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Marfield Quarry Southern Extension  
North Yorkshire

Phase 2 Archaeological Site Investigation:  
Written Scheme of Investigation  
SLR Ref : 403-00163-00083

August 2010



Version: **Curator Review DRAFT**

## CONTENTS

1.0	INTRODUCTION.....	1
1.1	Project background .....	1
1.2	Summary of archaeological potential.....	1
1.3	Site conditions / constraints .....	2
2.0	AIMS AND OBJECTIVES .....	3
2.1	Aims.....	3
2.2	Objectives of Phase 2 site investigations .....	3
3.0	GENERAL ARRANGEMENTS FOR ARCHAEOLOGICAL FIELDWORK .....	4
3.1	Monitoring .....	4
3.2	Health and Safety.....	5
4.0	OUTLINE METHODOLOGY .....	6
4.1	Future fieldwork .....	6
5.0	DETAILED EXCAVATION METHODOLOGY .....	7
5.1	Topographical survey.....	7
5.2	Excavation.....	7
5.3	Reinstatement.....	8
5.4	Records .....	8
5.5	Finds .....	8
5.6	Human remains.....	8
5.7	Treasure .....	8
5.8	Archive including finds .....	9
6.0	ASSESSMENT AND REPORTING OF RESULTS.....	10
6.1	Interim report .....	10
6.2	Full report.....	10
7.0	RESOURCES AND TIMETABLE.....	12
7.1	Staffing .....	12
7.2	Plant.....	12
7.3	Programme.....	12
8.0	COPYRIGHT .....	13
9.0	CLOSURE.....	14

## DRAWINGS

MSI 4 Trench layout

## 1.0 INTRODUCTION

### 1.1 Project background

Lafarge Aggregates intends to extend the extraction area of its existing Marfield Quarry in a c. 55ha area west of Leyburn Road, about 1km north of Masham, North Yorkshire. The application site is centred at NGR 421350,481750, at an altitude of 90-106m AOD.

The minerals would be processed at the existing plant, carried there on a conveyor routed north-west then north-east, around Mile House Farm. There has been a minor modification of the route since the Phase site investigations were completed. Underpasses to carry the conveyor would be formed beneath the public right of way to Mile House Farm and beneath Leyburn Road, and it is possible that there would be topsoil stripping along the line of the conveyor. The site investigations described in this document cover both the extraction area and land around the margin which would be affected by landscaping or planting (the 'application site').

The proposed quarry extension is the subject of an Environmental Impact Assessment (EIA) including an Environmental Statement, presented by SLR Consulting. Archaeology and Cultural Heritage is dealt with there in Chapter 14 (yet to be submitted).

A programme of archaeological site investigations covering the whole quarry is required by the North Yorkshire County Council Development Control Archaeologist (NYDCA) prior to planning determination. A written scheme of investigation (WSI) forming the first phase of that work was prepared by SLR Consulting and approved by the NYDCA (Marfield Quarry Southern Extension, North Yorkshire: Phase 1 Archaeological Site Investigations: Written Scheme of Investigation; SLR 2008). The elements of that work completed to date have been reported in *Marfield Quarry Southern Extension North Yorkshire Phase 1 Archaeological Site Investigation : Interim Report*, July 2010.

SLR Consulting is a Registered Organisation of the Institute for Archaeologists and all work would be carried out according to their relevant codes, guidance and standards.

### 1.2 Summary of archaeological potential

Prior to the commencement of this project there were no recorded archaeological remains within the application site and few in the vicinity.

The site is thought to lie within former open fields, subsequently enclosed piecemeal by drystone walls perpetuating some of the earlier boundaries; these walls have now been removed or leveled, some being replaced by fairly recent hawthorn hedges. A number of other boundaries, now removed, are known only from 18<sup>th</sup> and 19<sup>th</sup> century mapping. Two cross-slope terraces may be lynchets or of natural origin. A map of 1798 shows two structures (S1, S4) removed by 1856, and a third still standing (S2). A map of 1856 shows two others (S3, S5), removed by 1912. Site inspection identified within the application site ridge-and-furrow earthworks at four locations (R1-R4), a levelled structure, stone heap and possible quarry pit in a group (S7), an enclosure / structure (S6), and a waterlogged field containing a probable infilled stream channel (P1), and recent earthworks, probably recent.

