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Charlestown Limekilns, Fife Landscaping Works

Archaeological Watching Brief
Report No. 3782

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standard operating procedures.

Charlestown Limekilns, Fife

Landscaping Works

Archaeological Watching Brief

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1 INTRODUCTION

1.1 General

This report has been prepared by CFA Archaeology Ltd (CFA) on behalf of Historic Environment Scotland (HES) for the archaeological watching brief undertaken to monitor the landscaping work at Charlestown Limekilns, Fife (Fig. 1; NGR: NT 06422 83576), a Scheduled Monument (SM No. 3734).

HES's Conservation Group has been working with the Inner Forth Landscape Initiative in conserving and restoring some of the limekilns at Charlestown. The present works involved the excavation, levelling and landscaping of grounds surrounding and abutting the limekilns. As the works had the potential to expose structural remains or features associated with the limekilns, a watching brief was undertaken.

1.2 Background

The following information is taken from the HES schedule description.

The monument comprises fourteen stone built limekilns, the majority of which were built in the period between 1761 and 1799. Running north-south from the kiln-head is a tunnel and stretch of railway that served to bring limestone to the kilns. The kilns are the largest group of limekilns in Scotland and operated until 1956. They stand in a prominent location on Harbour Road in Charlestown beside Charlestown Harbour and the River Forth. The kilns were built in two distinct phases.

All fourteen of the kilns survive to their original height; however the two at the eastern end have collapsed internally and are unroofed. The site can be divided into an east and west bank of kilns measuring 9m in height and covering a total length of 110m. Each kiln consists of a main central arched entrance which provided access to a number of vaulted chambers. Within these chambers are draw holes, four to each kiln consisting of smaller arched openings from which quicklime was extracted.

In the east bank of kilns the draw holes are identical, set at angles surrounding the kilns with an addition rear east/ west passage. The western bank of kilns are larger (in area but not height) with a similar arrangement of draw holes, although their main front draw hole was to the outer stone wall.

At kiln-head there are the remains of a number of stone and brick buildings and enclosures which are the remnants of associated limeworks. To the north side of the kiln-head is a tunnel built to contain a rail or tramway which runs north-south for 195m before reaching West Road where there was formerly a bridge. To the north of the modern road a railway embankment extends a further 50m and includes the remains of a brick buildings and a turntable stance.

The kilns are well preserved and have many surviving features including draw holes or "eyes" at the base, internal cones and coal chutes. A large flat area on the top and to the rear of the kilns contains the remains of contemporary structures as well as a tunnel

and railway that were used to transport lime to the kilns from quarries to the north of the village.

Lime extraction and production began on what became Broomhall Estate at Limekilns, a mile to the east of Charlestown. Charles, the 5th Earl of Elgin and 9th Earl of Kincardine industrialised the process and moved production to the new establish Charlestown in the third quarter of the 18th century. Lime played an important part in Scotland's economy and was used in agriculture, building and industrial applications such as glass production. Coal and limestone were found on the Elgin estate which the Earl exploited to create a large industry. This included the establishment of an iron foundry, brick works, as well as the export of coal, coke and lime.

The village of Charlestown was established around 1761 as part of the 5th Earl's plans to utilise the natural resources; limestone and coal, on his estate. The village was built to house his workers and a sophisticated transport system was developed to move the materials which included wagonways and the harbour. The limestone burnt in the kilns was from the immediate area, with the main quarries being the West Quarry, the Mid Quarry, the East Quarry and the Glen Quarry.

Initially 6 kilns were built (at the east end of the bank) which later increased to 14 as Charlestown became one of the UK's the largest producers of building lime. At its peak Charlestown supplied 30% of the UK's building lime and was one of the first large-scale industrial enterprises in Scotland. The kilns operated for over 200 years and are now redundant but they remain the best preserved and largest examples in Scotland. The range of kilns is also the largest and most complex in the country. The kilns are of industrial scale and illustrate technical change in kiln design, over half a century or more, during a period when lime was of the paramount importance to the Scottish economy.

The importance of the monument is enhanced by the survival in recognisable form of the village built to house the workers, harbour for shipment of lime and coal, quarries and mines and railways. Charlestown is the only place in Scotland where the relationship between the elements of an 18th century mineral working and processing industry are so clearly visible.

The limekilns, harbour, associated features and village at Charlestown were built under the auspices of the Sir Charles Bruce, 5th Earl of Elgin and retain this connection today. The Elgin Family Archives document how the limeworks worked, its produce and the distribution and what the lime was being used for. The lime was used in building and in a range of industrial applications, including glass-making, tanning and sugar refining. The greatest use was in agriculture for improving soil and the largest markets for the Charlestown product was the north-east of Scotland, Stirling and Falkirk, with some going to the central belt.

There has been limited investigation in the grounds around the limekilns. Most interventions have been small-scale and driven by specific conservation and maintenance requirements. As such, it was not possible to be certain of the nature of the underlying deposits in this area; however, this does not preclude previously unknown significant archaeological deposits being uncovered, and as such all ground breaking works in the area were overseen by an archaeologist.

