

MEMO

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Altcar Moss Wellsite - Assessment of L_{Amax} Sound Levels due to Piling

Introduction

Percussive sound, such as that caused by impact piling, can potentially cause disturbance to birds. The effects of noise from piling on nearby residential receptors has already been assessed as part of the noise impact assessment. However, in order to assess the impacts of piling on birds it is necessary to provide supplementary data in relation to maximum sound pressure levels (L_{Amax}).

Methodology

The noise emissions from the proposed piling activities have been modelled using the CadnaA environmental noise prediction software. This model calculates the contribution from each noise source input as a specified source type (e.g. point, line, area) octave band sound power levels at selected locations. It predicts noise levels under light down-wind conditions based on hemispherical propagation, atmospheric absorption, ground effects, screening and directivity based on the procedure detailed in ISO 9613.

The ground between the site and the receiver locations has been assumed to be soft although the site itself has been modelled as hard ground. Terrain contour data has also been entered in the model based on OS land contours, although the land is fairly flat. Buildings have been included and these provide some degree of screening as well as reflecting surfaces.

The model has been run using a receiver height of 1 metre in order to investigate the noise impact at ground level.

Noise source data has been based on an empirical correction to the L_{Aeq} data contained in BS 5228, based on measurements on other piling rigs carried out by RPS personnel. This results in a +9 dB correction to the L_{Aeq} sound power levels used in the original assessment, as shown in Table 1.

Table 1: Sound power levels used in the assessment

Plant item	BS 5228 reference	Sound power level, dBA
Piling rig (L_{Aeq})	C3.14	112
Piling rig (L_{AFmax})	-	121

Results

The resulting noise contours are shown in the figures attached to this report.

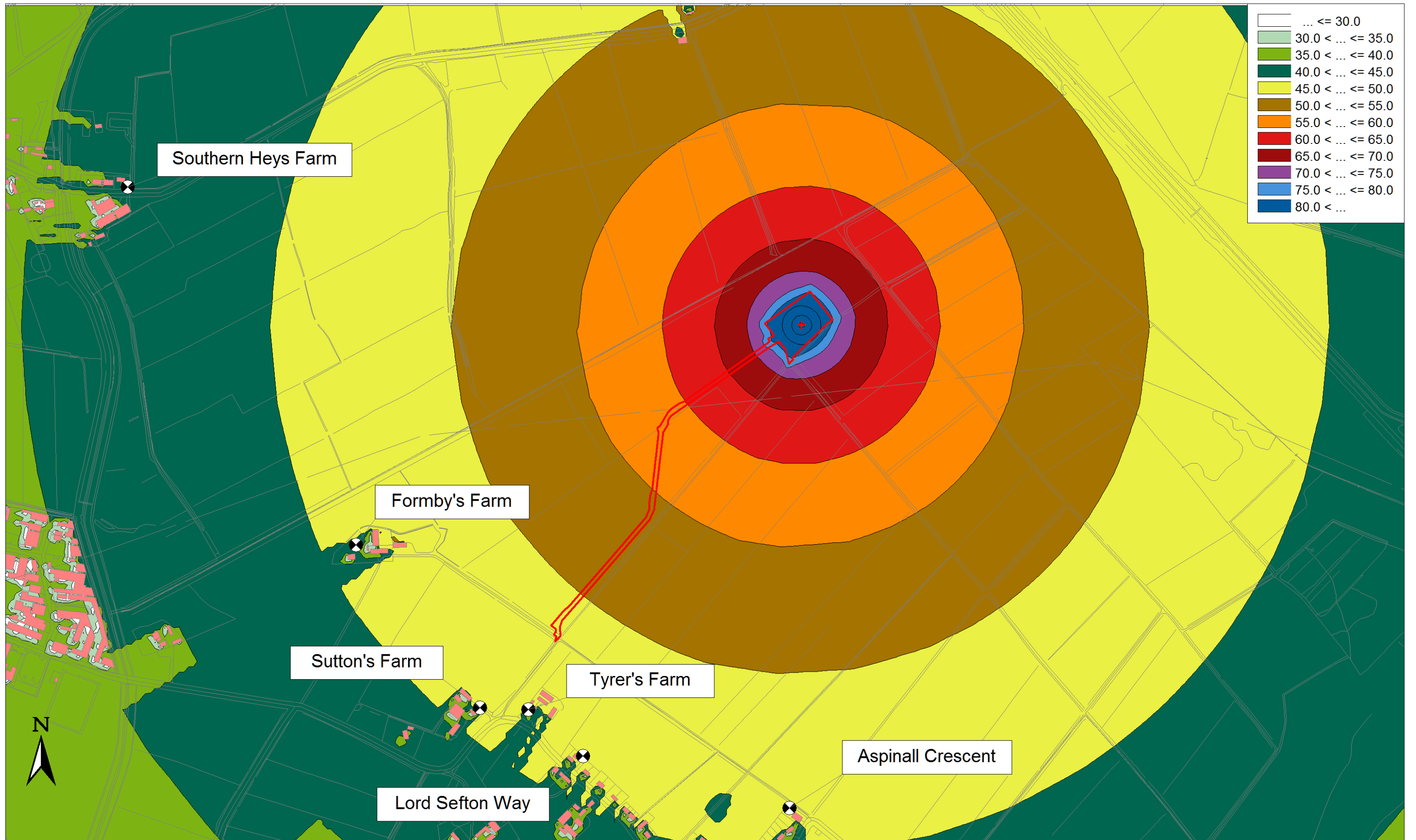
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**Aurora
Energy
Resources**

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Scale	1:7500@A3

**Altcar Moss Wellsite
Piling LAmox Noise Contours**

Sheet 1 of 1

Project No.	JAT10171
Project Title	Altcar Moss Wellsite
Drawing No.	Figure A1
Date	30.01.19