Of the work completed to date, fieldwalking of all the arable areas has revealed background scatters of lithic material of prehistoric date, and pottery of medieval and post-medieval date, but no particular concentrations which might indicate occupation or other focused activity.

Geophysical survey, now totalling about 42% of the application area, has revealed a large number of buried features: they include features of probable geological and agricultural origin, and modern features.

Additionally, a number of these features might be of archaeological significance as they are spatially unrelated to the existing field-boundaries (which are probably of medieval origin). An absence of Roman material amongst the fieldwalking finds collected points towards a prehistoric or possibly early medieval date for these features, though a non-archaeological origin is also possible.

There is no clear correlation between the fieldwalking finds and the features revealed by geophysical survey.

There is no indication from the work completed to date of the existence of complex archaeological remains within the application site, or any remains of national importance. It may be the case that there is nothing present of archaeological significance beyond boundary features and scattered small structures.

It has been recommended that no further geophysical survey should be carried out until the origin of the features identified in geophysical survey so far has been established by intrusive investigation.

It is therefore recommended that site investigation proceeds to intrusive work. The test-pitting regime constituting the final part of Phase 1 has been approved. This work will inform the subsequent trenching, providing guidance on appropriate excavation depths. It may also indicate modifications to the trenching plan set out in this document. Any such modifications would be determined in consultation with the North Yorkshire Development Control Archaeologist.

### **1.3 Site conditions / constraints**

The site may be divided topographically into two main zones: the larger part of the area in which slopes are generally downwards from west to east, and within this an area of low-lying ground defined by steep slopes at its edges, running from about 100m southwest of the north corner of the application site widening to a terminal in the waterlogged ground east and northeast of Stony Bottoms Plantation. Steep slopes bordering the low ground are limited in extent but may contain significant deposits of colluvium or accumulated soil creep.

The site contains roughly equal areas of grassland and arable. In the grassland areas, access for evaluation should be straightforward, with the potential presence of stock, and need for reinstatement being practical issues. Constraints on activities in the arable are discussed in the next section. Excavation in the area of waterlogged ground might be liable to flooding.

Trenching inevitably involves destruction of any crops present within the trench area, and on access lines and areas of spoil heaps. Trenching in the waterlogged area might prove difficult due to waterlogging. The same applies to hand-dug test-pitting, although the area involved is small.

## **2.0 AIMS AND OBJECTIVES**

### **2.1 Aims**

The aims of the archaeological site investigations as a whole are to

- provide sufficient information at the pre-planning stage to permit an informed planning decision regarding an appropriate archaeological response to the development
- provide the client with information for budgetary and programming purposes
- locate and characterise any archaeological remains which may prove to be present
- identify blank areas

Priorities are the early identification of the presence and extent of any remains worthy of preservation in situ, and of any for which preservation by record would be acceptable.

Given the scarcity of evidence for archaeological remains within the application site, a staged approach with interim reviews has been followed, comprising initial prospecting followed by review (Phase 1), leading to sample excavation of identified areas of potential (Phase 2), some of which are already known.

### **2.2 Objectives of Phase 2 site investigations**

- assess the archaeological potential of features identified in Phase 1
- assess the archaeological potential of known features identified in the historic mapping and site inspection (S7 stone heap and structure, structures S1-S6)
- assess the archaeological potential of the boundaries
- assess the nature and quality of the of the palaeoenvironmental potential of the waterlogged area through sampling

### **3.0 GENERAL ARRANGEMENTS FOR ARCHAEOLOGICAL FIELDWORK**

#### **3.1 Monitoring**

The curatorial archaeologist and SLR will be kept informed of the project timetable, and will be invited to visit site at any time during the fieldwork and discuss the results with SLR, so that the implications for detailed design and mitigation can be resolved at an early date.

