Project code: DQNL

Planning Ref No: 10/00830/MIN

DUNTILLAND QUARRY EXTENSION

Written Scheme of Investigation for a programme of archaeological works

Commissioned by Aggregate Industries Ltd

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INTRODUCTION

This document is submitted by Headland Archaeology (UK) Ltd as the method statement for a programme of archaeological and palaeoenvironmental works prior to an extension to Duntilland Quarry.

The Development Area (DA) is located Duntilland Road, Salsburgh, North Lanarkshire. The site extends to 165 hectares and comprises a functioning hard rock quarry which is surrounded by agricultural fields, bog and acid grassland. The centre of the extension area is located at Ordnance Survey (OS) National Grid Reference (NGR) NS 842 640. Previous landuse in the site includes quarrying and pastoral framing.

There are two areas of peat within the development area. Todholes Moss (site-HA9) is a linear area of peat which falls partly within the north-west of the site and Duntilland Moss (HA 10) is a small sub-circular area of peat partly to the east of the site. Duntilland Moss extends outwith the extraction boundary and will therefore only be partially removed. Although the limits of these sites have previously been defined on an ecological basis, from the 'Sites of Importance for Nature Conservation' (SINC) data acquired from Scottish Natural Heritage in 2005, they have not been subjected to a detailed survey to define their depths and shapes, and only show the approximate location of these areas that are likely to be of palaeoenvironmental or archaeological potential.

Planning Background

Planning permission has been granted for the extension to Duntilland Quarry subject to a number of planning conditions (Planning Ref. **10/00830/MIN**). The proposal is for the continued working and Northern Extension (165ha) to the Quarry Including Revised Restoration Proposals and Environmental Improvements.

Condition 38 relates to archaeological issues:

(38) *That prior to the commencement of quarrying in phases 5-7 as shown on plan reference 3.3b - 3.3g, a programme of works are to be submitted and approved in writing by the Planning Authority to address the following aspects of the Archaeological Mitigation Plan:*

> *a) programme of archaeological and palaeoenvironmental work in accordance with the outline method statement as detailed in Appendix 16.3 of the Environmental Statement shall be implemented;*
> *b) survey and investigation of four turf-built enclosures (Sites HA4, HA6, HA7 and HA8), to be guided by the results of (a);*

The results of the archaeological field survey shall be submitted to the Planning Authority for review in the form of a Field Survey Report.

Reason: In order to protect and record any archaeological remains.

Archaeological Background

The Cultural heritage chapter of the Environmental Statement (Headland Archaeology (UK) Ltd 2009) indicates that quarrying at Dewshill began at sometime between 1921 and 1935. A number of sites appear on earlier maps within the area of previous quarrying and have now been completely removed. A large area in the centre of the proposed development has now been quarried and sterilised of all cultural heritage features. The remaining land is typical

pre-improvement unenclosed farmland with settlement sites and areas of rig and furrow cultivation. Parts of the site were unsuitable for agricultural exploitation, therefore the rig is spread across the application area in a patchy fashion.

No designated cultural heritage assets lie within the inner study area. However, there are several pre-1st edition Ordnance Survey sites relating to settlement and agriculture as well as one pre-1st edition site related to coal mining. The sites relating to settlement and agriculture occur within a patchwork of preserved areas of rig-and-furrow, all of which has been treated separately from them as a single site (HA1) except where it clearly relates to a known farmstead. The rig was first mapped on an estate plan of 1813 and appears to have been in use at the time. Four turf-built enclosures (HA4, 6, 7 and 8) lie within or adjacent to the rig-and-furrow (HA1) in the west of the development area. At least one of these appears to post-date the rig and it seems likely that are all related to the rig-and-furrow and to post-medieval agriculture and settlement. The remains of a small-scale quarry (HA5) lie within the application boundary and take the form of an irregular spoil heap with a dip in the centre. This feature appears on the 1st edition (1864) of the Ordnance survey and does not appear to have been in use since.

The site is situated in an elevated and presently poorly drained location, which would not have been an attractive site for settlement throughout the prehistoric and medieval periods. An extensive programme of archaeological survey has been undertaken and the potential for previously unrecorded cultural heritage assets is well understood. The density of prehistoric and medieval remains in this area is quite low with only a handful of known prehistoric sites in the wider vicinity.