1.3 Objectives

The objectives of the programme of archaeological works were:

- To conduct an appropriate programme of archaeological investigation (watching brief) to monitor all ground disturbance works.
- To mitigate the effects of construction on any archaeological deposits or features identified through their excavation and recording and produce a report on them.

2. WORKING METHODS

2.1 General

CFA Archaeology Ltd follows the Chartered Institute for Archaeologists' Code of Conduct, Standards and Guidance. Recording of all elements followed established CFA methods.

The archaeological watching brief included the monitoring of all groundbreaking works that were needed for the landscaping works.

2.2 Watching Brief

All ground breaking work including modern overburden was removed by a JCB 3CX type back-acting mechanical excavator equipped with 1.5m wide smooth-bladed ditching buckets and an 8 tonne tracked excavator. All groundbreaking work was carried out under constant archaeological supervision.

All excavation and on-site recording was carried out according to standard CFA procedures, principally by drawing, photography and the completing standard CFA record forms.

3. ARCHAEOLOGICAL RESULTS

3.1 General

The watching brief was undertaken to monitor and record groundbreaking works during landscaping to the exterior of the limekilns at Charlestown. The purpose of the groundbreaking works was to create landscaping and paths for visitors to the Limekilns.

The work undertaken was a vegetation strip for landscaping and a new path. The vegetation strip across the watching brief area removed only the surface vegetation and did not remove any topsoil or other overburden. A new path was inserted around the limekilns, with excavations taking place to a depth of c.0.15m (Fig. 5). The pond area was already present prior to the commencement of works, and vegetation clearance took place (Fig 1).

3.2 Watching Brief

The archaeological watching brief revealed the remains of a small section of brick wall (**002**), surviving to probably just 1-2 courses high and one course wide, within the proposed pond area. The overall size of the feature was 1.8m x 0.4 m x 0.15m (Fig. 1). Part of the wall appeared to be mortared. This feature was not removed by the works.

A sandstone feature (**003**) was uncovered to the east of Kiln 1, which may be the protruding foundation for its wall, with dimensions of 3m x 2m and exposed to a depth of 0.2m (Fig. 3). This feature was not removed by the works.

Also within close proximity to Kiln 1 was a brick surface (**005**) laid in a rough stretcher bond with the bricks laid perpendicular to the kiln wall. The bricks were not mortared. The brick surface was located adjacent to the eastern wall of Kiln 1, with dimensions of 2m x 2.5m (Fig. 3 and 5). This feature was not removed by the works.

At Kiln 10, a possible foundation stone / threshold stone for a gate or door was uncovered (**004**). It had previously been covered with tarpaulin and preserved in situ. The foundation stone comprised two blocks of sandstone with a vertical metal pin emerging from the stone. It measured 2.5m x 2.8m x 0.15m (Fig. 4). This feature was not removed by the works.

All features uncovered were appropriately recorded and were unaffected by any further landscaping work undertaken. It was agreed with Historic Environment Scotland that the path would be moved in the case of it affecting the buried archaeology or the features would be covered over first with an appropriate membrane to protect them prior to the installation of the path.

4. CONCLUSION

The archaeological watching brief that was undertaken at Charlestown Limekilns was to monitor the landscaping works within the scheduled monument (SM No. 3734).

Archaeological remains were uncovered on the site, comprising brick and stone surfaces, and after detailed recording of the features it was agreed with the contractors and Historic Environment Scotland that the paths would either be moved or the archaeology covered over and protected in situ.

A summary statement will be submitted for publication in *Discovery and Excavation in Scotland* (Appendix 3) and will also be reported on through *OASIS Scotland*.

APPENDIX 1: PHOTOGRAPHIC REGISTER

Shot No.	Summary description of subject	Facing
001	Wall 002	NE
002	Wall Foundations	NE
003	Western Pathway	E
004	Eastern Pathway	E
005	Eastern Pathway	E
006	Pond Area	N
007	General Shots of Pond area	E
008	General Shots of Pond area	W
009	Sandstone outcrop 003	W
010	Sandstone outcrop 003	W
011	Sandstone outcrop 003	W
012	Brick Surface 005	W
013	Sandstone Gate foundation 004	E
014	Sandstone Gate foundation 004	E
015	General shots of Path Strip	E
016	General shots of Path Strip	E
017	General shots of Path Strip	N

APPENDIX 2: CONTEXT REGISTER

Context no.	Fill of	Type	Description
001		Deposit	Demolition Deposit
002		Structure	Brick wall
003		Structure	Surface/Foundations
004		Structure	Door/Gate foundation stone
005		Structure	Brick surface

APPENDIX 3: DRAWING REGISTER

Dwg No.	Sheet No.	Scale	Plan / Section	Description/contexts
1	1	01:50	Plan	Plan of 002
2	1	01:50	Plan	Plan of 003 and 005
3	1	01:50	Plan	Plan of 004

