ORCA
Orkney Research Centre for Archaeology

Lynnside Wind Turbines
Harray
Orkney

Data Structure Report

May 2012

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LYNNSIDE WIND TURBINES

HARRAY

ORKNEY

KW17 2LA

WATCHING BRIEF DATA STRUCTURE REPORT

PROJECT NO: 349

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REPORT FIGURES: SAMUEL VOKE

CLIENT: EWAN AND LORNA PENNY

This document has been prepared in accordance with ORCA standard operating Procedures and IFA standards	
Authorised for Distribution by:R. Aitken	Date: 14th June 2012

EXECUTIVE SUMMARY

This report sets out the results of a watching brief undertaken by Orkney Research Centre for Archaeology (ORCA) on two wind turbine bases and associated cable trenches at Lynnside, Harray, Orkney.

The excavation of two, north-south running, cables trenches, and two wind turbine base trenches were monitored under constant archaeological supervision between the 13th of April 2012 and the 3rd of May 2012.

The site lay within a pasture field and garden which was in close proximity to a series of cists at Werne (NMRS Number HY31NW 56, RCHAMS 2012). No evidence of any cists was uncovered and no other significant archaeological finds or features were recorded.

CONTENTS

FIGURES

1 INTRODUCTION

The report was commissioned by Ewan and Lorna Penny and forms the Data Structure Report for an archaeological watching brief carried out on the site of Lynnside (hereafter known as 'the site'). See Figure 1.

The work was undertaken in order to discharge the archaeological Planning Condition No. 11 placed on the project (Planning Ref:11/730/TPP) .

The works monitored include:

- Two trenches for the wind turbine bases (western trench at HY32252, 18287 and the eastern trench at 32296, 18303)
- A cable trench running north/south (from HY 32256,18284 to HY 32280, 18107)
- A cable trench running east/west (from HY 32256, 18287 to HY 32296, 18303)

This report has been prepared in accordance with the Standards and guidance specified by the Institute of Archaeologists (IFA 2001,2008).

2 SITE LOCATION, TOPOGRAPHY AND GEOLOGY

The site is situated within a grassed field east of Harray on the Lyde Road (National Grid reference HY3218SW), see Figure 1. The pasture land that makes up the garden of Lynnside house gently slopes to the north with two ridge/mound features in the northern and north-eastern ends of the field.

The solid geology of the area is Stromness Flagstone group (Mykura, 1976) consisting of sequences of grey and black thinly bedded, in part laminated, dolomitic siltstone, shales and subordinate thin very fine-grained sandstone. These are overlain by glacial till; reddish or grey clay with locally derived rock and pebbles. The soils are part of the Bilbister series with Thurso series, colluvium and occasionally peat; a moraine complex (Soil Survey or Scotland 1982).

3 ARCHAEOLOGICAL BACKGROUND

3.1 PREHISTORIC PERIOD

Orkney is home to several internationally important prehistoric sites such as those within The Heart of Neolithic Orkney, a designated UNESCO World Heritage Site and there is an abundance of evidence indicating the Island's focus for Neolithic, Bronze and Iron Age and possibly Mesolithic activity.

In the surrounding area is the site of The Knowes of Trotty (NMRS: HY31 NW42), it's the largest extant Bronze Age barrow cemetery in Orkney both in terms of its extent, the scale of some of the mounds and the number of barrows present. In the 19th century 4 gold discs and a number of amber beads were recovered from the largest mound (Petrie 1860), with affinities to material from Wessex. The site represents a Neolithic structure and complex Bronze Age cemetery.

The mounds are centred on NGR: HY 342 174 at around 60 m OD on the lower west facing slopes of Rowamo, one of a range of hills that run north-south between the Mainland Orkney parishes of Harray and Rendall. The site has extensive views over the central West Mainland basin with the lochs of Harray and Stenness and flat, fertile land that characterises the west of the Orkney Mainland.