The curatorial archaeologist (NYDCA) is

Lucie Hawkins  
Development Control Archaeologist  
Development and Countryside Service  
Business and Environmental Services Directorate  
County Hall  
Northallerton  
DL7 8AH  
United Kingdom  
Tel: 01609 532316

The archaeological consultant is

Gavin Kinsley  
Associate Archaeologist  
SLR Consulting  
Aspect House, Aspect Business Park  
Bennerley Road  
Nottingham NG6 8WR  
Tel: 0115 964 7280

All archaeologists employed by the archaeological contractor to work on the project will be suitably qualified to complete the tasks required, with CVs available on request. Use of an IFA-registered Organisation is recommended.

All archaeological work will adhere to the Institute of Field Archaeologists' *Standard and Guidance For Archaeological Field Evaluation* (2001).

An accession number will be obtained from the destination museum prior to commencement of fieldwork.

The proposed destination museum is

Yorkshire Museum  
Museum Gardens  
York YO1 7FR  
Tel: 01904 687687

An OASIS record has been set up, it will be updated as work progresses, and will be completed along with the archive.

### 3.2 Health and Safety

SLR operates in accordance with the health and safety procedures as set out in:-

- the *Health and Safety at Work Act 1974* and related legislation.
- the *Health and Safety Manual* of the Standing Conference of Archaeology Unit Managers (2002)
- the Council for British Archaeology Handbook no. 6, *Safety in Archaeological Fieldwork* (1989)
- the *Construction Design and Management Regulations* (1994)
- and the *SLR Health and Safety Handbook*.

A Health and Safety Plan and a project-specific risk assessment will be prepared prior to the commencement of the project, and implemented during its duration.

#### 4.0 OUTLINE METHODOLOGY

The works outlined in this written scheme of investigation comprise:

- Sample excavation of geophysical survey anomalies;
- Sample excavation of selected boundaries;
- Sample excavations to prove apparent blanks;
- Detailed topographical survey and sample excavation of S7 levelled structure, stone heap and possible quarry pit; and
- Detailed physical and topographical survey and sample excavation of enclosures / structures S1-S6 in order to establish their nature date, function and any enhanced preservation beneath.

#### 4.1 Future fieldwork

Were planning permission to be granted, it is possible that mitigation of impact from the scheme on archaeological remains might be required through preservation in situ, though nothing has so far been identified would certainly merit it. It is likely that mitigation through further fieldwork would be required; this could be carried out prior to or during extraction. The scope of this work cannot yet be fully identified, but it would probably include:

- Pre-extraction stage
  - Detailed topographical survey of ridge-and-furrow in areas R1-R4; and
  - Detailed survey of boundaries.
- Prior to / during extraction:
  - further site investigation through controlled and monitored stripping integrated with the phased extraction programme; and
  - use of contingency resources for further excavation, recording and reporting where necessary.

## 5.0 DETAILED EXCAVATION METHODOLOGY

### 5.1 Topographical survey

Detailed topographical survey will be carried out where structures S6 and S7 are to be excavated, in order to form a record of the surface configuration prior to disturbance.

Each affected buried structure will be recorded as a series of measured points recording heights above Ordnance Datum, positioned at sufficient locations to define the form of the ground surface. The area covered will include the visible surface indications of the structure and a margin of at least 5m around its edges. Each survey will be drawn up as an interpretative annotated hachure plan at an appropriate scale showing generalised contours and selected spot-heights as appropriate.

### 5.2 Excavation

The position or area of each trench is shown in Drawing MSI 4. There may be minor alterations to individual trenches to avoid utilities, walls hedges and any other obstacles. Further modifications may be identified during detailed consultation with farmers, or by the results of the test-pitting; any necessary modifications will be by agreement with the NYDCA.

A total area of 4860m<sup>2</sup> will be excavated, retaining a contingency of 640m<sup>2</sup> to further investigate features found in the initial trenching.

Trenches will be excavated to 2m width and areas excavated as shown, using a mechanical excavator fitted with a toothless ditching bucket to carefully remove the topsoil to the top of archaeological remains or undisturbed natural deposits, whichever is the higher. It is not envisaged that deep excavations will generally be necessary, with the exception of areas of colluvium and lynchets. Great care will be exercised to identify any buried soils or other archaeological deposits which might lie over the subsoil.

