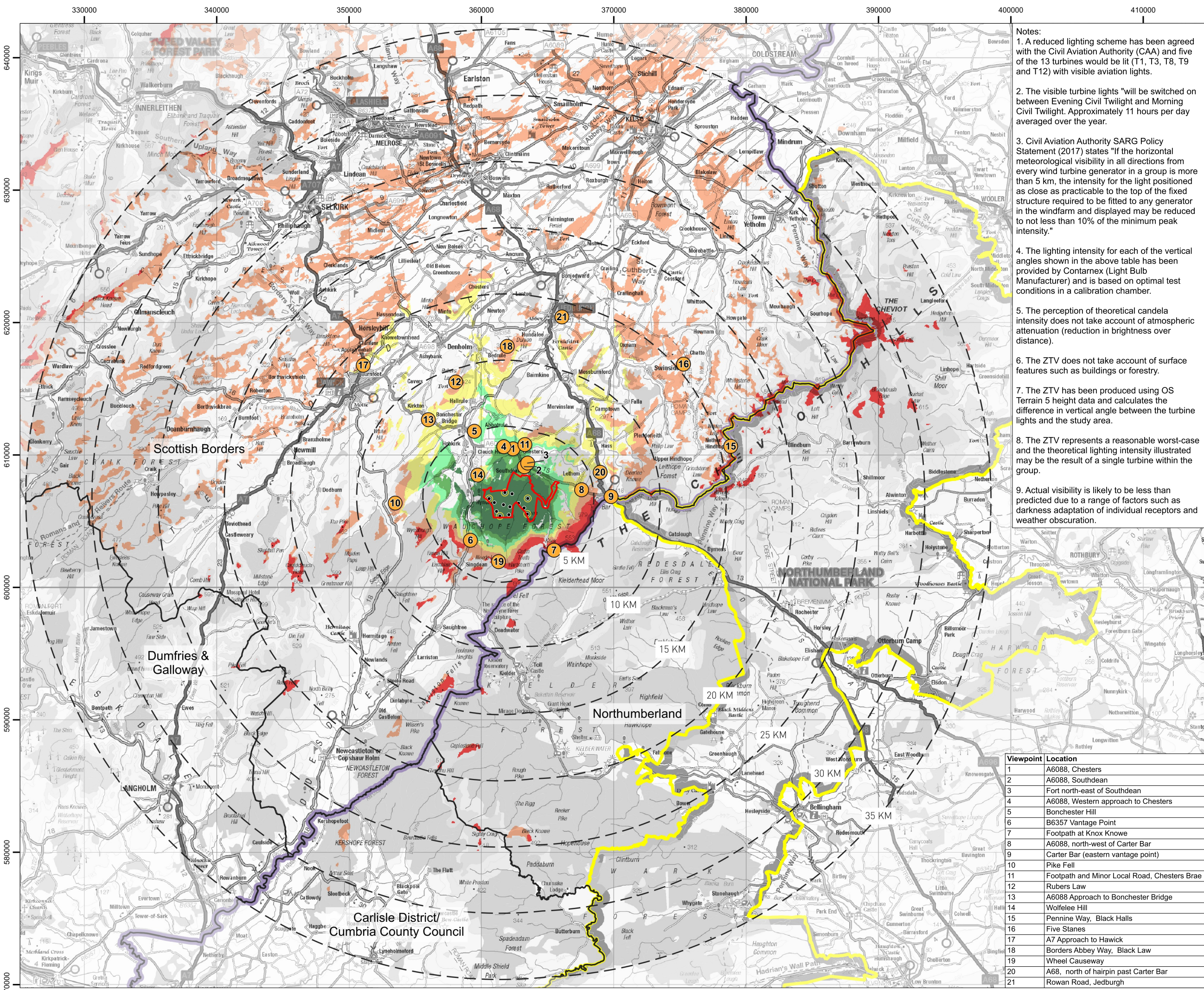




- Notes:
1. A reduced lighting scheme has been agreed with the Civil Aviation Authority (CAA) and five of the 13 turbines would be lit (T1, T3, T8, T9 and T12) with visible aviation lights.
 2. The visible turbine lights "will be switched on between Evening Civil Twilight and Morning Civil Twilight. Approximately 11 hours per day averaged over the year.
 3. Civil Aviation Authority SARG Policy Statement (2017) states "If the horizontal meteorological visibility in all directions from every wind turbine generator in a group is more than 5 km, the intensity for the light positioned as close as practicable to the top of the fixed structure required to be fitted to any generator in the windfarm and displayed may be reduced to not less than 10% of the minimum peak intensity."
 4. The lighting intensity for each of the vertical angles shown in the above table has been provided by Contarnex (Light Bulb Manufacturer) and is based on optimal test conditions in a calibration chamber.
 5. The perception of theoretical candela intensity does not take account of atmospheric attenuation (reduction in brightness over distance).
 6. The ZTV does not take account of surface features such as buildings or forestry.
 7. The ZTV has been produced using OS Terrain 5 height data and calculates the difference in vertical angle between the turbine lights and the study area.
 8. The ZTV represents a reasonable worst-case and the theoretical lighting intensity illustrated may be the result of a single turbine within the group.
 9. Actual visibility is likely to be less than predicted due to a range of factors such as darkness adaptation of individual receptors and weather obscuration.