In the immediate area approximately 175m to the west of the site are three Bronze age cists at Werne (NMRS Number HY31NW 56, RCHAMS 2012), all three are described as having single flagged sides and bottoms with only one of the cists capstone fragmentally remaining intact. Two of the three cists also contained ancient cremated bone. However, there is currently no evidence to date for prehistoric activity in the area of the site itself.

4 FIELDWORK AIMS AND OBJECTIVES

Following the recommendations of the Local Authority Planning Archaeologist a watching brief was undertaken on the site in order to identify and record any potential features associated with a number of cists discovered at Werne (NMRS Number HY31NW 56, RCHAMS 2012).

The works formed part of a series of measures designed to mitigate the impact of the proposed development on potential archaeological deposits present. In the case of encountering a cist, this would leave the option to mitigate by avoidance or to excavate, record, study and provide for suitable publication, for the purpose of 'preservation by record.

The principal objective of the watching brief was to identify and record any features or objects of archaeological importance that could be damaged or destroyed by this development, while minimising any delays or disruption to the development project (IFA 2001).

5 FIELDWORK METHODOLOGY

All works were carried out in accordance with the WSI for the works (ORCA 2012) and the ORCA Standard operating procedures as set out in the ORCA fieldwork Manual (*in prep)*.

All the ground works were excavated by a 360^{o} tracked excavator, fitted with a flat bladed bucket. Topsoil and turf layers were removed separately, before the excavation of reduced levels.

All ground breaking was undertaken under constant archaeological supervision. Any archaeological features encountered were recorded using standard pro-forma sheets and a running photographic record was maintained.

6 FIELDWORK RESULTS

6.1 FOUNDATION TRENCHES

Foundation trench 1 was located at the North West end of the site at HY 32252, 18287, while foundation trench 2 was located to the East of this at HY 32296, 18303. Both trenches measured3m by 3 m and were excavated to a maximum depth of 1 meter. A layer of topsoil (**100**), 10cm thick, was recorded in trench 1 with a 15 cm thick topsoil layer (**200**) in trench 2. The topsoil in both trenches sealed a layer of orange/yellow glacial till (**102**) and (**202**) respectively. These layers of till both sealed the natural bedrock at c. 40mOD (Trench 1, and 42mOD (Trench 2).

6.2 CABLE TRENCH 1

Cable trench 1 ran North/South from HY 32256, 18284 to HY 32280, 18107 on the east side of the site with an average depth of 50cm. Similar to the foundation trenches the topsoil (**300**) was on average between 15 to 20cm thick. For most of the trench this covered a layer of glacial till (**301**), the visible till varied in thickness from 20cm in the north to 6 cm in the south broken in the middle by a mound feature were no till was visible in the cut. At the southern end of the trench the natural bedrock rises and the two covering layers (**300** and **301**) become much thinner. At the southern end of the trench was also a modern feature comprised mainly of slate flags with some plastic and wiring. No archaeological features or deposits were revealed within this trench.

6.3 CABLE TRENCH 2

Cable trench 2 runs East/West from HY 32252, 18287 to HY 32296, 18303 on the north end of the site with an average depth of 50cms. The topsoil layer (**400**) measured around 10cm across the whole trench overlaying the glacial till (**401**), which was horizontally truncated down to a maximum of 40cm.

7 CONCLUSIONS AND RECOMMENDATIONS

The archaeological monitoring of the turbine bases excavation and cable trenches at Lynnside recorded no significant archaeological features. The results of the watching brief has shown that there was no archaeology present in the areas excavated and it is recommended that no further work on site is necessary.

Given the absence of archaeological remains revealed a report to Discovery and Excavation Scotland, as generated by the OASIS form will suffice.

The final decision as to the requirement for further work on the site rests with the Local Authority's designated Planning Archaeologist.

8 PUBLICATION AND ARCHIVING

Archive preparation and deposition will be undertaken with reference to the appropriate repository guidelines and standards, and, where necessary, the Museums and Galleries Commission (MGC) and the United Kingdom Institute for Conservation (UKIC) standards and guidelines. The project archive containing the original site records will be submitted to the RCAHMS or the Orkney SMR, as appropriate.