An archaeologist will supervise the machine excavation of the trial trenches and will hand clean and record all archaeological features or deposits within them. If archaeological features or deposits are present, a sample sufficient to establish their nature and date will be excavated and recorded by agreement with the NYDCA.

The additional contingency trenching will be used where needed, by agreement on site with the NYDCA, probably for clarification of features, rather than (for example) investigation of new areas between two trenches.

A specialist environmental archaeology sub-consultant will be engaged to provide advice on sampling, deposits assessment and description, and reporting. The process will be carried out according to the guidance in English Heritage's *Centre for Archaeology Guidelines on Environmental Archaeology 2002*, Section 4. In conformity with that guidance, issues to be addressed will be the survival of material, preferably for each phase, and to assess key contexts.

Sampling will be directed to a representative range of context types from each phase present. Where the palaeoenvironmental potential is significant the project specialist will inspect the site to identify the appropriate approach in detail.

Taking and assessment of up to thirty bulk samples from features has been allowed for. Samples will be stored in 10 litre airtight buckets.

Speak to Andy Timmon.

### 5.3 Reinstatement

On completion of the excavations, trenches will be backfilled with the arisings and levelled.

### 5.4 Records

The excavations will be recorded by text and drawings through use of proformas, plus suitably scaled plans and sections (at 1:20 and 1:10 as appropriate). Photographs will include working shots, the completed trench even if devoid of archaeological remains, and all significant contexts. They will be taken in colour digital and 35 mm monochrome film format. Photographic scales will be included where appropriate.

Artefacts and palaeoenvironmental samples will be collected, labelled and stored following standard archaeological practice as outlined in UKIC (United Kingdom Institute for Conservation) guidelines.

### 5.5 Finds

Trench spoil will be scanned with a metal-detector. All finds not obviously modern will be collected during excavation; the presence of any modern material will be included in the written record. On completion of the fieldwork a review of assemblages from each stratigraphic sequence will be carried out, and, for duplicated post-medieval material of 18th century date or later, example pieces of each ware will be retained and the remaining assemblage quantified in relation to the sample pieces.

All finds will be stored as recommended in "First Aid for Finds" (Archaeology Section of the United Kingdom Institute for Conservation, 2nd edition 1987), marked with site code and context.

### 5.6 Human remains

Any human remains encountered during site works will be left undisturbed until the coroner has been alerted and the CAO has been informed. If these remains are ancient and excavation is deemed necessary then a Home Office Licence will be applied for. The remains will then be archaeologically excavated and recorded according to the guidance set out in J McKinley and C Roberts, *Excavation and post-excavation treatment of cremated and inhumed human remains* IFA technical paper 13, 1993. Storage, analysis and reburial will be undertaken as appropriate.

### 5.7 Treasure

Finds of Treasure are regulated by The Treasure Act, 1996, extended 2003. The definition of Treasure under the Act is complex, but objects which should be compared closely with the definition of Treasure under the Act include any containing precious metals, two or more prehistoric objects from the same find, and any other objects from the same find as the above. 'The same find' means hoard, votive deposit, or small group of coins which have been lost.

Any Treasure as defined by The Treasure Act, 1996, will be reported by the archaeologist to the landowner and tenant, the local coroner and the County Finds Liaison Officer, within 14 days of discovery or recognition in accordance with the requirements of this legislation, and deposited with the latter. The find-location will be kept confidential by the archaeologist, the landowner and the tenant. If a museum wishes to acquire the find(s), and if a coroner's inquest then establishes that any of the objects are Treasure, a reward will be made based on a market valuation, with right of appeal. The following are entitled to share the reward:

- the finder who has obtained permission to be on the land from its owner, and acted in good faith;
- the person or organisation which holds the freehold of the land; and
- the person who occupies the particular site as a tenant of the owner.

Intentional failure to report can lead to imprisonment for up to three months, a fine of up to £5,000 (level 5), or both. Occupiers and landowners will have the right to be informed of finds of treasure from their land and that they will be eligible for rewards.