There are two areas of peat, which have potential for the preservation ofpalaeoenvironmental data and archaeological remains, within the application boundary. Although the limits of these sites have previously been defined on an ecological basis, they have not been subjected to a detailed survey to define their extents and depths. Todholes Moss (HA9) is an area of peat whose currently mapped extent lies along the north side of the application area (and immediately adjacent) in places to the proposed extraction boundary), Duntilland Moss (HA10) is a small sub-circular area of peat on the east side of the application area and partly within the extraction boundary. The extent of these areas is derived from ‘Sites of Importance for Nature Conservation’ (SINC) data acquired from Scottish Natural Heritage in 2005.

The proposed quarry extension will remove part of an area of rig (HA1), three turf-built enclosures within it (HA4, HA7 and HA8) and an old quarry pit (HA5). The turf-built enclosures are considered to be of local importance and therefore of low sensitivity to direct construction impacts. The old quarry is considered to be of negligible sensitivity to direct construction impacts. The fig and furrow (HA 1) and Duntilland Moss (HA10) extend outwith the extraction boundary and will therefore only be partially removed. There is also the potential for adverse impacts upon previously unrecorded cultural heritage assets and on peat, both in terms of sub and intra-peat archaeological remains and on the palaeoenvironmental potential of the peat deposits themselves.

The extent and depth of peat deposits which may survive within the DA are unknown and therefore their palaeoenvironmental potential is unknown.

Scope of the Written Scheme of Investigation (WSI)

The purpose of this WSI is to define a programme of works that will mitigate the impact of the Duntilland Quarry extension on the palaeoenvironmental resource of the DA. This work will meet, in full, the terms of the archaeological conditions (above) to the satisfaction of the planning Authority.

It is proposed that the programme of archaeological works be undertaken in two stages:

Stage 1 will focus on an assessment of the archaeological as well as the palaeoenvironmental potential. This will comprise;

- Auger transect survey across the area to detect the edge of the suspected peat basin

Stage 2 will focus on the evaluation of the four turf-built structures identified by the Environmental Statement and will be informed by the results of the palaeoenvironmental survey.

The results of the auger survey and evaluation will inform any further archaeological works required in order to further investigate the archaeological potential of the DA and/or mitigate the potential impact on recorded or unrecorded archaeology

PROJECT DESIGN

Objectives and Strategy

The archaeological objective of the assessment is to clarify the archaeological and palaeoenvironmental potential of the below-ground deposits

A peat survey is proposed in order to characterise the peat deposits within the development area and to address the issues raised by North Lanarkshire Council's archaeological advisor. The objectives of the survey are to:

- Determine peat depths across the area
- Briefly characterise peat types across the area
- Locate the edge of a suspected peat basin at the north-west side of the site ('Todholes':Site HA9)
- Detect the presence of buried mineral soil beneath the peat deposits.

The commercial objective is to contain risk and minimise potential delays to construction, such as would arise if features of archaeological or palaeoenvironmental significance were identified during quarrying works.

A two-stage plan of investigation is envisaged:

Stage 1

Field investigations will be undertaken in order to determine the depth, extent and nature of peat deposits across the Development Area. These waterlogged sediments have the potential to contain materials of palaeoenvironmental interest, such as pollen, seeds, insects and wood remains.

Stage 2

Four turf built structures affected by the development will be subject to topographic survey and slot trenching with one evaluation trench excavated across one side of each of the four

structures. The trenches will be designed to get a suitable cross section of each structure and to evaluate the underlying deposits.

Method

Auger Survey

Three transects will be made across the area, two running north to south, following slope direction; the third will run approximately east to west, this being the transect for detecting the edge of the suspected peat basin.

The survey will be undertaken using a gouge ('Dutch') auger, with sampling points at approximately 50m intervals, with closer sampling intervals used if necessary to determine the position of the edge of the peat basin, It is envisaged that approximately 25 sampling points will be sufficient. Sampling locations will be surveyed in the field using DGPS.

In determining peat depth there will be the potential to gauge possible masking of archaeology by peat. At each auger point (AP) the type and depth of sediments encountered will be recorded together with the presence of any visible plant macrofossils such as bryophytes, seeds and wood fragments. Visual evaluation of the areas surveyed will allow further evaluation of the archaeology and the condition of the peat in terms of erosion and possible cutting impacts.

Investigation of turf built structures

Trenches will be hand excavated through structures to the top of the natural geology, or the first significant archaeological horizon, whichever is encountered first. Spoil will be stored beside the trench.

On competition of hand excavation, all faces of the trench that require examination or recording will be cleaned using appropriate hand tools where required. The stratigraphic sequence will be recorded in full in each of the trenches, even where no archaeological deposits have been identified.

Due to Health and Safety considerations, hand excavations will not continue below 1m of the existing ground level.