No materials were recovered from the investigation.

Findings have been submitted to the national record via the OASIS system (see Section 9), and a short report for Discovery and Excavation Scotland will be generated.

Information on the results of the report will be made public in digital form so as to be included in any further research into the archaeology, history and development of Orkney.

9 ACKNOWLEDGEMENTS

The author would like to thank Ewan and Lorna Penny for commissioning the work, as well as to Keith Fourbister contractors for their assistance on site. This report was compiled by Samuel Voke and Dave Reay.

10 BIBLIOGRAPHY

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11 NMRS OASIS FORM

11.1 OASIS ID: ORKNEYRE1-127785

Project details	
Project name	Lynnside Wind Turbines
Short description of the project	This report sets out the results of a watching brief undertaken by Orkney Research Centre for Archaeology (ORCA) on two wind turbine bases and associated cable trenches at Lynnside, Harray, Orkney. The excavation of two, north-south running, cables trenches, and two wind turbine base trenches were monitored under constant archaeological supervision between the 13th of April 2012 and the 3rd of May 2012. The site lay within a pasture field and garden which was in close proximity to a series of cists at Werne (NMRS Number HY31NW 56, RCHAMS 2012). No evidence of any cists was uncovered and no other significant archaeological finds or features were recorded.
Project dates	Start: 13-04-2012 End: 03-05-2012
Previous/future work	No / No
Any associated project reference codes	LWT349 - Sitecode
Any associated project reference codes	11/730/TPP - Planning Application No.
Type of project	Recording project
Current Land use	Rough pasture
Monument type	NONE None
Monument type	NONE None
Significant Finds	NONE None
Significant Finds	NONE None
Investigation type	""""Watching Brief""""
Prompt	Planning condition
Project location	
Country	Scotland
Site location	ORKNEY ISLANDS BIRSAY AND HARRAY Lynnside
Postcode	KW17 2LA

