

Environmental Noise Assessment

Plas Power Home Farm Buildings, Coedpoeth, LL11 3B



Quality Assured By

Tom Mullaney



Measurement Survey
Undertaken By

John Ashe



For: **Katie Baker**

Ref: 3718-1

Project/Site Address:

Plas Power Home Farm Buildings, Coedpoeth, LL11 3B

Prepared by:

John Ashe of Elite Energy

Test Date:

2nd September 2015 (10:30am – 10:30 am 3rd September)

Section 1 – Contents

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2.0 – Objectives

The purpose of the survey was to determine noise levels for both day and night having regard to PPG(Wales) Technical Advice Note 11 – Noise. This was to assess the following:

- a. Noise levels arising from day/night activities arising from the A525 Road adjacent to the proposed development and the impact on the proposed accommodation.
- b. Details of present noise levels arising from traffic in relation to the proposed development site.
- c. A detailed scheme of noise insulation and/or attenuation measures so designed to safeguard the amenity of future occupants of the proposed accommodation.

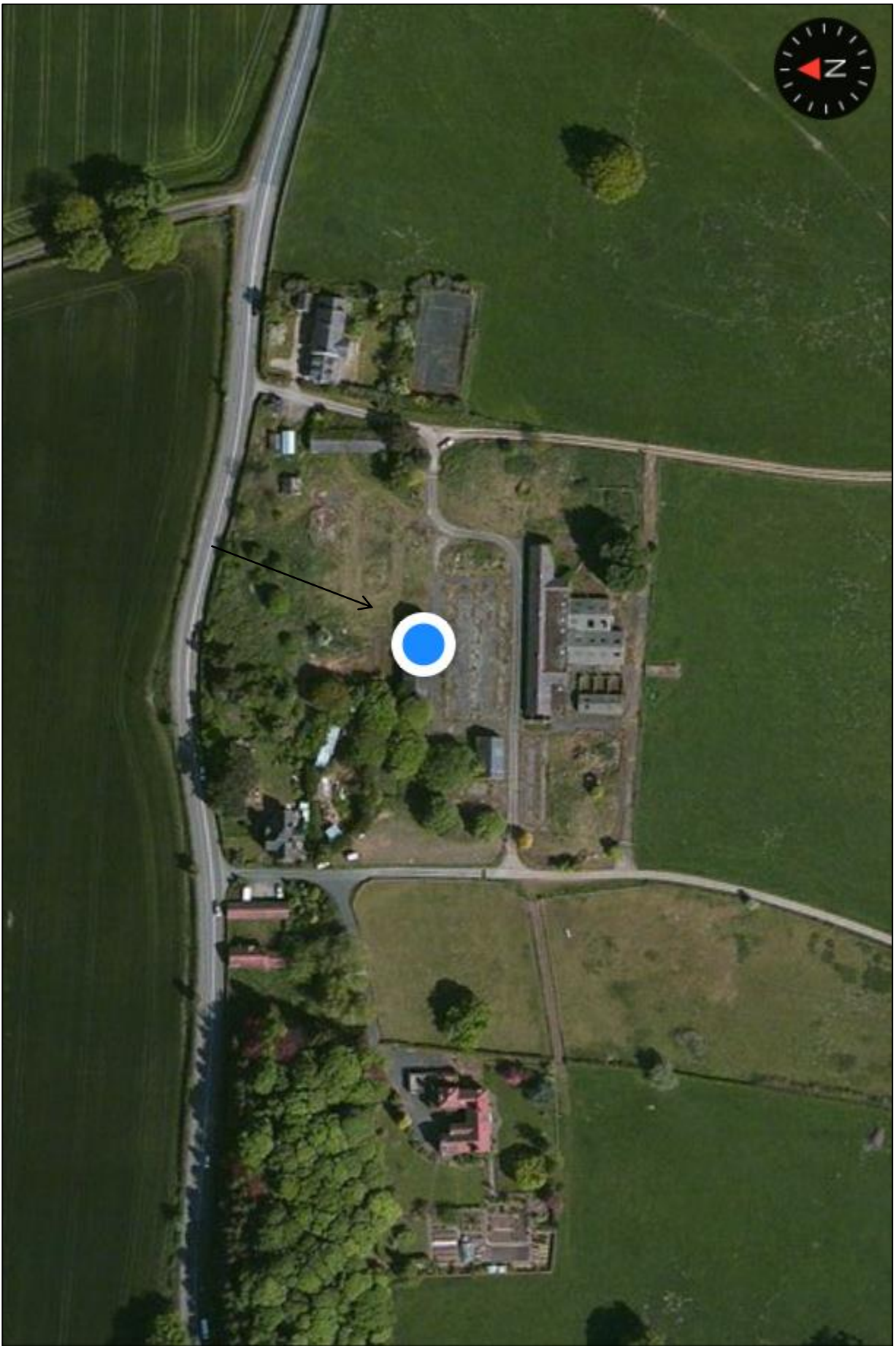
3.0 – Site Description

The site is currently unoccupied with a number of derelict barn buildings. The land is mostly open with long grass and a few trees sheltering the proposed development from the road.

4 – Microphone Position

The Microphone was left outside the middle barn facing the road. This location was chosen as it was in the middle of development site and will give good representative noise levels for the site. The location of the microphone is indicated on the photograph below.

The microphone was set up and left to collect data for a 24 Hour period.





5 – Weather Conditions

Dry and cool with mild winds.

	Pre Test Measurements	Post Test Measurements
Wind speed:	1.2m/s	1.0m/s
External Temperature:	15.5°C	14.3°C

6 – Testing Condition

The weather was wet as was raining for most of the day. The road was moderately busy containing mostly cars and vans. In the time spent on site only a small number of large/heavy goods vehicles were observed passing the site

7 – On Site Microphone Calibration

Microphone calibration: 114.0 dB 113.9dB = Drift of -0.1dB

(The drift value is within acceptable limits of +/- 0.3dB)

8 – Results

Daytime –

LAeq	38.39dB ~ 38dB
L10	43.2dB

Night time –

LAeq	30.53 – 31dB
L10	43.2dB

9 – Conclusion

