

**CFA ARCHAEOLOGY LTD**

August 2008

*Commissioned by Scottish and Southern Energy plc*

Planning Ref. LT/2006/0356/DET/A

This document has been prepared in accordance with CFA standard operating procedures.

Author:	Date
Approved by:	Date
Draft/Final Report Stage:	Final

**Author: Magnus Kirby MA FSA Scot AIFA**

Illustrations: Karen Clarke BA MA MSc

Editor: Melanie Johnson MA PhD FSA Scot MIFA

CFA ARCHAEOLOGY LTD  
The Old Engine House  
Eskmills Business Park  
Musselburgh EH21 7PQ

Tel: 0131-273-4380  
Fax: 0131-273-4381  
email: [cfa@cfa-archaeology.co.uk](mailto:cfa@cfa-archaeology.co.uk)

**Inverarnan 275-132kV Substation,  
Inverarnan by Ardlui,  
Loch Lomond and the Trossachs National Park,  
Argyll and Bute**

**Archaeological Watching Brief**

**Report No. 1534**

## **Contents**

1.	Introduction	3
2.	Working Methods	4
3.	Archaeological Results	5
4.	Conclusions	8
5.	References	8

## **Appendices**

1.	Context Register	9
2.	Photographic Register	9
3.	Discovery and Excavation in Scotland Entry	11

## **Illustrations (bound at rear)**

Fig. 1	Location map and area monitored during watching brief
Fig. 2	Location of archaeological features
Fig. 3	Detailed plan of the settlement
Fig. 4	Detailed plan of the revetment wall
Fig. 5	Site 5 from south prior to vegetation clearance
Fig. 6	Site 5 from south following vegetation clearance
Fig. 7	Roy's map showing the settlement of Garball

# **1. INTRODUCTION**

## **1.1 General**

1.1.1 This report presents the results of an archaeological watching brief undertaken by CFA Archaeology Ltd (CFA) between May and July 2008 during groundworks associated with Inverarnan 275-132kV Substation, Inverarnan by Ardlui, Loch Lomond and the Trossachs National Park, Argyll and Bute (NGR: NN 3147 1705 to NGR: NN 3160 1800) (Fig.1). The work was commissioned by Scottish and Southern Energy plc (SSE).

1.1.2 A Written Scheme of Investigation (WSI) for the watching brief was produced by CFA on behalf of SSE. The WSI was agreed in advance by the West of Scotland Archaeology Service (WoSAS), who are acting as archaeological advisers for Loch Lomond and the Trossachs National Park.

## **1.2 Background**

1.2.1 Planning permission has been granted by Loch Lomond and the Trossachs National Park for a 275-132kV electricity substation with associated buildings, temporary storage areas and access road. The terms of the planning permission were subject to a condition requiring a programme of archaeological watching briefs.

1.2.2 The development area is situated between the A82(T) trunk road and the West Highland Line railway on the lower part of the eastern flank of Garabal Hill. This area of ground slopes down steeply from west to east and consisted of areas of bog and peat interspersed with some well draining ridges and knolls. Three water courses bisect the area running from west to east into a broad river valley containing the River Falloch. In agricultural terms, the ground is considered to be poor, but some of the well draining areas would have been suitable for subsistence farming on a small scale.

1.2.3 Prior to any groundbreaking works taking place, this area contained an existing rough track, which ran in a south to north direction, following the course of an existing overhead power line. The excavation of the new road would have destroyed any archaeological remains along its path and consequently, the watching brief was predominantly confined to the parts of the proposed new access road that deviated from the existing track. An area towards the northern part of the site earmarked for a construction compound was also monitored.

1.2.4 During the course of the watching brief, a number of surface features representing the remains of a pre-improvement agricultural settlement were identified on the line of the proposed access road. The access road was therefore re-routed to avoid these features and preserve them *in situ*.

1.2.5 No previous invasive archaeological fieldwork is known to have taken place within the development area prior to this watching brief.

### **1.3 Objectives**

- 1.3.1 The aims of the watching brief were to determine the location, character, extent and quality of any features or objects of archaeological importance that may survive within the application area, and which may be damaged or destroyed by this development.

## **2. WORKING METHODS**

- 2.1.1 CFA Archaeology Ltd follows the Institute of Field Archaeologists' Code of Conduct, Standards and Guidance for Archaeological Watching Briefs.
- 2.1.2 The removal of soil deposits was carried out using a combination of bulldozers and 360° excavators. This programme of works was carried out under constant archaeological supervision.
- 2.1.3 All excavation and on-site recording was carried out according to standard CFA procedures, principally by drawing, by photography and by completing standard CFA record forms.