Site coordinates	HY 32256 18284 59 -3 59 02 47 N 003 10 51 W Point
Height OD / Depth	Min: 40.00m Max: 41.00m
Project creators	
Name of Organisation	Orkney Research Centre for Archaeology
Project design originator	Orkney Research Centre for Archaeology
Project director/manager	Rosalind Aitken
Project supervisor	Samuel Voke
Project archives	
Paper Contents	"none"
Paper Media available	"Photograph","Report"
Project bibliography 1	
Publication type	Grey literature (unpublished document/manuscript)
Title	Lynnside Wind Turbines, Harray, Orkney: Watching Brief Data Structure Report
Author(s)/Editor(s)	Voke, S
Date	2012
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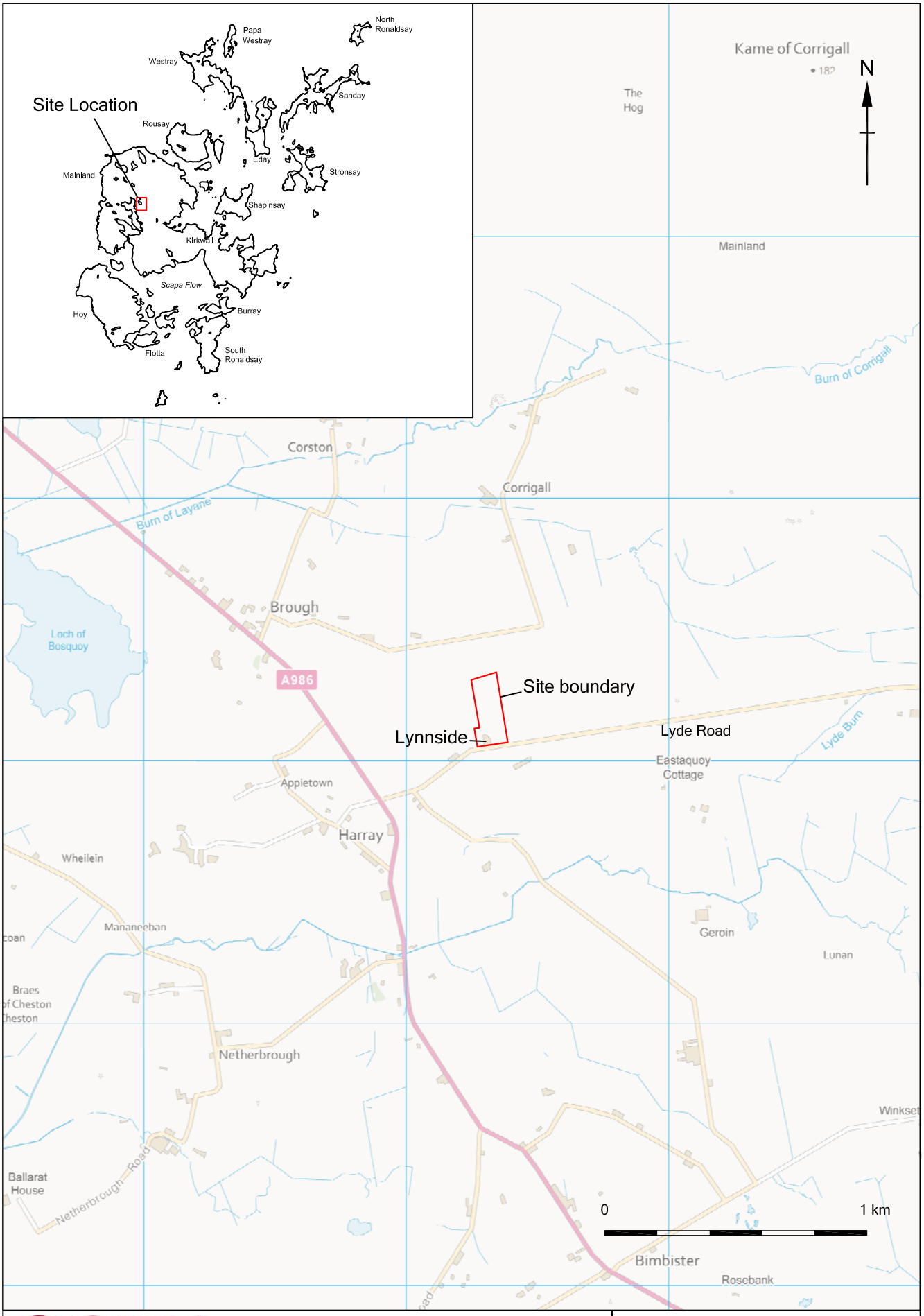

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Figure.1. Site location

Project Name:	Lynnside Wind Turbine		
Project No:	349	**Scale:**	1:20,000 @ A4
May 2012	SV		Rev. No. 1

X:\Archaeology\ORCA\ORCA Projects\349 Lynnside Wind Turbines\Geomatics\CAD\Current\349 Site location Fig 1.dwg(349 Fig 1)349 SV 10 May 2012

