

# CFA Archaeology Ltd

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*Geophysical Survey*

**Land West of Station Road,  
Armadale, West Lothian (Areas 1-3).  
Archaeological Evaluation.**

**Data Structure Report  
No. 1891**

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

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## **1. INTRODUCTION**

### **1.1 General**

This report presents the results of an archaeological evaluation undertaken by CFA Archaeology Ltd (CFA) in April 2011 within the Armadale Station Masterplan Area (1044/P/08 and 0814/FUL/10). This report specifically relates to Areas 1-3 (NGR: NS 93491 67231) (Fig. 1 & 2). The work was commissioned by EMA Architecture + Design Ltd *per* EWP Investments.

A desk-based assessment of the development area was previously undertaken by CFA for inclusion in the Environmental Statement that was submitted in support of the planning application. No previous invasive archaeological fieldwork is known to have taken place within the proposed development area prior to this evaluation.

A Written Scheme of Investigation (WSI) for the evaluation was produced by CFA. The WSI was agreed in advance by the West of Scotland Archaeology Service (WoSAS).

### **1.2 Objectives**

The objectives of the project were:

- to establish the presence/absence, extent, condition, character, quality and date of any archaeological features or deposits within the proposed development area;
- to establish their vulnerability to the proposed development; and,
- to propose mitigation measures where appropriate to avoid, reduce or offset any predicted negative impacts on the archaeological resource.

## **2. WORKING METHODS**

### **2.1 General**

Work was conducted with regard to the Institute for Archaeologists' (IfA) *Standard and Guidance for an Archaeological Evaluation and Code of Conduct*.

The evaluation covered three areas (Areas 1-3). Trenching started in Area 3 and progressed through Area 2 with Area 1 being the final area. Therefore, trench numbering starts at Trench 1 in Area 3.

### **2.2 Evaluation Strategy**

The total site area for Area 1 was 5.313ha: sixty-two trial trenches were opened which examined 4276m<sup>2</sup>, slightly over 8% of the total area. Area 2 was 2.292ha: thirty-six trial trenches were opened which examined 2110m<sup>2</sup>, slightly over 8% of the total area. Area 3 was 0.057ha: two trial trenches were opened which examined 56m<sup>2</sup>, slightly over 8% of the total area.

The trenches were excavated by machine under direct archaeological supervision to remove topsoil and other soil deposits down to subsoil or the first significant archaeological horizon, whichever was reached first.

Samples of all features of archaeological interest were hand excavated in order to establish their likely date, nature, extent and condition.

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

Trench locations were recorded using industry standard surveying equipment and the trenches were backfilled on completion of recording.

### **3. ARCHAEOLOGICAL RESULTS**

#### **3.1 General**

Appendix 1 contains a tabulated summary of trench dimensions and a list of the features encountered.

An indicative trench plan was provided with the WSI; however, the site contained some marshy areas with deep peat, surface drains, and undulating topography, resulting in some variation from the indicative trench plan. Areas of deep peat were tested but trenches filled rapidly with water (Fig. 3). Trenches were sited away from areas of deep peat in the west, north-west and south of Area 1 and from steeply sloping ground on the south side of Area 1 and 2, to cover topographically more promising areas.

#### **3.2 Evaluation – Area 1**

Sixty-two trenches (Fig. 2, Appendix 1) were excavated within Area 1 (Trenches 39-100). No features of archaeological significance were identified.

Traces of rig-and-furrow cultivation were identified in Trenches 6, 68, 70-80, 83, 84 & 90. It was aligned E-W or NE-SW and it appeared to be of the straight broad rig type with an average width of 1.5-2m and a wavelength of 3-5m.

#### **3.3 Evaluation – Area 2**

Thirty-six trenches (Fig. 2, Appendix 1) were excavated within Area 2 (Trenches 3-38). No features of archaeological significance were identified.

Traces of rig-and-furrow cultivation were identified in Trenches 3, 4, 5, 18, 24, 25 & 37 (Fig. 4). It was aligned NE-SW and NW-SE and it appeared to be of the straight broad rig type with a width of 1.5-2m and a wavelength of 3-5m.

#### **3.4 Evaluation – Area 3**

Two trenches (Fig. 2, Appendix 1) were excavated within Area 3 (Trenches 1-2). No features of archaeological significance were identified.

Traces of rig-and-furrow cultivation were identified in Trenches 1 & 2 (Fig. 5). It was aligned NE-SW and it appeared to be of the straight broad rig type with a width of c.2m.

#### **4. CONCLUSIONS AND RECOMMENDATIONS**

Overall, 100 trial trenches were excavated which covered 6442m<sup>2</sup> or greater than 8% of each of the three areas (Areas 1-3) evaluated. No features of archaeological significance were identified although the remains of rig-and-furrow cultivation were identified on the better drained areas within the development sites.

Based on the results of the evaluation CFA recommend that no further work is required; however, the responsibility for deciding the scope of any further work lies solely with WoSAS on behalf of the planning authority.

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 WoSAS.

A summary statement of the results of this evaluation will be submitted for publication in *Discovery and Excavation in Scotland 2011*.

## APPENDIX 1: SUMMARY OF EVALUATION TRENCHES

### *Area 1*

Trench No.	Dimensions	topsoil Depth (m)	Comments
39	40 x 2	0.3-0.4	
40	40 x 2	0.3-0.4	
41	40 x 2	0.3	
42	30 x 2	0.3	
43	40 x 2	0.3	
44	40 x 2	0.3	
45	40 x 2	0.3	
46	40 x 2	0.3	
47	25 x 2	0.2	
48	30 x 2	0.2-0.3	
49	40 x 2	0.1-0.2	
50	40 x 2	0.2	
51	25 x 2	0.2	
52	25 x 2	0.3-0.4	0.2m of peat occurring below topsoil
53	40 x 2	0.4	0.4m of peat occurring below topsoil
54	40 x 2	0.4	0.4m of peat occurring below topsoil
55	40 x 2	0.4	0.8m of peat occurring below topsoil
56	25 x 2	0.3	0.6m of peat occurring below topsoil
57	30 x 2	0.3	0.6m of peat occurring below topsoil
58	40 x 2	0.3	
59	25 x 2	0.3	0.8m of peat occurring below topsoil
60	40 x 2	0.3-0.4	0.2m-0.5m of peat occurring below topsoil
61	30 x 2	0.3	0.4m of peat occurring below topsoil
62	40 x 2	0-0.3	0.6m of peat occurring below topsoil
63	40 x 2	0.1-0.3	
64	30 x 2	0.4	1 x Cultivation furrow aligned E-W.
65	30 x 2	0.15-0.3	0.2m-0.4m of peat occurring below topsoil
66	30 x 2	0.25	0.9m of peat occurring below topsoil
67	30 x 2	0.25	
68	30 x 2	0.35	1 x Cultivation furrow aligned NW-SE
69	40 x 2	0.4	0.4m – 1m of peat occurring below topsoil
70	40 x 2	0.35	5 x Cultivation furrows aligned NE-SW
71	40 x 2	0.15-0.3	3 x Cultivation furrows aligned NE-SW. Up to 0.25m of peat occurring below topsoil
72	40 x 2	0.25-0.3	1 x Cultivation furrow running NE-SW Up to 0.6m of peat occurring below topsoil
73	40 x 2	0.25-0.35	7 x Cultivation furrows aligned NE-SW
74	40 x 2	0.2-0.3	3 x Cultivation furrows aligned NE-SW
75	30 x 2	0.1-0.3	3 x Cultivation furrows aligned NE-SW.
76	30 x 2	0.2	1 x Cultivation furrow aligned NE-SW
77	30 x 2	0.2-0.3	3 x Cultivation furrows aligned NE-SW
78	40 x 2	0.2-0.35	2 x Cultivation furrows aligned NE-SW
79	40 x 2	0.3	5 x Cultivation furrows aligned NE-SW
80	40 x 2	0.3	3 x Cultivation furrows aligned NE-SW
81	40 x 2	0.3	
82	40 x 2	0.3	
83	40 x 2	0.3	1 x Cultivation furrow aligned NE-SW
84	40 x 2	0.3	2 x Cultivation furrows aligned NE-SW
85	20 x 2	0.3	
86	40 x 2	0.3	
87	40 x 2	0.3	



88	40 x 2	0.3	
89	35 x 2	0.3	
90	40 x 2	0.3	2 x Cultivation furrows aligned NE-SW
91	20 x 2	0.2	2.3m of peat occurring below topsoil
92	3 x 2	0.2	> 3m of peat occurring below topsoil.
93	25 x 2	0.2	0.4m of peat occurring below topsoil
94	40 x 2	0.25	0.25m - 0.7m of peat occurring below topsoil
95	20 x 2	0.3	
96	30 x 2	0.25	
97	40 x 2	0.2	
98	40 x 2	0.3	
99	30 x 2	0.25	
100	30 x 2	0.3	

## *Area 2*

<b>Trench No.</b>	<b>Dimensions (m)</b>	<b>topsoil Depth (m)</b>	<b>Comments</b>
3	40 x 2	0.3-0.4	3 x Cultivation furrows aligned NE-SW
4	40 x 2	0.3-0.4	2 x Cultivation furrows aligned NE-SW
5	40 x 2	0.4	2 x Cultivation furrows aligned NE-SW
6	40 x 2	0.4	
7	25 x 2	0.4	
8	25 x 2	0.4	
9	25 x 2	0.4	
10	20 x 2	0.4	
11	30 x 2	0.4	
12	40 x 2	0.4	
13	25 x 2	0.4	
14	25 x 2	0.3	
15	25 x 2	0.3	
16	25 x 2	0.3	
17	25 x 2	0.3	
18	25 x 2	0.3	1 x Cultivation furrow aligned NW-SE
19	25 x 2	0.3	
20	25 x 2	0.3	
21	25 x 2	0.3	
22	25 x 2	0.3	
23	25 x 2	0.3	
24	25 x 2	0.3	4 x Cultivation furrows aligned NW-SE
25	25 x 2	0.3	1 x Cultivation furrow aligned NW-SE
26	40 x 2	0.3	
27	40 x 2	0.3-0.5	0.3m of peat occurring below topsoil
28	25 x 2	0.3-0.5	0.4m of peat occurring below topsoil
29	40 x 2	0.5	0.9m of peat occurring below topsoil
30	25 x 2	0.3-0.5	
31	40 x 2	0.3	
32	40 x 2	0.5	0.6m of peat occurring below topsoil
33	25 x 2	0.3	
34	25 x 2	0.3	
35	25 x 2	0.3	
36	25 x 2	0.3	
37	25 x 2	0.3	1 x Cultivation furrow aligned NW-SE
38	30 x 2	0.5	0.6m of peat occurring below topsoil

### *Area 3*

<b>Trench No.</b>	<b>Dimensions</b>	<b>topsoil Depth (m)</b>	<b>Comments</b>
1	13 x 2	0.35	1 x Cultivation furrow aligned NE-SW
2	15 x 2	0.35	1 x Cultivation furrow aligned NE-SW

## **APPENDIX 2: PHOTOGRAPHIC REGISTER**

### *Area 1*

<b>Photo No.</b>	<b>Description</b>	<b>Taken from</b>
1-8	General view of spoil and hard-standing at SW end of site	Various
9	Trench 49 working shot	NE
10-12	Trench 48 working shots	S
13	Earlier test pit	
14-15	Trench 55 bogwood and peat	S
16	Trench 55 section	E
17	Trench 45 general view	E
18	Trench 43 general view	W
19	Trench 66 cinder path	S
20	Trench 47 general view	W
21	Trench 48 general view	SW
22	Trench 50 general view	S
23	Trench 92 general view	W
24	Trench 61 general view	N
25	Trench 62 general view	S
26	Trench 63 general view	W
27	Trench 67 general view	S
28	Trench 68 general view	E
29	Trench 73 general view	E
30	Trench 70 general view	S
31	Trench 77 general view	N
32	Trench 79 general view	S
33	Trench 83 general view	NW
34	Trench 90 general view	S
35	Trench 93 general view	N
36	Trench 91 peat section	W

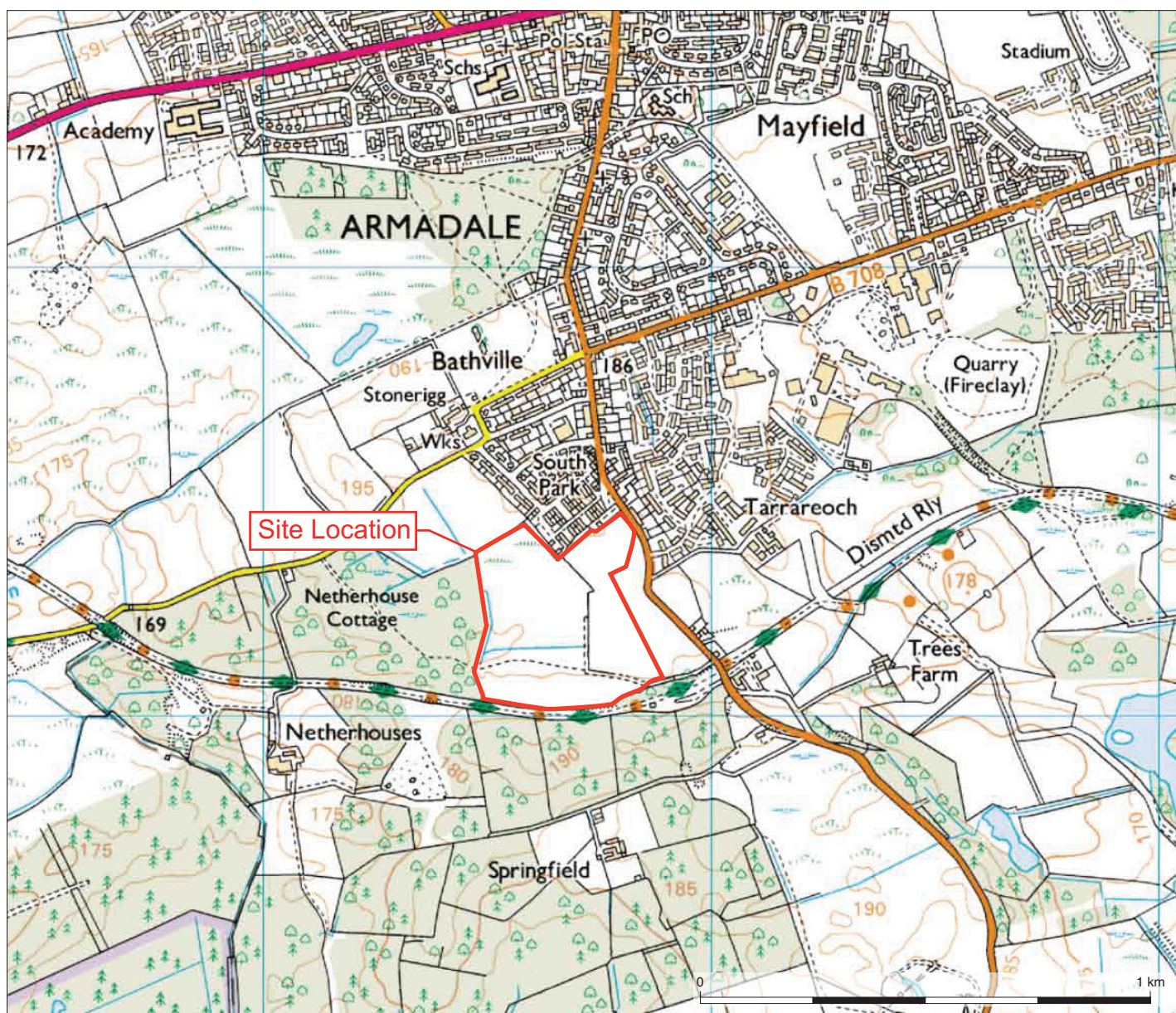
### *Area 2*

<b>Photo No.</b>	<b>Description</b>	<b>Taken from</b>
1	Trench 3 general view	N
2	Trench 4 general view	N
3	Trench 15 general view	S
4	Trench 16 general view	E
5	Trench 14 general view	W
6-7	N/A	E
8	Trench 6 general view	S
9	Trench 7 general view	W
10	Trench 23 general view	S
11	Trench 25 general view	NE
12	Trench 18 general view	S
13	Trench 13, cultivation furrow in section	NW
14	Trench 29 working shot	E
15	Trench 29 general view	W

16	General view of south end of site	SE
17-19	Trench 32 working shots	Various
20-22	Trench 37 cultivation furrow in section	W

### *Area 3*

<b>Photo No.</b>	<b>Description</b>	<b>Taken from</b>
1	Trench 1 general view showing cultivation furrow	SW
2	Trench 2 general view showing cultivation furrows	NW



Key:



Fig. No:

1

Revision:

A

Client:

EWP Investments

Title:

Location Map

Project:

Armadale Station, West Lothian

Scale:



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SW

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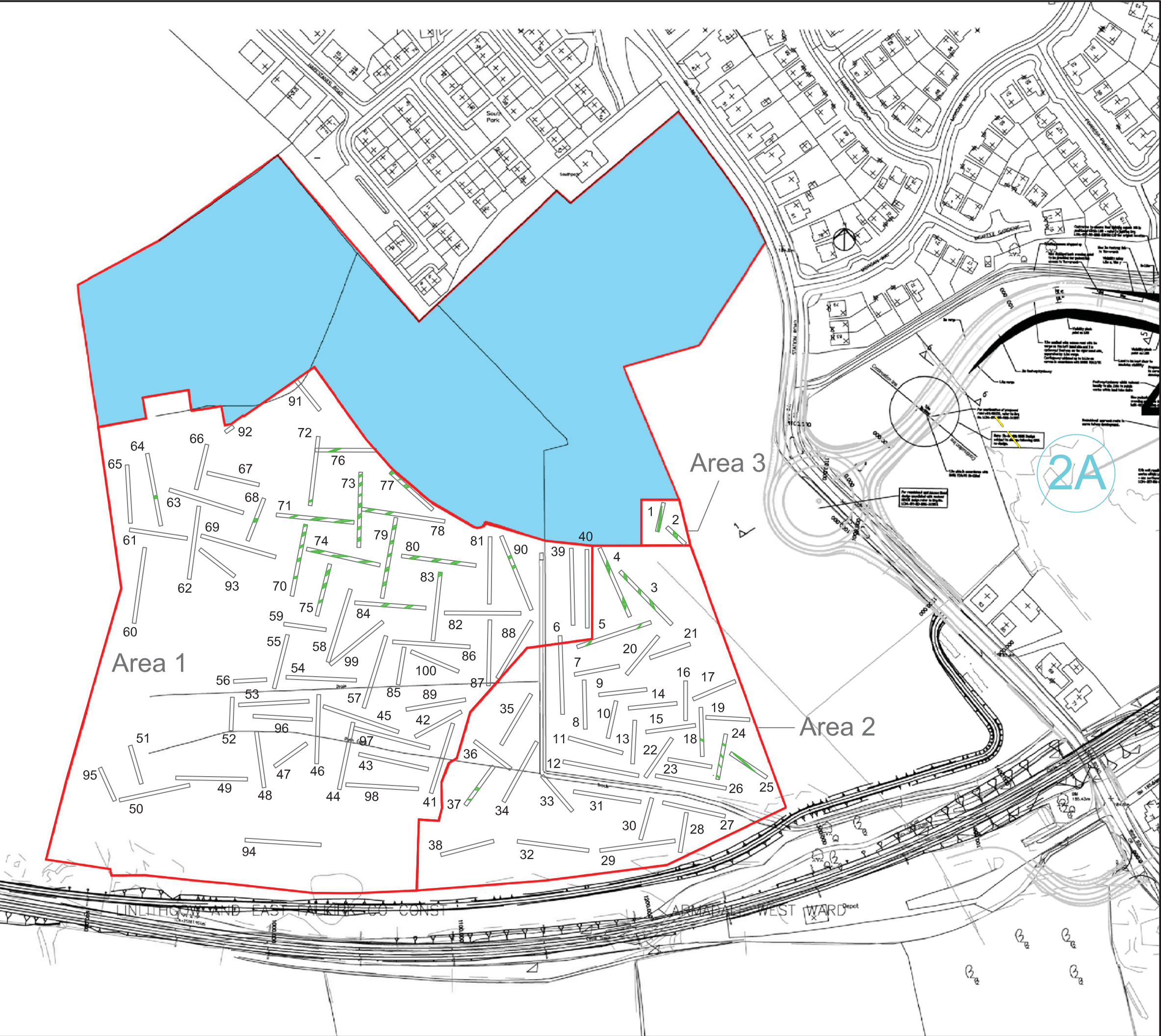
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Key:

 Rig and Furrow



2A

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Fig. No:	2	Revision:	A
Title:	Trench Plan		
Project:	Armadale Station, West Lothian		
Client:	EWP Investments		
Scale:	1:2000 A3		
Drawn by:	SW	Checked:	LW
Report No:	1891		







Fig 3 - Area 1, Trench 91, Deep peat in section



Fig 4 - Area 2, Trench 37, Section of cultivation furrow



Fig 5 - Area 3, Trench 1, Cultivation furrow

Key:		Fig. No:	3-5	Revision:	A	Client:	EWP Investments		 <div>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</div>					
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