### 5.8 Archive including finds

The archive will be compiled in accordance with any requirements of the destination museum. They will also follow the *Guidelines for the Preparation of Excavation Archives for Long-term Storage* (UKIC, 1990), and *Standards in the Museum Care of Archaeological Collections* (Museum and Galleries Commission 1992), where there is no conflict.

The archive will be fully indexed and contain:

- all field records including potentially
  - site notebooks/diaries
  - photographs and photograph record sheets
  - drawings
  - context records
  - artefacts, ecofacts and any other sample residues
  - original finds records
- all post-fieldwork records including potentially
  - records of conservation and radiographs taken
  - sample records
  - computer discs and printout
  - other records including
  - copies of correspondence relating to fieldwork
  - contractor's survey reports (e.g. borehole, geophysical, documentary)
- report as circulated

Finds will be stored in a stable condition, appropriate containers, by prior agreement with the destination museum.

Finds remain the property of the landowner during fieldwork and post-fieldwork analysis. On the completion of the archive and report, the finds and the master copy of the archive, will be deposited with the destination museum.

## **6.0 ASSESSMENT AND REPORTING OF RESULTS**

### **6.1 Interim report**

Immediately upon completion of the site work an assessment of the site archive will be undertaken to include all written, drawn, and photographic records, artefacts and ecofacts/samples.

Within one week of completion of the fieldwork, a summary report will be completed, outlining the results of the fieldwork, their significance in relation to the project aims, and any comments on further work required to complete the project. The report will contain:

- mapping of locations of all fieldwork differentiating the basic type of archaeological work carried out and a summary of the results
- a synthesis and appraisal of the results of the fieldwork and an assessment of their significance in relation to potential archaeological remains on the sites, and the impact of construction.

Copies will be provided to:

- the client
- the curatorial archaeologist
- SLR Consulting where a sub-contractor is used.

### **6.2 Full report**

Artefacts will be assessed to provide dating, social, economic, and technological information. Special or unusual features will be highlighted and reference made to other material recovered from the immediate environs of the evaluation sites.

The requirements for artefact conservation will be assessed and discussed with a specialist conservator.

Within three months of completion of the fieldwork of all phases of the site investigations, a detailed report will be completed. It will be sent in draft form to the client and to the curatorial archaeologist to allow comment and review to take place prior to formal submission.

It will contain at least:

- a non-technical summary
- the project's planning background, locational details, and geological and archaeological context
- the aims of the fieldwork and the methods employed
- the nature, location, extent, date, significance and quality of any archaeological and environmental material uncovered
- the nature and location of any subsoil deposits encountered

- the anticipated degree of survival of archaeological deposits and structures across the sites, and an assessment of the likely impact of the proposed works
- suitable illustration in drawings and photographs, including a site location plan, a location plan of the monitoring locations, and where appropriate, larger-scale plans and sections of individual excavation areas and features
- specialist assessments of finds stating the range, quality and significance of the material with proposals for further detailed analysis where appropriate
- outline recommendations further fieldwork including sampling strategies
- a list of the archive contents and details of the provision for its long-term storage, including any palaeoenvironmental samples taken

There may be a further stage of finds analysis prior to completion of the report and archive. Proposals for this further analysis will be made and with the agreement of the curatorial archaeologist and the archaeological consultant, analysis will be carried out and included in the report.

## **7.0 RESOURCES AND TIMETABLE**

### **7.1 Staffing**

Staffing and sub-contractor arrangements will be agreed with the client, the curatorial archaeologist and the SLR consulting prior to commencement of any work.

### **7.2 Plant**

Plant hire and welfare facilities will be sourced locally, unless the client has a preferred supplier.

### **7.3 Programme**

The fieldwork timetable is yet to be determined, but it is anticipated to fall within the period late August to October.

## 8.0 COPYRIGHT

SLR will retain full copyright of any commissioned reports, tender documents or other project documents, under the *Copyright, Designs and Patents Act* of 1988 with all rights reserved; excepting that SLR hereby provide an exclusive licence to the Client for the use of such documents by the Client in all matters directly relating to the project as described in this Project Design.

## 9.0 CLOSURE

This report has been prepared by SLR Consulting Limited with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected and has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of Lafarge Aggregates; no warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the client and others in respect of any matters outside the agreed scope of the work.