



APPENDIX 12-2

NOISE STUDY AREA

APPENDIX 12-2 NOISE STUDY AREA

The Institute of Acoustics document Good Practice Guide To The Application Of ETSU-R-97 For The Assessment And Rating Of Wind Turbine Noise (IOAGPG) states, in section 2.2 in relation to the extent of the study area:

The 'study area' for background noise surveys (and noise assessment) should, as a minimum, be the area within which noise levels from the proposed, consented and existing wind turbine(s) may exceed 35 dB LA90 at up to 10 m/s wind speed. (Note: unless stated, in this document the wind speed reference for noise data is the 10 metre standardised wind speed, derived from the wind speed at turbine hub height as explained in Section 2.6).

If there were no other wind farms to be considered, the study area could be defined to be simply the 35 dB LA90 noise contour at maximum sound power level for the turbine, due to the Proposed Wind Farm only. The inclusion of other wind farms in the noise model has the potential to increase predicted noise levels to above 35 dB LA90 at a wider set of noise-sensitive locations (NSLs). Theoretically, any predicted noise level above 25 dB LA90, due to another wind farm in its own right, could cumulatively result in a noise level above 35 dB LA90 when considered in conjunction with the Proposed Wind Farm. This methodology is considered a robust means of selecting the zone of potential cumulative noise impact.

The approach here is to model the full set of potentially cumulative wind farms and predict 25 dB LA90 contours for each one. Where any 25 dB LA90 contour touches or overlaps the 35 dB LA90 contour from the Proposed Wind Farm, then that wind farm should be included in the cumulative assessment.

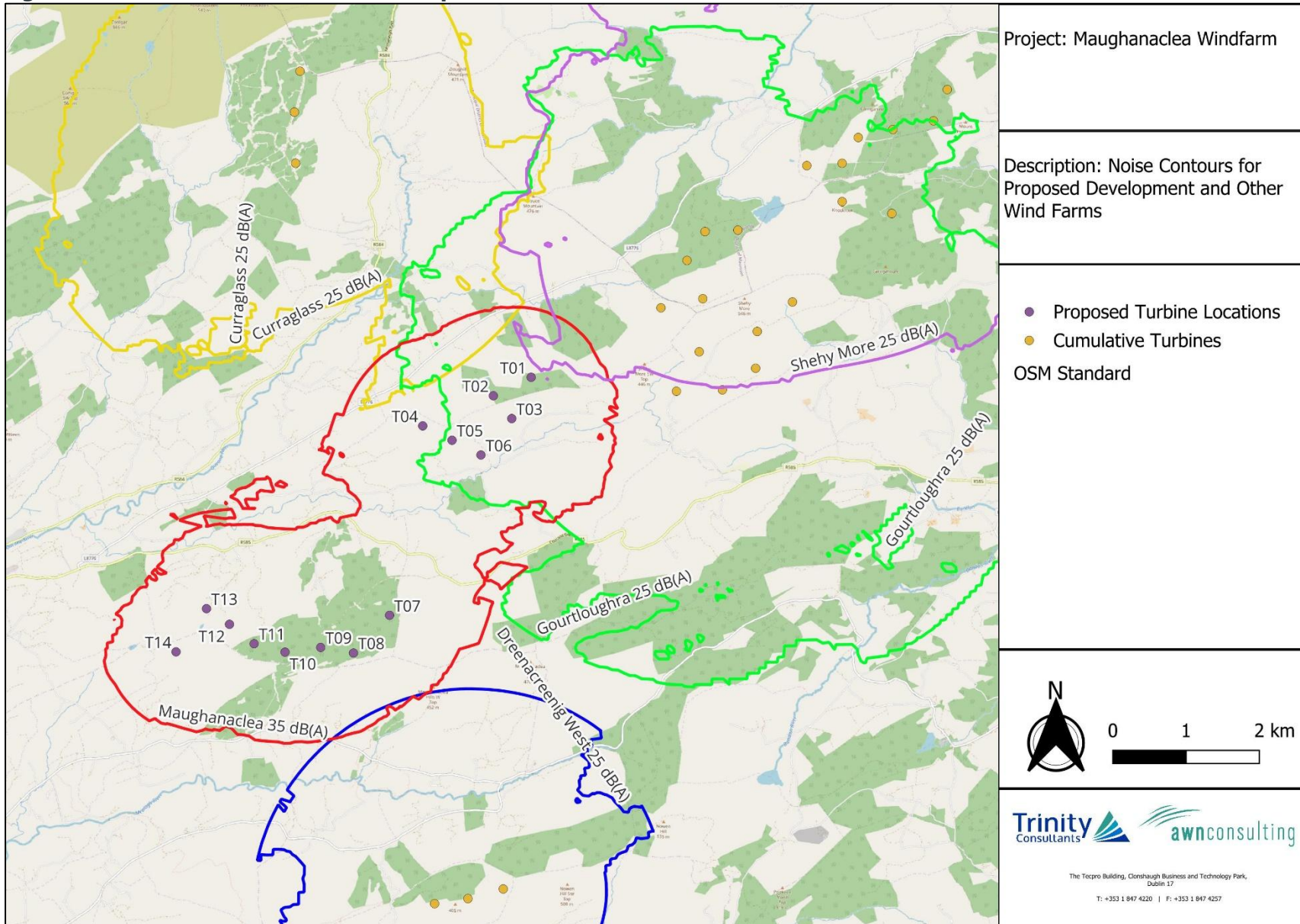
The list of cumulative wind farms which were considered is based on the set of wind farm developments identified in Table 2-9 of Chapter 2. In terms of environmental noise, this list extends well beyond the distance range of potential cumulative impacts for noise. The wind farms developments, where any 25 dB LA90 contour touches or overlaps the 35 dB LA90 contour from the Proposed Wind Farm are all within 8 km. The wind farms that have been screened in are:

- ▶ Curraglass Wind Farm, Co. Cork (ACP ref PL88.500665), a proposed development with three turbines;
- ▶ Dreenacreenig West Wind Farm, Co. Cork (County Council Ref 25/6052) a proposed development with three turbines;
- ▶ Shehy More Wind Farm, Co. Cork (ACP ref PL04.243486) with an operational development with 10 turbines;
- ▶ Gortloughra Wind Farm Co. Cork (County Council ref 25142) a proposed development with eight turbines.

Figure A12-2-1 presents the 25 dB LA90 contours for each of the wind farms listed above, along with the 35 dB contour for the Proposed Wind Farm.

The contour for Curraglass, Shehy More, Gortloughra and Dreenacreenig West Wind Farms clearly intersect the 35 dB LA90 for the Proposed Development, therefore there is a potential for cumulative turbine noise impacts. Therefore, at a minimum, it is necessary to include these wind farms in the cumulative noise assessment.

Figure A12-2-0.1. Noise Contours for Proposed Wind Farm and other wind farms



The preliminary noise study area is the combination of the following two areas:

- ▶ The 35 dB LA90 contour for the Proposed Wind Farm only, and
- ▶ The area where the 25 dB LA90 contour for the Proposed Wind Farm overlap with the 35 dB contour for the “screened in” wind farms – within this area, the Proposed Wind Farm has the potential to contribute to cumulative noise levels in excess of 35 dB LA90.

The preliminary noise study area is shown as a red hatch in Figure A12-2-2. Notwithstanding this the final study area for the operational phase was determined as the area predicted to exceed 30 dB LA90 at the maximum predicted turbine noise emission level from the Proposed Wind Farm in isolation, given that noise levels of 30 dB LA90 and below will not cause a cumulative impact with thresholds of 40 dB LA90 or below, as indicated in the planning submissions of all noted cumulative wind farms. This is presented in Figure A12-2-3.