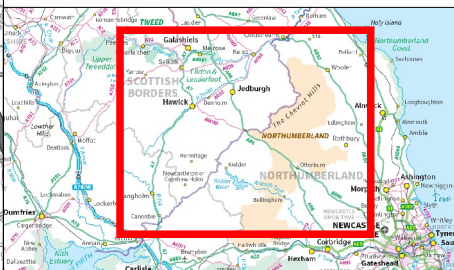
Legend:

- Application Boundary
- Proposed turbine
- Turbine proposed to be fitted with visible aviation light
- Study Area 35 km
- Local Authority Boundary
- Northumberland National Park
- Scotland England Border
- LVIA Viewpoint

INTENSITY OF TURBINE LIGHT SHOWN IN CANDELA (CD)

VERTICAL ANGLE	2000 CD LIGHT	200 CD LIGHT
3° TO 0°	UP TO 2500 CD	UP TO 250 CD
0° TO -1°	2185 CD TO 982 CD	218 CD TO 98 CD
-1° TO -2°	982 CD TO 413 CD	98 CD TO 41 CD
-2° TO -3°	413 CD TO 217 CD	41 CD TO 21 CD
-3° TO -4°	217 CD TO 172 CD	21 CD TO 17 CD
BELOW -4°	BELOW 172 CD	BELOW 17 CD

Notes:
This map contains data from the following sources:
Ordnance Survey (2025)
Coordinate System: British National Grid Projection: Transverse Mercator
Datum: OSGB 1936
Units: Metres



Viewpoint	Location
1	A6088, Chesters
2	A6088, Southdean
3	Fort north-east of Southdean
4	A6088, Western approach to Chesters
5	Bonchester Hill
6	B6357 Vantage Point
7	Footpath at Knox Knowe
8	A6088, north-west of Carter Bar
9	Carter Bar (eastern vantage point)
10	Pike Fell
11	Footpath and Minor Local Road, Chesters Brae
12	Rubers Law
13	A6088 Approach to Bonchester Bridge
14	Wolfelee Hill
15	Pennine Way, Black Halls
16	Five Stanes
17	A7 Approach to Hawick
18	Borders Abbey Way, Black Law
19	Wheel Causeway
20	A68, north of hairpin past Carter Bar
21	Rowan Road, Jedburgh

Rev	Date	Description	Drn	Chk	App
01	06/08/24	FEI	DG	DT	-

Millmoor Rig Wind Farm

RSK **ESB**

TITLE: New Figure 6.61: Turbine Lighting Intensity ZTV to 35 km with Viewpoints

0 5 10
Kilometres
SCALE 1:265,000 @ A3

REV 01