### 3. ARCHAEOLOGICAL RESULTS

#### 3.1 General

- 3.1.1 The groundwork monitored consisted of the parts of the proposed access road that deviated from the existing track and an area next to the proposed substation that was earmarked for a construction compound (Fig. 1).
- 3.1.2 The topsoil (**001**) varied considerably across the area. Some of the wet low lying areas contained up to c.3m of peat overlying grey clay, whereas the well draining knolls were covered by a thin layer of turf overlying orange/grey-brown sand and bedrock.
- 3.1.3 Although there were no sub-surface features or deposits of archaeological significance identified during groundbreaking operations, surface observation led to the identification of a probable pre-improvement agricultural settlement (NGR: NN 3156 1767 centred) and possible associated field boundaries (Fig. 2). A degree of vegetation clearance was undertaken before the decision was taken to alter the line of the proposed access road so that these features (Sites 1 to 13) could be preserved *in situ* (Fig. 5 and Fig. 6).
- 3.1.4 The settlement is situated next to a small watercourse and consists of three possible enclosures (**Site 1**, **Site 7** and **Site 8**), an arc of possible walling (**Site 2**) surrounding an area of rig and furrow (**Site 3**), a stone defined enclosure (**Site 4**), a probable creel house with attached enclosure (**Site 5**), a small square structure (**Site 6**) attached to the northern wall of the enclosure and two possible rectangular structures (**Site 9** and **Site 10**) (Fig. 2 and Fig. 3). Possible associated features consist of a revetment wall (**11**) (Fig. 2 and Fig. 4) situated c.300m to the north of the settlement and two east-west orientated field boundary walls (**12** and **13**) (Fig. 2) situated c.100m and 150m to the south of the settlement. The following section contains further details on the sites identified.
- 3.1.5 Roy's military map of c.1750 (Roy c.1750) (Fig. 7) depicts a small settlement annotated 'Garball' that potentially lies within the proposed development area. The location of this settlement may correspond with the upstanding remains recorded. A settlement named as 'Garabal' on the Ordnance Survey 1st Edition map of 1864 is shown on the east side of the A82 and still survives as a ruin (NMRS no. NN31NW 8). The upstanding features recorded during the watching brief lie to the north-west of the 'Garabal' depicted on the OS 1st Edition map and are not shown on that map. Slightly to the north-west of the 19th century is a modern farmstead situated on the west side of the A82, which also has Garabal as its name; this building appears to replace the farmstead shown on the 1st Edition map.
- 3.1.6 It appears, therefore, that the settlement name of Garball/Garabal has survived but that the settlement itself has shifted around slightly within this area over the last two or three hundred years.

## 3.2 Archaeological Sites (Fig. 2, Fig. 3 and Fig. 4)

### *Site 1*

- 3.2.1 Site 1 consists of a possible enclosure that was identified from aerial photographs. It measures c.15m by c.10m and is situated on a flat-topped knoll overlooking the settlement. There are no visible upstanding remains, but the probable location of the enclosure was defined by an area of bluebells.

### *Site 2*

- 3.2.2 Site 2 consists of a small arc of possible walling surrounding an area of rig and furrow (Site 3). It is constructed from rough irregular boulders no more than 0.4m high.

### *Site 3*

- 3.2.3 Site 3 consists of an area of east to west orientated rig and furrow measuring c.20m north to south by c.10m east to west. The rigs measure c.2m from crest to crest and the furrows have a depth of up to c.0.2m. The narrow gap between the crests suggests that the rig and furrow would have been hand dug.

### *Site 4*

- 3.2.4 Site 4 consists of a stone defined enclosure, which is situated immediately to the north of the area of rig and furrow (Site 3). The enclosure measures 11m east to west by 4m north to south and is constructed from rough irregular boulders. A single course of stones measuring up to c.0.3m in height was still in evidence.

### *Site 5*

- 3.2.5 Site 5 (Fig.5 and Fig.6) consists of a probable creel house with an attached enclosure that would probably have served as a kale yard. The creel house measures 12m from north to south by 6m east to west and is constructed from rough irregular boulders and turf. One to two courses of stonework measuring up to c.0.5m in height are still in evidence and the walls are c.1m thick.

- 3.2.6 The enclosure measures c.22m east to west by 15m north to south and is defined by turf and stone walls similar to those used in the construction of the creel house. It contains rig and furrow, which was aligned in an east to west direction and measures c.15m – 20m in length. The rigs measure c.2m from crest to crest and the furrows have a depth of up to c.0.2m.

### *Site 6*

- 3.2.7 Site 6 consists of a small square structure that was attached to the north east corner of enclosure 5. The structure measures c.3m by 3m and consists of three sides of rough irregular boulders forming a single course with a height of

up to c.0.4m and a width of c.1m. It appears to have an entrance leading into enclosure 5.

*Site 7*

- 3.2.8 Site 7 consists of a possible structure, which was situated to the north of enclosure 6. It measures 14m from north to south by 6m east to west and was defined by irregular boulders and an area of bluebells.

*Site 8*

- 3.2.9 Site 8 consists of a possible enclosure measuring 14m by 12m, which is defined by irregular boulders. There was no clear evidence that this feature was archaeological in nature and it might just be a rocky knoll.

*Site 9*

- 3.2.10 Site 9 consists of a possible rectangular structure that was identified to the immediate west of an existing field boundary wall, directly to the east of the existing access track. It is defined by bracken-topped banks measuring c.12m north to south by 4m east to west. This possible structure may be bunds of spoil relating to the construction of the existing track.

*Site 10*

- 3.2.11 Site 10 consists of a possible further rectangular structure, defined by bracken-topped banks. It measures c.6m north to south by 4m east to west. This possible structure may be bunds of spoil relating to the construction of the existing access track.

*Site 11*

- 3.2.12 Site 11 consists of an 80m length of curving revetment wall bordering a small area of improved land. It is constructed from rough irregular boulders with an outer face measuring up to c.1.5m in height. Slight traces of possible rig and furrow were identified within the area of improved land bordered by the wall. This feature is located c.300m to the north of the settlement.

*Site 12*

- 3.2.13 Site 12 consists of an east to west orientated turf and stone field bank, which is situated c.100m to the south of the settlement. It measures up to 4.5m in width and is upstanding to a height of 0.8m above the subsoil (002). The field bank has been cut by the existing access track.