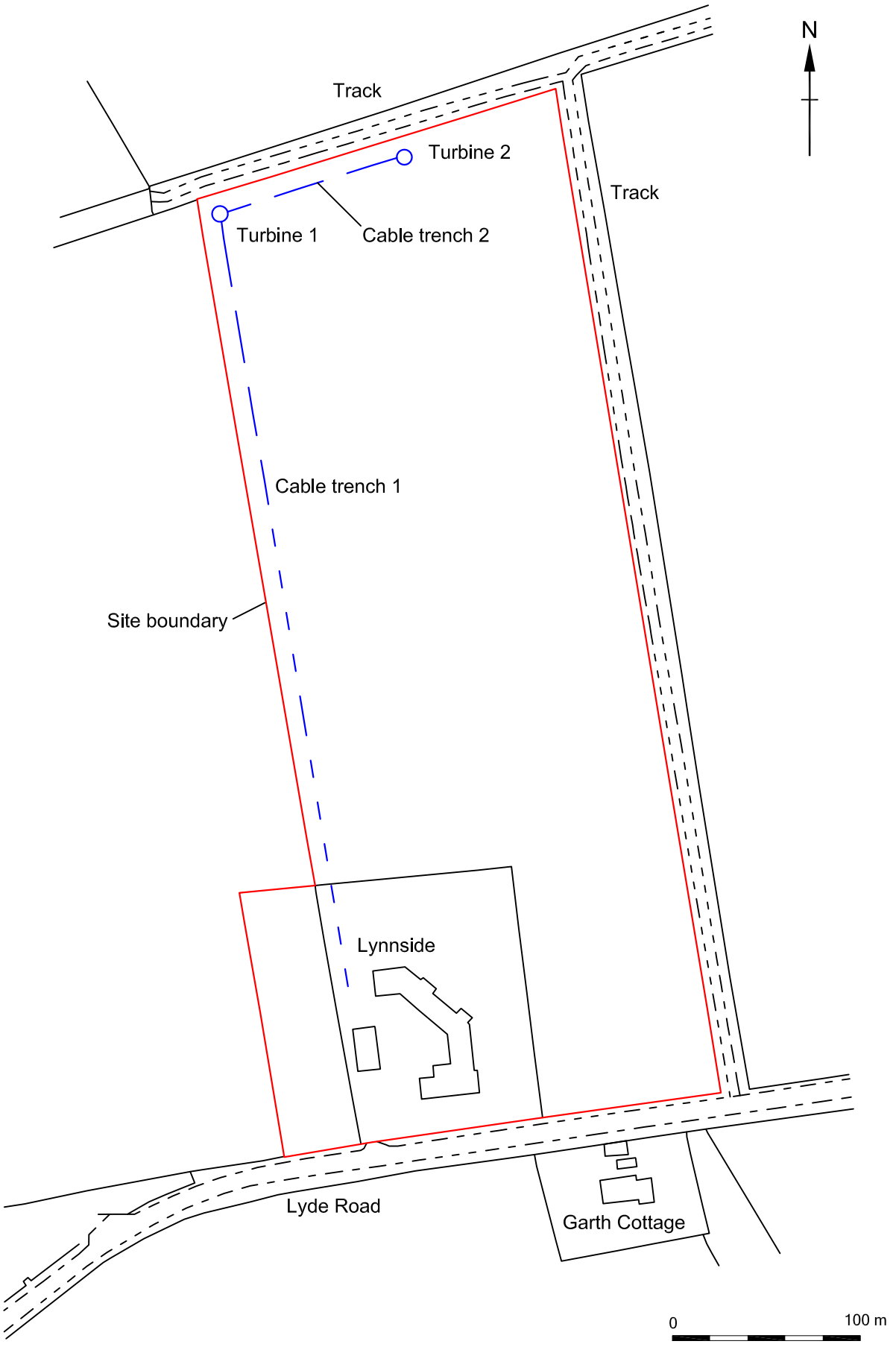

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Figure 2. Site plan

Project Name: Lynnside Wind Turbines

Project No: 349 **Scale:** 1:1500 @ A4

May 2012 SV Rev. No. 1

X:\Archaeology\ORCA\ORCA Projects\349 Lynnside Wind Turbines\Geomatics\CAD\Current\349 Site plan Fig 2.dwg(ORCA FIG 2 A4)349 SV 10 May 2012