The noise from the road is currently not causing any issue at the development site. As the current noise levels are below the ones outlines by the WHO Daytime and night time noise guidelines.

To assist noise mitigation All external walls will be insulated, to help reduce the noise transmission though the wall it would be recommended to ensure there are no gaps in the brickwork. It may also be prudent to layer the internal blockwork walls with an acoustic membrane such as TecSound 50.

No extract fans on the proposed properties should be facing the main road and windows with trickle vents should have also have acoustic vents as this will help reduce the noise entering the property though flanking transmission. If ventilation is needed to any rooms facing the road, it may be better to use either passive stack ventilation or a mechanical extract system that will vent to a gable wall or roof not facing the road.

Accordingly we can confirm that the proposed development will safeguard the amenity of future occupants of the accommodation.

If the road was to experience a significant increase in the volume of passing traffic, the additional measures below could be undertaken to prevent noise:

- a. Create a denser boundary of trees to help create more of a sound barrier to the proposed development.
- b. Use windows with high Rw ratings such a triple glazing or double glazing windows such as - <http://uk.saint-gobain-glass.com/product/688/sgg-stadip-silence> to help reduce the noise further.

Overall, this report confirms that the requirements of condition 4 (of planning permission PL 2013/0093) have been met and the condition can therefore be discharged.

Class 1 Microphone: Norsonic 140 SLM
Calibrator: Norsonic 1251

Campbell Associates Ltd
5b Chelmsford Road Industrial Estate
GREAT DUNMOW, Essex, GB-CM6 1HD
www.campbell-associates.co.uk
Phone 01371 871030 Facsimile 01371879106



Certificate of Calibration and Conformance

CALIBRATION UKAS Laboratory 0789

Certificate Number:- U17883

Test object: Sound Level Meter, Class 1 (Precision)
Manufacturer: Norsonic
Type: 140
Serial no: 1405312
Customer: Elite Energy Assessors Ltd
Address: Unit 9 John O'Gaunts Trading Estate,
Off Leeds Road, Rothwell, Leeds. LS26 0JB.
Contact Person: John Ashe.

Method :

Calibration has been performed as set out in CA Technical Procedures TP01 & 02 as appropriate. These are based on the procedures for periodic verification set out in BS EN IEC 61672-3:2006. Results and conformance statement are overleaf and detailed results are in the attached Test Report.