*Site 13*

- 3.2.14 Site 13 consists of an east to west orientated drystone wall, which is situated c.150m to the south of the settlement. It measures up to 1m in width and was upstanding to a height of 0.5m. The wall had previously been crossed by the

existing rough access track, resulting in its removal across the width of the track.

#### **4. CONCLUSIONS**

- 4.1 The upstanding remains of what is believed to be a pre-improvement agricultural settlement were identified during a watching brief for an access road leading to the proposed Inverarnan 275-132kV substation. The line of the access road was altered to allow the settlement to be preserved *in situ*. It is probable that the settlement relates to a small township depicted on Roy's c.1750 map. The township is annotated 'Garball'. No further remains were identified during the ground breaking works.
- 4.2 The project archive, comprising all CFA record sheets, maps and reports, will be deposited with the National Monuments Record of Scotland (NMRS) and copies of reports will be lodged with the West of Scotland Archaeology Sites and Monuments Record.
- 4.3 A summary statement of the results of this watching brief will be submitted for publication in *Discovery and Excavation in Scotland* (Appendix 3).

#### **5. REFERENCES**

Ordnance Survey 1864 Dumbartonshire 1:10,560, Sheet II (Inset Sheet I)

Roy, W 1747-55 Military Survey of Scotland, Map sheet C.9.b 14/3c



## APPENDIX 1: Context Register

Context	Description
001	Topsoil
002	Subsoil

## APPENDIX 2: Photographic Register

### *Colour Slide Film and Digital*

#### Film 1

Shot	Digital Jpeg	Description	Condition	From
1		Registration shot		
2-3	DSCN0692	CH 120 to 180 before excavation	Sunny	SE
4-5	DSCN0693	CH120 to 180 after excavation	Sunny	S

#### Film 2

Shot	Digital Jpeg	Description	Condition	From
1-2		General working shots circa. CH 4± 50m	Sunny Sunny	E S
3-4	0337001 0338002	Site 12 - turf and stone bank	Sunny	E
5-6	03390003 03400004	Site 12 - turf and stone bank, east facing section	Sunny	E
7-8	03410005 03420006	Site 13 – section of wall to west of soil strip area	Sunny	W
9-10	03430007 03440008	Site 13 – section of wall to east of soil strip area	Sunny	E
11-14		General working shots showing c. CH 4 + 100m	Sunny	Various
	03450009 03460010	Bog Oak from circa. CH 4+00m	Sunny	

#### Film3

Shot	Digital Jpeg	Description	Condition	From
1-6	03470001 03480002 03490003 03500004 03510005 03520006	Site 5 - general view of creel house and kale yard	Sunny	S
7-8	03530007 03540008	Site 5 - general view of creel house and kale yard	Sunny	NW
9-10	03550009 03560010	General view of creel house and kale yard (Site 5)	Sunny	W
11-12	03570011 03580012	Site 5 - creel house	Sunny	S
13-14	03590013 03600014	Site 6 - small enclosure attached to the north of the kale yard	Sunny	W
15-16	03610015 03620016	Site 7 – possible structure to the north of kale yard	Sunny	S

17-18	03630017 03640018	Site 5 – creel house	Sunny	W
19-20	03650019 03660020	Site 11 – upstanding field boundary wall	Sunny	NE
21-22	03670001 03670021	Site 11 – upstanding field boundary	Sunny	SW
23-28	03690002 03700003 03710001 03710004 03720002 03730003 03740004	Site 11 – showing sections of revetment wall	Bright	SE
29-30	03750005 03760006	Site 11 – shows possible traces of rig and furrow	Bright	NW

#### Film 4

Shot	Digital Jpeg	Description	Condition	From
	IMG_4318 to 4332	General views of site visit 29/05/08	Bright	
1-4	4333-4334	View of strimmed area of site 5 & 6 (foreground); 7 & 8 (background)	Sunny	S
	4335-4336	Close up view of site 5 and 6	Sunny	S
	4337	Enclosure - site 4	Sunny	SW
	4338	View of strimmed site	Sunny	S
5-6	4339-4340	General views of access road from knoll looking SE down Loch Lomond	Sunny	NW
7-8	4341-4342	Closer view of strimmed site 5 & 6	Sunny	E
9-10	4343	Close up of site 5 & 6	Sunny	S
11-12	4344	Site 5 – smashed chimney pot by stone in situ.	Sunny	NE
13-14	4345	Site 5 – close up of northern half building/creel house	Sunny	E