Figure A12-2-2. Preliminary Study Area

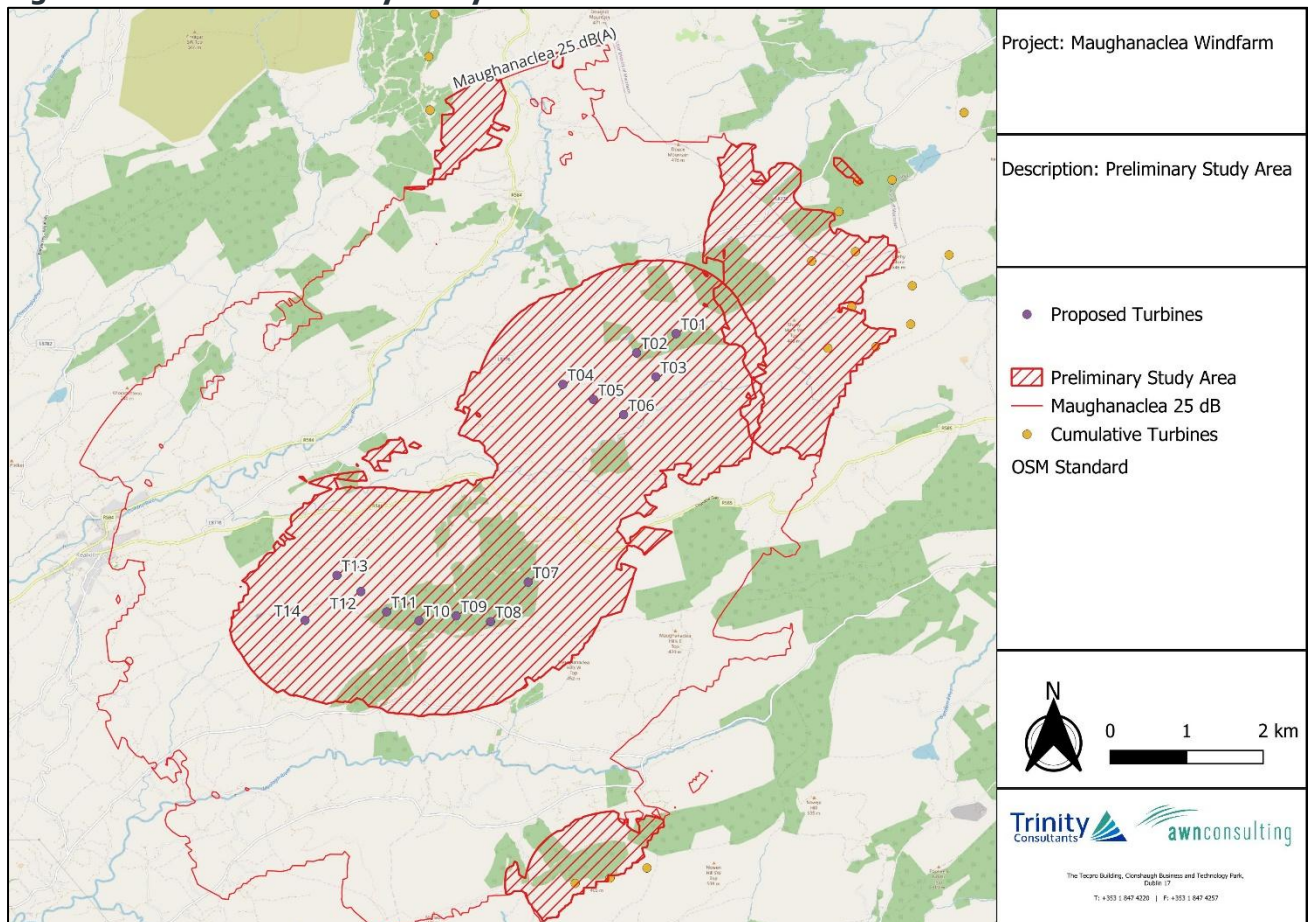


Figure A12-2-3. Final Study Area – 30 dB LA90 Contour for Maughanaclea