	Producer:	Type:	Serial No:	Certificate number
Microphone	Norsonic	1225	168187	17882
Calibrator*	Norsonic	1251	33547	U17881
Preamplifier	Norsonic	1209	15370	Included

Additional items that also have been submitted for verification

Wind shield	Norsonic	Nor1451
Attenuator	None	
Extension cable	None	

These items have been taken into account wherever appropriate.

Environmental conditions:	Pressure:	Temperature:	Relative humidity:
Reference conditions:	101.325 kPa	23.0 °C	50 %RH
Measurement conditions:	101.77 kPa	24.9 °C	38.0 %RH

Date received : 21/01/2015
Date of calibration: 27/01/2015
Date of issue: 27/01/2015

Engineer

Michael Tickner

Supervisor

Darren Batten Tech IOA

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5b Chelmsford Road Industrial Estate
GREAT DUNMOW, CM6 1HD, England
www.campbell-associates.co.uk
info@campbell-associates.co.uk
Phone 01371 871030 Facsimile 01371879106



CALIBRATION



UKAS Laboratory 0789

Certificate number: U17881

Certificate of Calibration and Conformance

Test object: Sound Calibrator
Manufacturer: Norsonic
Type: 1251
Serial no: 33547

Customer: Elite Energy Assessors Ltd
Address: Unit 9 John O'Gaunts Trading Estate,
Off Leeds Road, Rothwell, Leeds. LS26 0JB.
Contact Person: John Ashe.

Measurement Results:	Level	Level Stability	Frequency	Frequency Stability	Distortion
1:	114.03 dB	0.06 dB	1000.70 Hz	0.00 %	<0.3 %
2:	114.02 dB	0.06 dB	1000.70 Hz	0.00 %	<0.3 %
3:	114.01 dB	0.06 dB	1000.70 Hz	0.00 %	<0.3 %
Result (Average):	114.02 dB	0.06 dB	1000.70 Hz	0.00 %	<0.3 %
Expanded Uncertainty:	0.10 dB	0.02 dB	1.00 Hz	0.01 %	0.10 %
Degree of Freedom:	>100	>100	>100	>100	>100
Coverage Factor:	2.00	2.00	2.00	2.00	2.00

The stated level is relative to 20 μ Pa. The level is traceable to National Standards.

The stated level is valid at reference conditions. The following correction factors have been applied during the measurement: Pressure: 0.0005 dB/kPa Temperature: 0.003 dB/ $^{\circ}$ C Relative humidity: 0.000 dB/%RH Load volume : 0.0003 dB/mm³

The reported expanded uncertainty of measurements is based on a standard uncertainty multiplied by the coverage factor of k=2, providing a level of confidence of approximately 95%. Where the degrees of freedom are insufficient to maintain this confidence level, the coverage factor is increased to maintain this confidence level. The uncertainty has been determined in accordance with UKAS requirements.

Records: K:\C A\Calibration\Nor-1504\Nor-1018 CalCal\2015\NOR1251_33547_M1.nmf

Environmental conditions:	Pressure:	Temperature:	Relative humidity:
Reference conditions:	101.325 kPa	23.0 $^{\circ}$ C	50 %RH
Measurement conditions:	101.828 $\pm$ 0.042 kPa	24.5 $\pm$ 0.1 $^{\circ}$ C	38.1 $\pm$ 1.3 %RH

Date received for calibration: 16/01/2015

Date of calibration: 27/01/2015

Date of issue: 27/01/2015

Engineer

Michael Tickner

Supervisor

Darren Batten TechIOA

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Template PE v2.6

Certificate of Competence in Environmental Noise Measurement

This is to certify that

John William Matthew Ashe

*has completed a course of instruction approved by the
Institute of Acoustics and designed to enable the candidate
to undertake environmental noise measurements in a
competent manner and has achieved a satisfactory
performance in the written and practical examinations
thereof and that this fact has been recorded in a
Register kept by the Institute for this purpose.*



Education Committee Chairman



Institute Secretary

Date 16 May 2014

Centre Leeds Metropolitan University

Reference Number EK161

*For the purposes of Credit Transfer or Professional Development this Certificate
may be considered to be equivalent to 25 points or hours*

The Institute of Acoustics Limited, 3rd Floor, St Peter's House, 45-49 Victoria Street, St Albans, Hertfordshire AL1 3WZ
Tel: +44 (0)1727 848195 Fax: +44 (0)1727 850553 email: ioa@ioa.org.uk www.ioa.org.uk

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