#### Film 5

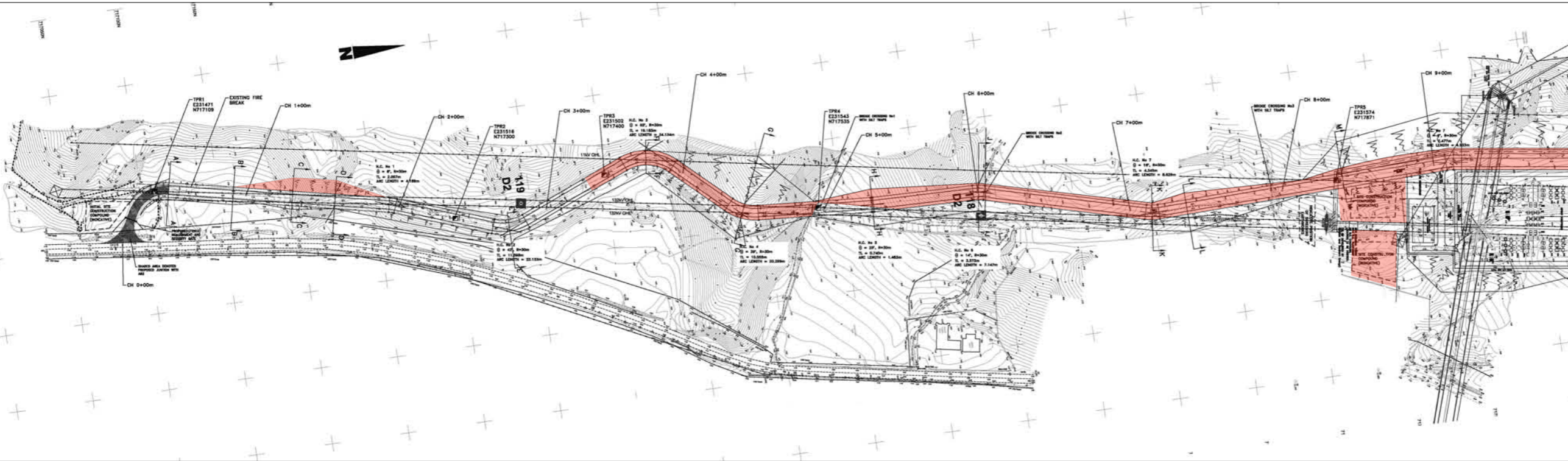
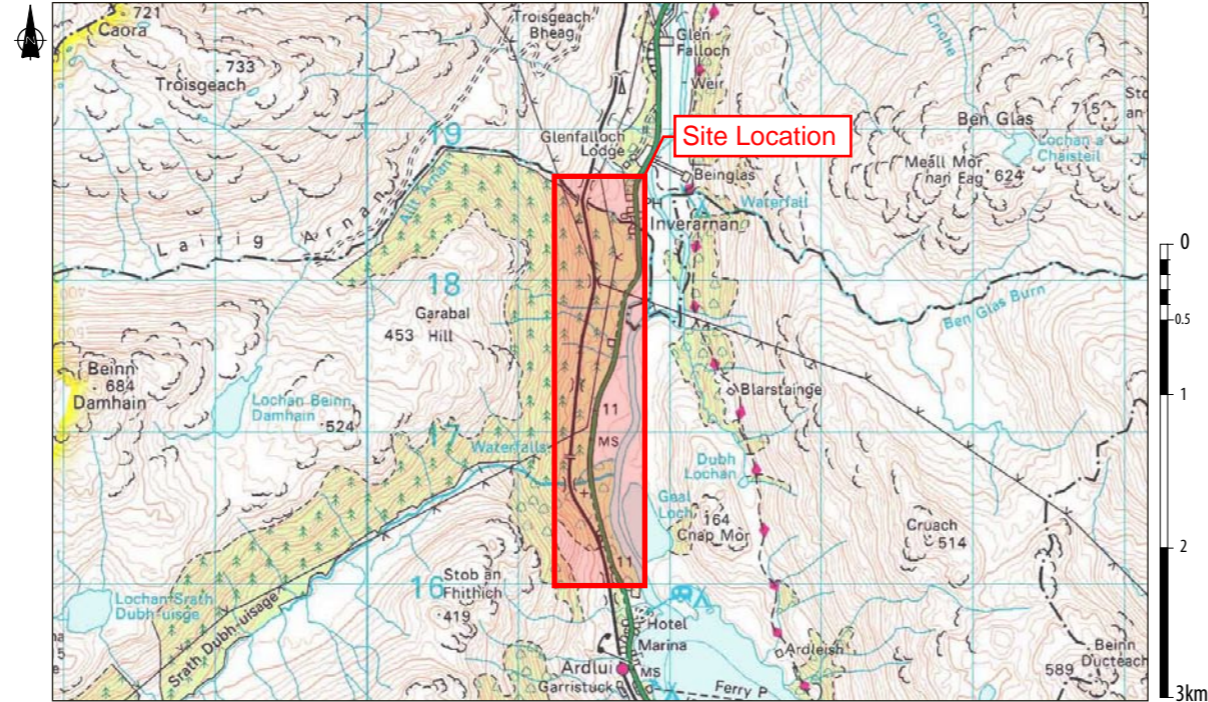
Shot	Digital Jpeg	Description	Condition	From
1-2	4346	Site 5 – close up of southern half of building/creel house	Sunny	E
3-4	4347	Site 6 – possible structure NE corner of site 5	Sunny	NW
5-8	4348	Site 5 – eastern section of rig & furrow within the kale yard	Sunny	NW
9-12	4349-4350	Site 5 – eastern and western halves of kale yard with rig and furrow	Sunny	N
13-14	4352	Site 5 – lazy bed in kale yard	Sunny	E
15-16	4352-4353	Site 7 – situated to north of site 5/6 after cleaned	Sunny	S
17-18	4355	Site 7 (possible enclosure)	Sunny	E
19-20	4356-4357	Site 4 – enclosure (or poss. remains of house) adjacent to the pylon	Bright	SW
21-22	4358-4359	Site 4	Bright	NE

## APPENDIX 3

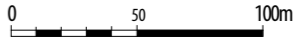
### Discovery and Excavation in Scotland Entry