12 APPENDIX 1 CONTEXT REGISTER

Context	Site Subdivision	Type	Description
100	Base 1	Topsoil	Mid yellowish brown silt clay (20/60%), rare sub angular flagstones, up to 100mm poorly sorted.
101	Base 1	Layer	Glacial till. Light yellowish brown firm clay with 10% degraded flagstone – 30 to 100mm, poorly sorted.
102	Base 1	Natural	Bedrock
200	Base 2	Topsoil	Mid yellowish brown silt clay, rare sub angular flagstones, up to 150 mm poorly sorted.
201	Base 2	Layer	Glacial till. Light yellowish brown silt clay, 10% rare sub angular flagstones, up to 100mm poorly sorted.
202	Base 2	Natural	Bedrock
300	Cable trench 1	Topsoil	Light yellow brown silty clay, includes small stones/pebble with some sub angular flagstone, poorly sorted.
301	Cable trench 1	Layer	Thick clayey till, mostly orange yellow with pockets of bright orange and red. Some large stones mostly rounded but mostly flags 80mm by 20mm, poorly sorted.
302	Cable trench 1	Natural	Bedrock
400	Cable trench 2	Topsoil	Light yellow grey brown clayed silt with pebbles and some larger flagstones.
401	Cable trench 2	Layer	Thick clayey till, mostly orange yellow with pockets of bright orange and red. Some large stones mostly rounded but mostly flags 80mm by 20mm, poorly sorted.
402	Cable trench 2	Natural	Bedrock

13 APPENDIX 2 PHOTOGRAPHIC REGISTER (BATCH 1)

Frame	Site Subdivision	Description	Direction of shot
1	Turbine Bases	Trench 2 being machined	SW (Batch 1)
2	Turbine Bases	Trench 2 being machined	SW
3	Turbine Bases	Trench 1 south facing section	N
4	Turbine Bases	Trench 1 south facing section	N
5	Turbine Bases	Trench 1 south facing section	N
6	Turbine Bases	Trench 1 south facing section	N
7	Turbine Bases	Trench 2 east facing section	W
8	Turbine Bases	Trench 2 east facing section	W
9	Turbine Bases	Trench 2 east facing section	W
10	Turbine Bases	Trench 1 location	N
11	Turbine Bases	View east from Trench 1	E
12	Turbine Bases	View east from Trench 1	E
13	Turbine Bases	View east from Trench 1	E
14	Turbine Bases	View west from Trench 1	W
15	Turbine Bases	View west from Trench 1	W
16	Turbine Bases	View west from Trench 1	W
17	Turbine Bases	View west from Trench 1	W
18	Turbine Bases	Trench 1 sondage	S
19	Turbine Bases	Trench 2 widened	S
20	Turbine Bases	Trench 2 widened	S
21	Turbine Bases	Trench 1 widened	N
22	Turbine Bases	Trench 1 widened	N
23	Turbine Bases	Trench 2, reduced dig, west facing section	E
24	Turbine Bases	Trench 2, reduced dig, west facing section	E

14 APPENDIX 2 PHOTOGRAPHIC REGISTER (BATCH 2)

Frame	Site Subdivision	Description	Direction of shot
1	Cable Trench	Topsoil and high natural at south end of cable trench 1	W
2	Cable Trench	Topsoil and high natural at south end of cable trench 1	W
3	Cable Trench	Topsoil and high natural at south end of cable trench 1	W
4	Cable Trench	Small amount of topsoil and high natural in the middle of cable trench 1	W
5	Cable Trench	Small amount of topsoil and high natural in the middle of cable trench 1	W
6	Cable Trench	Shot looking over the cable trench 1	S
7	Cable Trench	Shot looking over the cable trench 1	S
8	Cable Trench	Topsoil and till, top of cable trench 1	W
9	Cable Trench	Topsoil and till, top of cable trench 1	W
10	Cable Trench	Digger starting cable trench 2	N
11	Cable Trench	Digger starting cable trench 2	N
12	Cable Trench	Section of cable trench 2 mound	N
13	Cable Trench	Section of cable trench 2 mound	N
14	Cable Trench	Section of cable trench 2 mound	N
15	Cable Trench	Section of cable trench 2, right of mound	N
16	Cable Trench	Section of cable trench 2, right of mound	N
17	Cable Trench	Section of cable trench 2, right of mound	N
18	Cable Trench	50cm into the topsoil of mound, cable trench 1	W
19	Cable Trench	50cm into the topsoil of mound, cable trench 1	W
20	Cable Trench	Modern slate pile with terram and wire	W
21	Cable Trench	Modern slate pile with terram and wire	W
22	Cable Trench	Modern slate pile with terram and wire	W
23	Cable Trench	Section of cable trench 1 in garden	E