Sampling Strategy

Radiocarbon dating samples will be taken from the base of the deepest peat deposits in selected areas in order to provide dates for the beginning of peat accretion in these areas. The basal peat dates will inform on the potential for any archaeological features to be present below the peats.

Recording

All recording will be according to CIfA standards and guidance. All contexts, small finds and environmental samples will be given unique numbers and all recording will be undertaken on *pro forma* record cards. Digital t photographs will be taken and recorded in a photographic register. Record shots of archaeological contexts will have a metric scale visible.

An overall site plan will be recorded digitally and related to the National Grid. Where appropriate, sections and stratigraphic sequences will be recorded digitally. Digital recording will be undertaken using a differential GPS or an EDM linked to a hand-held computer in order to allow data checking whilst in the field. If additional detailed recording of features and

sections is required (i.e. where their complexity means that archaeological information could be lost if recorded digitally) then plans and sections will be hand-drawn on permatrace at an appropriate scale (normally 1:20 or 1:50 for plans and 1:10 for sections).

Headland maintains a digitally-based library of guidance documents that includes information on field evaluation and recording. Relevant parts can be forwarded on request.

Reporting and Archive

All aspects of reporting and archive will be undertaken in accordance with guidelines published by the CIfA on behalf of the Archaeological Archives Forum (July 2007).

Copies of the report will be sent to the client for onward transmission to the local planning authority. All reports will be submitted within 20 working days of the completion of fieldwork.

The complete project archive will be deposited with the National Monuments

Record of Scotland (NMRS) within six months of the completion of the project. The records (paper and digital) will be archived according to best practice guidelines set out by the Archaeological Archiving Forum.

Any artefacts from the site will be declared for Treasure Trove procedures within 6 months of the completion of fieldwork. A copy of the site archive will be kept with the finds.

If further stages of excavation or other investigation are required elsewhere within the Development Area, the archives will be combined under the same project code and with continuous numbering of records. The combined archive will be deposited following completion of the process.

PROJECT TEAM

The project will be managed for Headland Archaeology by Edward Bailey. The field team for will comprise a Senior Archaeologist (Magnar Dalland) and an environmental archaeologist (Laura Bailey). Magnar Dalland will be responsible for the day-to-day execution of the project. *Curricula vitae* of key personnel can be supplied on request. The Project Team will familiarise themselves with the background to the site and will be aware of the project's aims and methodologies.

Specialist artefact analyses will be managed by Headland's Finds Manager, Julie Franklin. Julie will undertake finds assessment within her areas of competence (medieval and post-medieval ceramics, metalwork, glassware, clay pipes, ceramic building material and other small finds) and assisted by Julie Lochrie (lithics, prehistoric pottery). Further consultation will be sub-contracted to recognised period specialists if appropriate.

Environmental analysis will be managed by Dr Tim Holden. Headland has in-house specialists who can undertake analysis of pollen, plant macrofossils, insect remains and thin sections, Faunal and human remains will be assessed by appropriate specialists.

Headland Archaeology (UK) Ltd is a Registered Organisation and abides by the Codes of Conduct and Approved Practice and Standards of the Institute for Archaeologists. The company has all the necessary technical and personnel resources for the satisfactory completion of the evaluation.

INSURANCE

Headland Archaeology (UK) Ltd is fully indemnified and all necessary insurances can be presented on request.

HEALTH & SAFETY

All of Headland's work is undertaken in accordance with current H&S legislation. Risk assessments and a method statement will be prepared prior to the commencement of fieldwork. All staff will wear appropriate PPE. Welfare facilities will be located at a suitable location.

HUMAN REMAINS

Any human remains encountered during the course of the evaluation will be left *in situ*. All finds of human remains will be reported to the client's representative, Shetland Amenity Trust archaeological advisors and the local police. An on-site meeting will be arranged with the client, Shetland Amenity Trust and Headland to decide on an appropriate method for dealing with the remains.

If human remains are to be excavated during subsequent work, all works will be agreed with the client and undertaken in accordance with Historic Scotland policy on the treatment of human remains and in cognisance of CIfA Technical Paper Number 13 (Brickley & McKinley 2004).

REFERENCES

Archaeological Archives Forum Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation (published by the IfA 2007).

Brickley M & McKinley J 2004 *Guidelines to the standards for recording human remains* (IfA Paper No 7).

IfA Standards and Guidance for archaeological Watching Briefs (revised October 2008).

SPP: Scottish Planning Policy (February 2010; http://www.scotland.gov.uk/Publications/2010/02/03132605/0)

Watkinson D & Neal V 1998 *First aid for finds.*