<b>LOCAL AUTHORITY:</b>	Argyll and Bute Council
<b>PROJECT TITLE/SITE NAME:</b>	Inverarnan 275-132kV Substation, Inverarnan by Ardlui, Loch Lomond and the Trossachs National Park, Argyll and Bute
<b>PROJECT CODE:</b>	INAN
<b>PARISH:</b>	Arrochar
<b>NAME OF CONTRIBUTOR:</b>	Magnus Kirby
<b>NAME OF ORGANISATION:</b>	CFA Archaeology Ltd
<b>TYPE(S) OF PROJECT:</b>	Watching brief
<b>NMRS NO(S):</b>	N/A
<b>SITE/MONUMENT TYPE(S):</b>	N/A
<b>SIGNIFICANT FINDS:</b>	Pre-improvement agricultural settlement
<b>NGR (2 letters, 6 Figures)</b>	NN 3156 1767
<b>START DATE (this season)</b>	May 2008
<b>END DATE (this season)</b>	July 2008
<b>PREVIOUS WORK (incl. DES ref.)</b>	N/A
<b>MAIN (NARRATIVE) DESCRIPTION:</b> (May include information from other fields)	<p>The upstanding surface remains of what is believed to be a pre-improvement agricultural settlement was identified during a watching brief on groundworks for an access road for a proposed 275-132kV substation at Inverarnan, by Ardlui, in Loch Lomond and the Trossachs National Park. It is believed that these remains relate to a settlement depicted on Roy's c.1750 military map, which is annotated 'Garball'. A more recent farmstead situated immediately to the east of the proposed development area also has this name, but the spelling has been changed to 'Garabal'.</p> <p>The principle features associated with the settlement consisted of a probable creel house with an attached kale yard containing rig and furrow. A further area of rig and furrow was identified immediately to the south of the creel house on the opposite side of a small watercourse along with a stone built enclosure and a further enclosure that was only visible on aerial photographs. Immediately to the north of the creel house, there are a number of possible structures/enclosures, but these are very poorly preserved and there is a degree of uncertainty that they are actually archaeological in nature. The general area also contained a number of turf and stone field banks, one of which formed a revetment around the base of a knoll.</p> <p>All the features were identified immediately in advance of the groundworks and there were no additional features identified during the actual topsoil stripping. The line of the road was altered so that the settlement could be preserved <i>in situ</i>.</p>
<b>PROPOSED FUTURE WORK:</b>	None
<b>CAPTION(S) FOR ILLUSTRS:</b>	N/A
<b>SPONSOR OR FUNDING BODY:</b>	Scottish and Southern Energy plc
<b>ADDRESS OF MAIN</b>	The Old Engine House, Eskmills Park, Musselburgh, East Lothian,

<b>CONTRIBUTOR:</b>	EH21 7PQ
<b>EMAIL ADDRESS:</b>	cfa@cfa-archaeology.co.uk
<b>ARCHIVE LOCATION</b> (intended/deposited)	National Monuments Record for Scotland (NMRS)  West of Scotland Archaeology Services Sites and Monuments Record (SMR)



Area monitored during watching brief



Key:

**CFA** ARCHAEOLOGY LTD  
 CFA ARCHAEOLOGY LTD  
 The Old Engine House  
 Eskmills Park  
 Musselburgh  
 East Lothian, EH21 7PQ  
 t: 0131 273 4380  
 f: 0131 273 4381  
 e: info@cfa-archaeology.co.uk  
 w: www.cfa-archaeology.co.uk

Fig. No: 1 Revision: 0

Title:  
 Location map and area monitored during watching brief

Project:  
 Inverarnan 275 - 132 kV Substation

Scale:

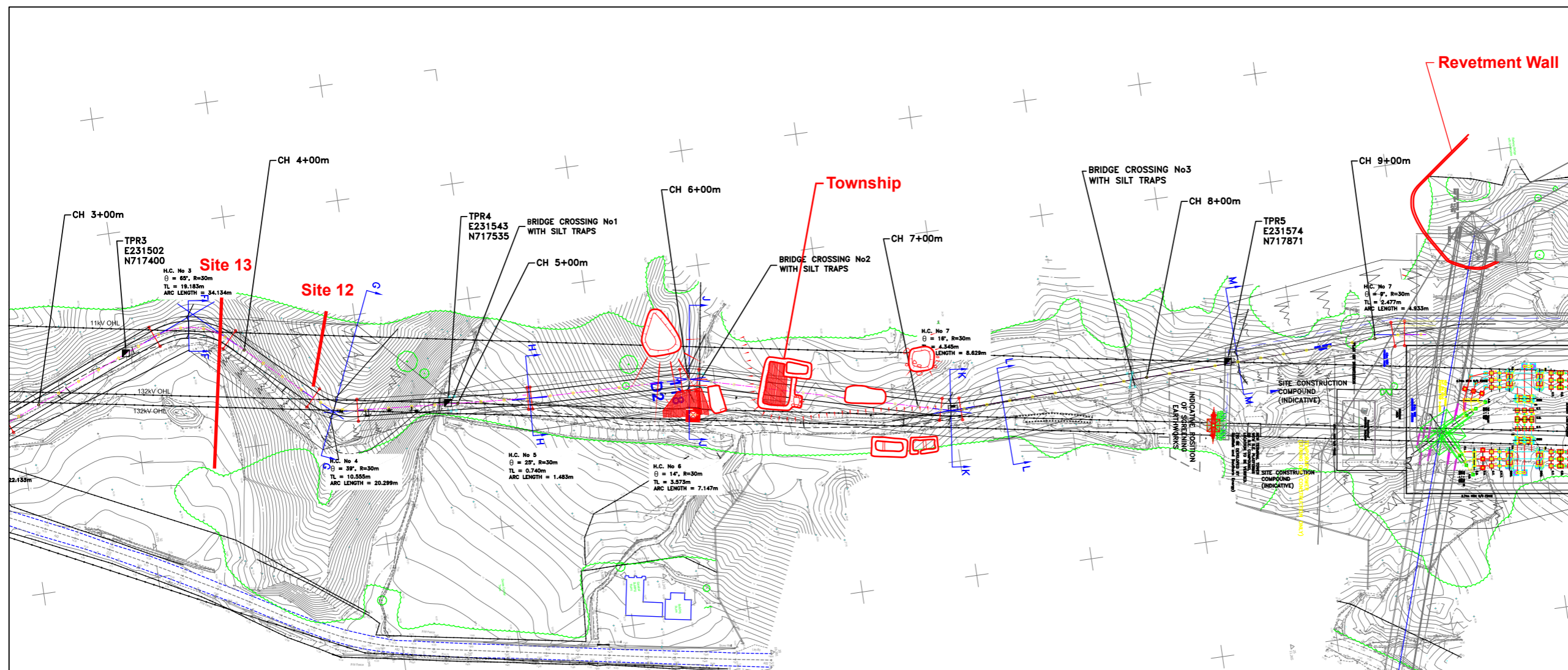
Client:  
 Scottish and Southern Energy plc