APPENDIX 4: DISCOVERY AND EXCAVATION IN SCOTLAND ENTRY

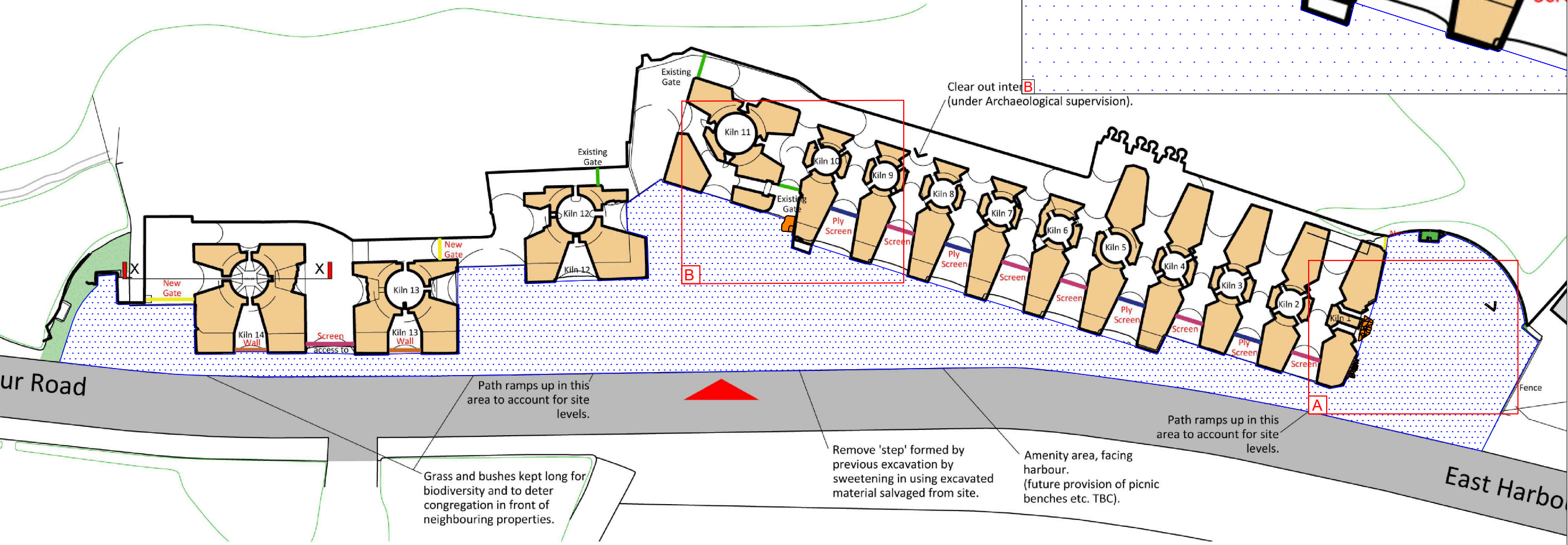
LOCAL AUTHORITY:	Fife Council
PROJECT TITLE/SITE NAME:	Charlestown Limekilns, Landscaping Works.
PROJECT CODE:	CHLI
PARISH:	Dunfermline
NAME OF CONTRIBUTOR:	Bethan Gray
NAME OF ORGANISATION:	CFA Archaeology Ltd
TYPE(S) OF PROJECT:	Archaeological Watching Brief
NMRS NO(S):	NT08SE 32
SITE/MONUMENT TYPE(S):	Scheduled Monument
SIGNIFICANT FINDS:	N/A
NGR (2 letters, 6 figures)	NT 06422 83576
START DATE (this season)	23/7/2018
END DATE (this season)	27/7/2018
PREVIOUS WORK (incl. <i>DES</i> ref.)	
MAIN (NARRATIVE) DESCRIPTION:	<p>The archaeological watching brief that was undertaken at Charlestown Limekilns was to monitor the landscaping works within the scheduled monument (SM No. 3734).</p> <p>Archaeological remains were uncovered on the site, comprising brick and stone surfaces, and after detailed recording of the features it was agreed with the contractors and Historic Environment Scotland that the paths would either be moved or the archaeology covered over and protected.</p>
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ARCHIVE LOCATION (intended/deposited)	Archive to be deposited with NRHE, reports lodged with Fife Council SMR.



Key:

- Watching Brief Area
- Stone
- Brick

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Title:
Site location, location of Watching Brief area and archaeological features

Project:
Charlestown Limekilns, Landscaping Works. Watching Brief

Client:
Historic Environment Scotland

Scale at A3:
1:1,000 main plan, 1:500 inserts

Drawn by: GC	Checked: SW	Date: 12/09/2018
Report No: 3782	Fig. No: 1	



Fig. 2 Stone surface 003



Fig. 3 Stone surface 004

Project:
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Report No: 3782		Fig. No: 2 - 3



Fig. 4 Brick surface 005



Fig. 5 Vegetation strip and excavation for path adjacent to kilns

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