Drawn by: KC Page No:



IFA-registered archaeological organisation

Key:



**CFA** ARCHAEOLOGY LTD  
 The Old Engine House  
 Eskmills Park  
 Musselburgh  
 East Lothian, EH21 7PQ  
 t: 0131 273 4380  
 f: 0131 273 4381  
 e: info@cfa-archaeology.co.uk  
 w: www.cfa-archaeology.co.uk

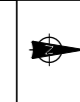
Fig. No:	2	Revision:	0
----------	---	-----------	---

Title:  
**Location of Archaeological Features**

Project:  
**Inverarnan 275 - 132 kV Substation**



Scale:  
**1:2000**

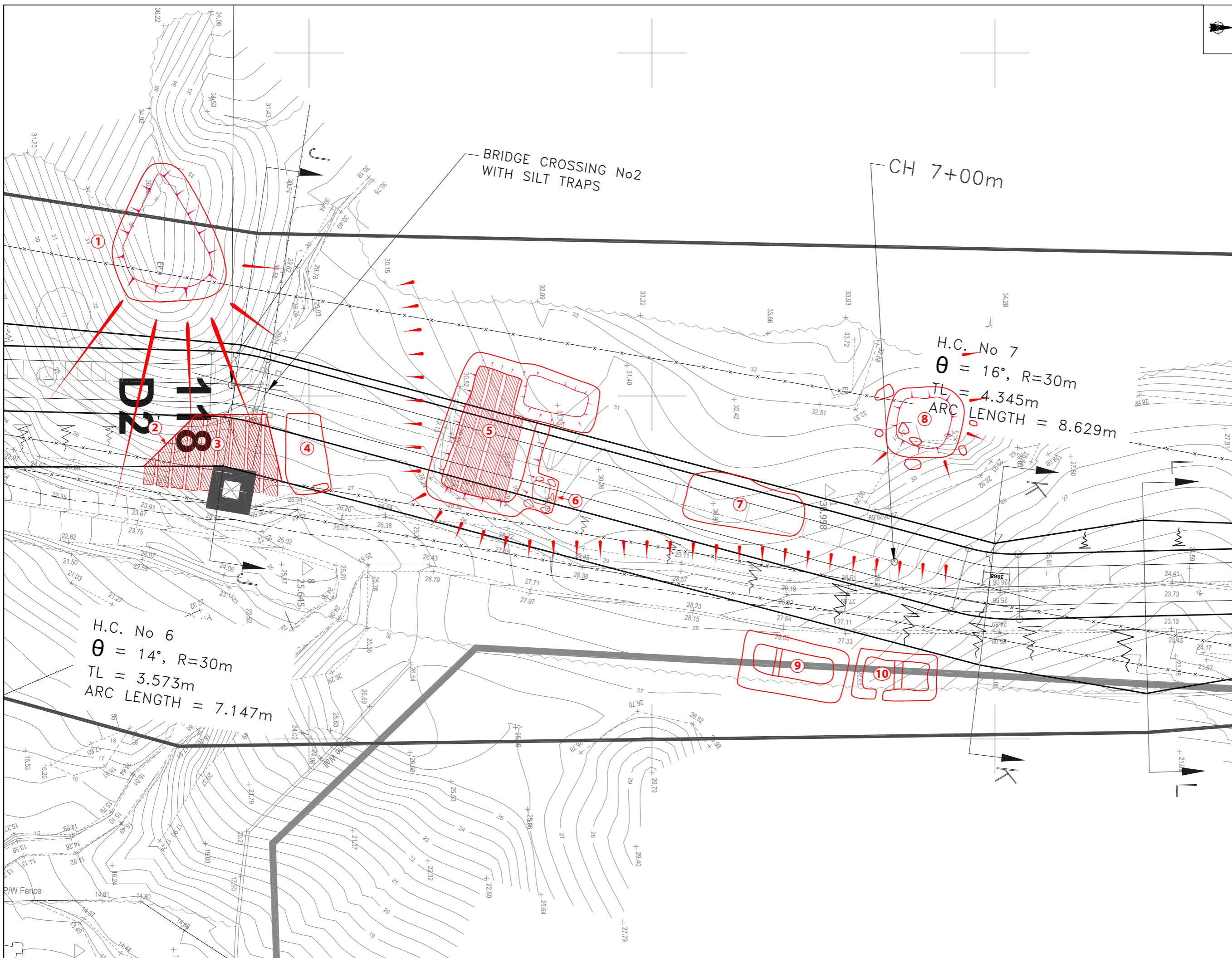
Client:  
**Scottish and Southern Energy plc**



IFA-registered archaeological organisation

Key:

-  Linear ridged cultivation
-  Archaeological Features and Building remains



**CFA** ARCHAEOLOGY LTD  
 The Old Engine House  
 Eskmills Park  
 Musselburgh  
 East Lothian, EH21 7PQ  
 t: 0131 273 4380  
 f: 0131 273 4381  
 e: info@cfa-archaeology.co.uk  
 w: www.cfa-archaeology.co.uk

Fig. No: **3**      Revision: **0**

Title:  
**Detailed plan of the settlement**

Project:  
**Invermanan 275 - 132 kV Substation**

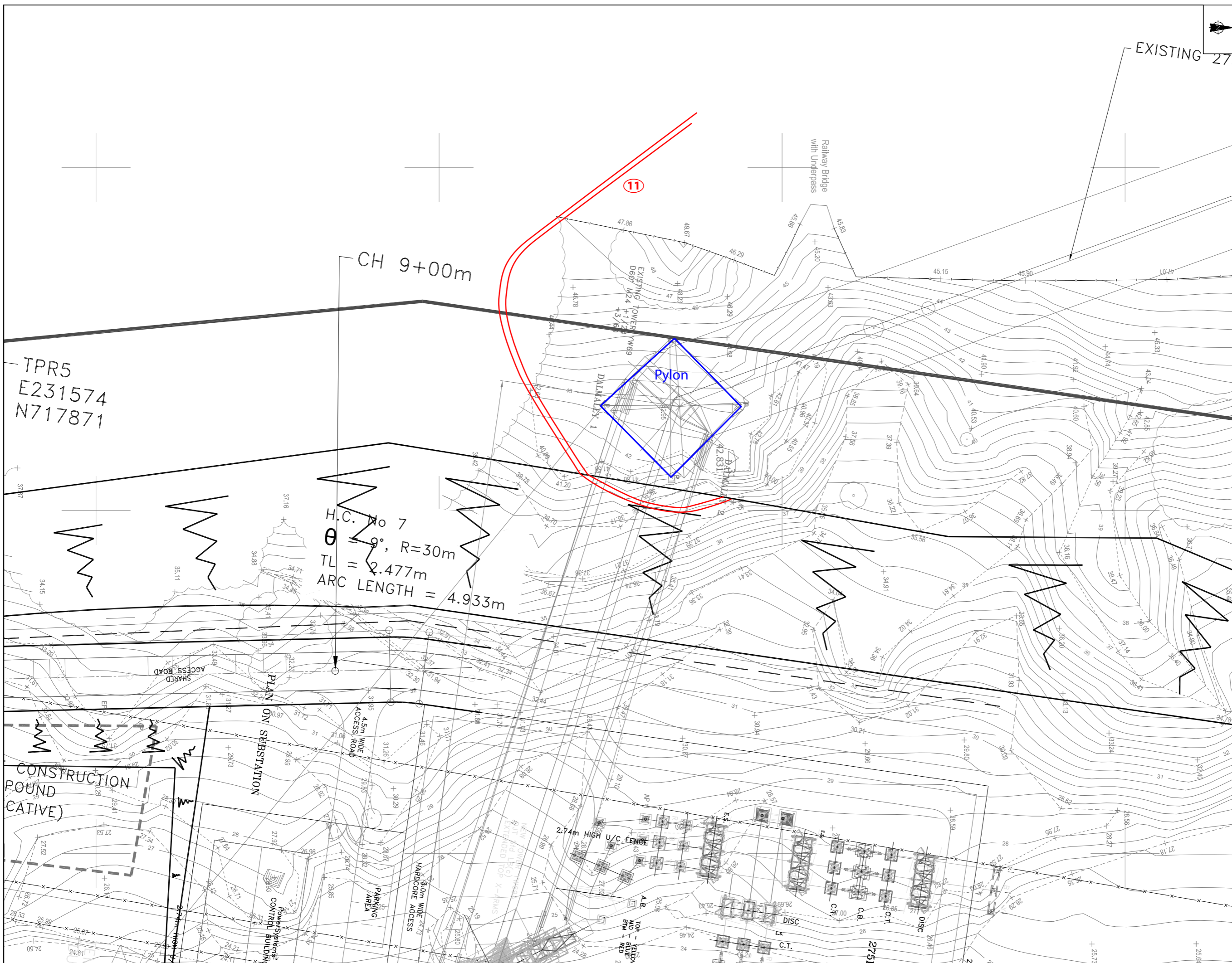
Scale:  
**1:500 @ A3**

Client:  
**Scottish and Southern Energy plc**

Drawn by: **LW**      Page No:



Key:  
 ① Archaeological Features



**CFA** ARCHAEOLOGY LTD  
 The Old Engine House  
 Eskmills Park  
 Musselburgh  
 East Lothian, EH21 7PQ  
 t: 0131 273 4380  
 f: 0131 273 4381  
 e: info@cfa-archaeology.co.uk  
 w: www.cfa-archaeology.co.uk

Fig. No: 4 Revision: 0

Title:  
**Detailed plan of the Revetment Wall**

Project:  
**Inverarnan 275 - 132 kV Substation**

Scale:  
**1:500 @ A3**

Client:  
**Scottish and Southern Energy plc**





Fig. 5 - Site 5 from South prior to vegetation clearance



Fig. 6 - Site 5 from South following vegetation clearance

Key:

Fig. Nos: **5 & 6**

Revision: **0**

Client: **Scottish and Southern Energy plc**

Title:  
**Plates**

Project:  
**Inverarnan 275 - 132 kV Substation**

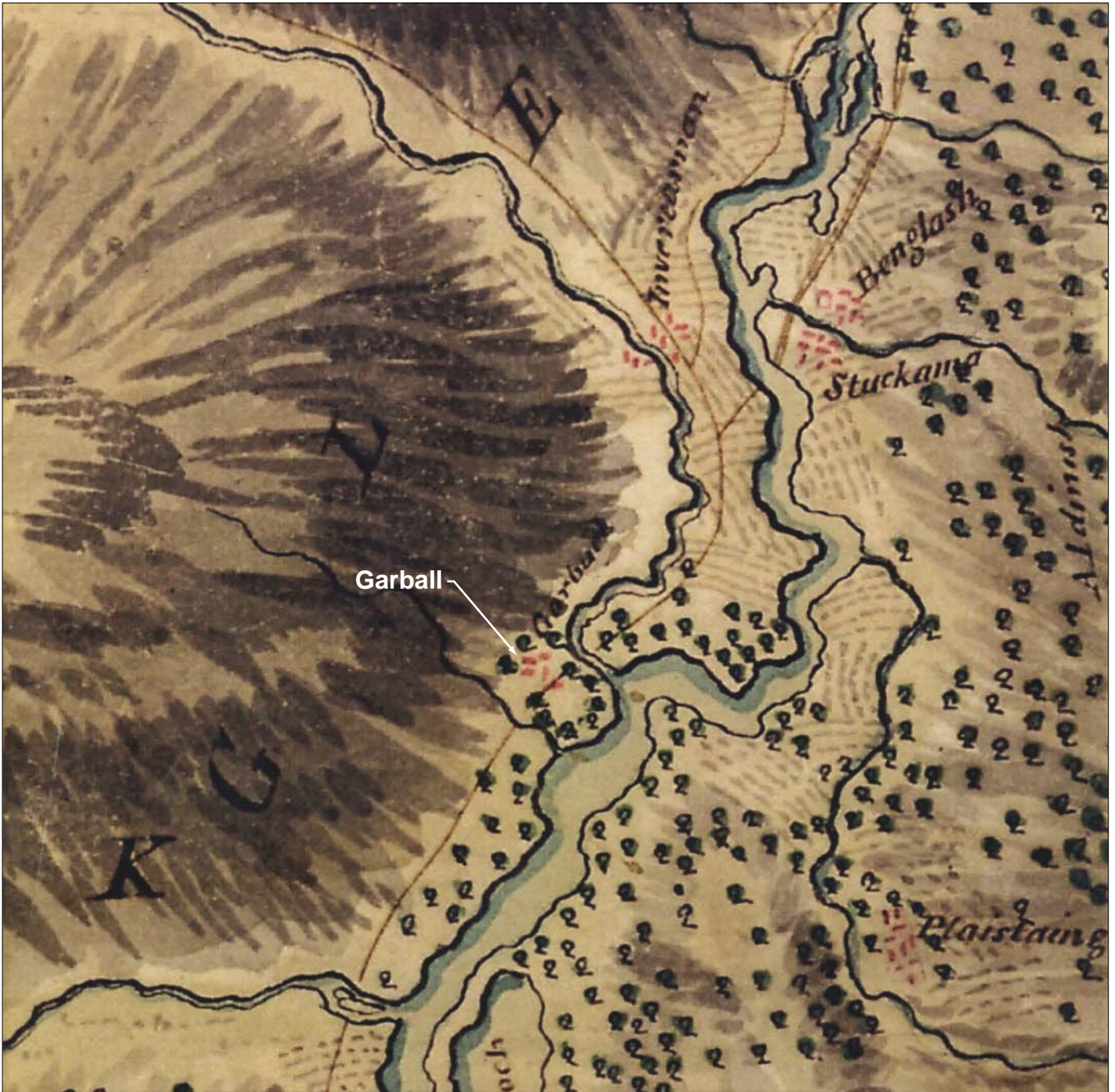
Scale:



**CFA ARCHAEOLOGY LTD**  
The Old Engine House  
Eskmills Park  
Musselburgh  
East Lothian, EH21 7PQ  
t: 0131 273 4380  
f: 0131 273 4381  
e: info@cfa-archaeology.co.uk  
w: www.cfa-archaeology.co.uk

Drawn by:  
**KC**

Page No:



Key:

Fig. Nos: 7

Revision: 0

Client: Scottish and Southern Energy plc

Title:

Roy's map showing the settlement of Garball

Project:

Inverarnan 275 - 132 kV Substation

Scale:



CFA ARCHAEOLOGY LTD  
The Old Engine House  
Eskmills Park  
Musselburgh  
East Lothian, EH21 7PQ  
t: 0131 273 4380  
f: 0131 273 4381  
e: info@cfa-archaeology.co.uk  
w: www.cfa-archaeology.co.uk

Drawn by: KC

Page No: