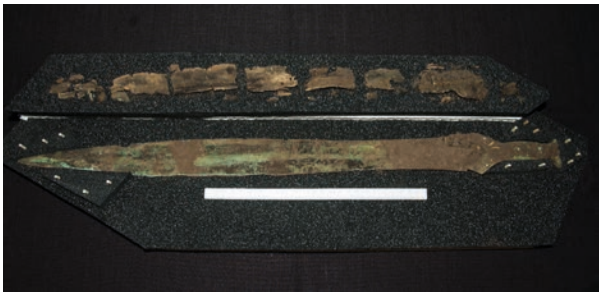
GUARD archaeology



Ailsa Drive, Kirkintilloch, Archaeological Evaluation
Data Structure Report
Project 4733

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Ailsa Drive, Kirkintilloch, Archaeological Evaluation

Data Structure Report

On behalf of: Scottish Water

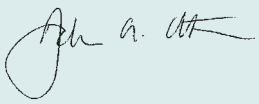
NGR: NS 66642 74662

Project Number: 4733

Report by: Maureen C. Kilpatrick

Illustrations: Jennifer Simonson

Project Manager: Warren Bailie

DRAFT	Warren Bailie Project Manager	**FINAL**	John Atkinson Managing Director
30/10/17		30/10/17	

This document has been prepared in accordance with GUARD Archaeology Limited standard operating procedures.

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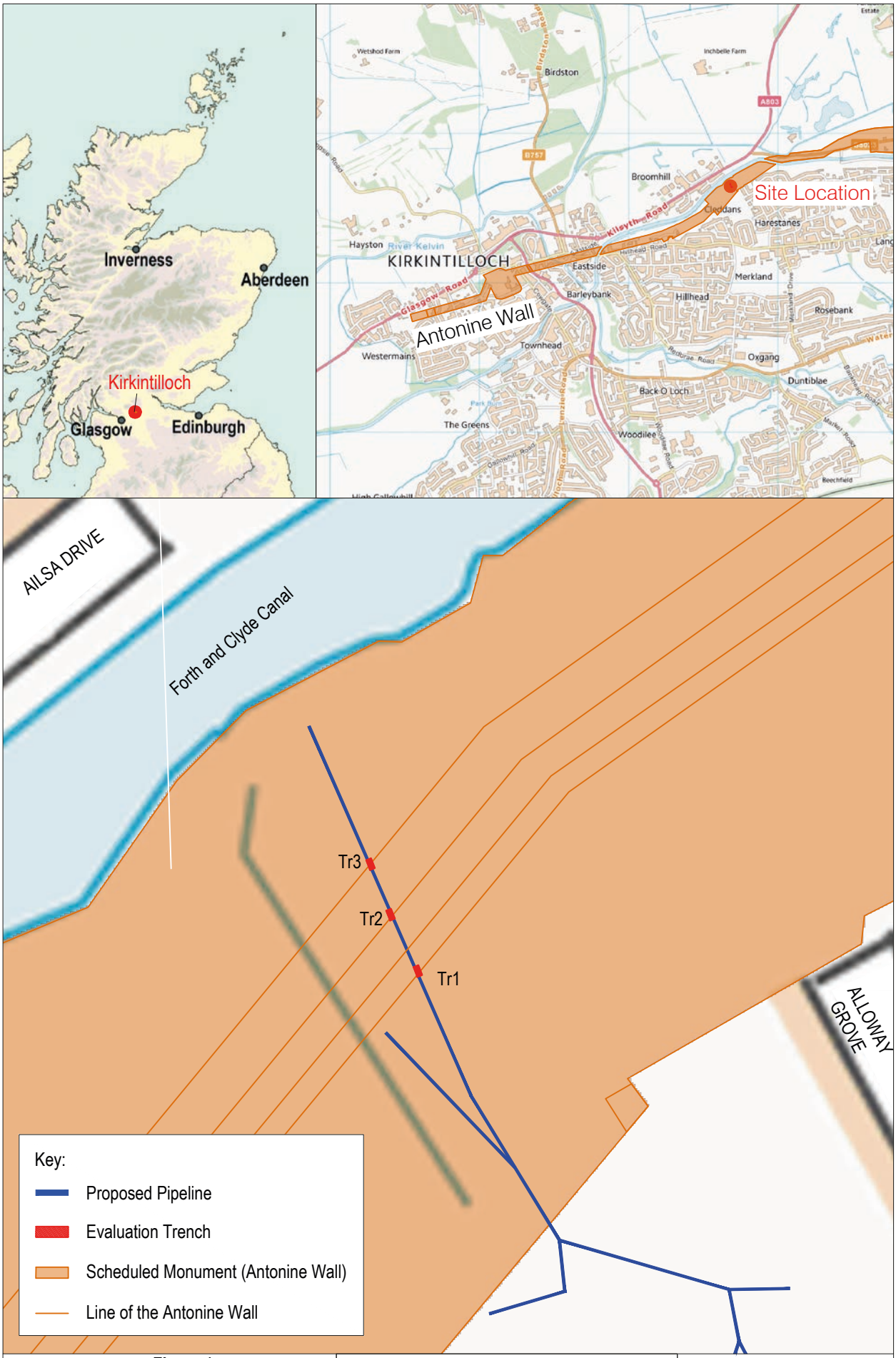

Figure 1:
Location Plan showing Trench Layout

Executive Summary

1.1 An archaeological (hand-excavated) evaluation was carried out by GUARD Archaeology Ltd at the proposed site for the installation of upsized sewer pipelines and a Combined Storm Overflow chamber at Ailsa Drive, Kirkintilloch, East Dunbartonshire (Figure 1). This work is to replace a pre-existing sewer pipe and associated structures. The works were prepared in consultation with East Dunbartonshire Council Archaeoological Advisor and Historic Environment Scotland (HES) with the aim of determining if archaeological deposits survive within the area of the proposed sewer works which lies across the line of the Antonine Wall, a UNESCO World Heritage Site which forms part of the Roman frontier system. During the work, three trenches were hand excavated along the route of the proposed pipeline with only one trench revealing any archaeological deposits, the possible stone base of the Antonine Wall rampart/military way. No further excavation work was carried out in relation to the finding, as per the protocol outlined by Historic Environment Scotland and the trench was backfilled once full recording had taken place.

Introduction

2.1 An archaeological (hand-excavated) evaluation was carried out at the proposed site for the installation of upsized sewer pipelines and a Combined Storm Overflow chamber at Ailsa Drive, Kirkintilloch, East Dunbartonshire. The work was carried out on behalf of Scottish Water and required Scheduled Monument Consent (Reference /Case ID 300020728) due to its location along a section of the Antonine Wall, which is not only a Scheduled Monument, but also part of the *Frontiers of the Roman Empire* (Antonine Wall) World Heritage Site (WHS). Both Historic Environment Scotland and East Dunbartonshire Council Archaeological Advisor acted as advisors to the work. The aim of the archaeological work was to establish the presence, extent and nature of any significant archaeological remains/deposits which survive within this area of the wall, which has been largely flattened. Should remains attributable to the Roman period be identified they must be preserved *in situ* to be compliant with the SPG and the protection of the Outstanding Universal Value (OUV) of the World Heritage Site (WHS).

2.2 The work was carried out between 16th October 2017 and 20th October 2017.

2.3 Both the fieldwork and report were conducted following Chartered Institute for Archaeologists (CIfA) guidance and standards of which GUARD Archaeology Limited is a Registered Organisation (By-laws: Code of Conduct, 2014). An OASIS entry has also been produced (Reference: guardarc1-299266).

Site Location, Topography and Geology

3.1 The development site is located opposite Ailsa Drive and across the Forth and Clyde Canal, Kirkintilloch, in East Dunbartonshire (NGR NS 66642 74662). The area of the proposed work currently consists of open recreational space and is within an earlier 'cutting' with a flattish base and steep sides which contains the present sewer pipes and associated manholes (Plate 1). It is very overgrown with long vegetation comprising nettles, brambles, grasses and mature trees and slopes downwards towards the Canal to the north. The line of the Antonine Wall which extends NE/SW alongside the Forth and Clyde Canal, is crossed by the proposed development on an approximate north/south alignment.

Plate 1: General shot of cutting

3.2 The underlying bedrock deposits across the area are of Upper Limestone Formation , while the drift deposits are Devensian Tills (British Geological Survey).

Archaeological Background

4.1 The proposed development lies across the line of the Antonine Wall. The section of the wall as it crosses this portion of Kirkintilloch is not upstanding with the land having been first used for agricultural fields and subsequent development thereafter. This section of the Antonine Wall, is a Schedule Monument known as 'North of Whitehill Avenue, Hillhead, Kirkintilloch' (SM90324). It includes the Antonine Wall rampart, berm, ditch and upcast mound, and an area to the north and south where traces of activities associated with the construction and use of the monument may survive. The Antonine Wall is a UNESCO World Heritage Site and forms part of the Roman frontier systems. The Antonine Wall marks the north-western limit of the Roman Empire in the second century AD and stretches for 37 miles across central Scotland between the Firths of Clyde and Forth. Construction of the frontier system began in AD 142, in the reign of the emperor Antoninus Pius, and represented a planned advance by the Romans from the previous frontier marked by Hadrian's Wall in northern England. Unlike Hadrian's Wall, the Antonine Wall was constructed principally of turf rather than stone and, as a consequence relatively little of the monument survives today in an upstanding condition.

4.2 To the north of the development area lies the 'Forth and Clyde Canal: Kirkintilloch- Auchinstarry Farm' Scheduled monument (SM6769). The monument includes the entire length of the canal together with the banks on either side and the towing path running along one side, as well as some canal structures. No works in relation to the proposals set out in this document will impact upon the Forth and Clyde Canal.

Aims and Objectives

5.1 The main aim of the archaeological evaluation were to establish whether important archaeological remains survived within the development area. Therefore, the aims and objectives of the evaluation were as follows:

- establish the presence or absence of any archaeological remains within the area of the proposed pipeline and associated works,
- determine the character, extent and significance of any archaeological deposits encountered,
- prepare a report on the results of the evaluation along with any mitigation methods that may be necessary,
- It should be noted that given the fact that the development area lies on top of the line of the Antonine Wall, it may not be possible to provide mitigation if Roman deposits are uncovered and that changes to the proposed development may be necessary to protect the archaeological deposits.

5.2 The objectives of subsequent Stage 2 and 3 works, as outlined in the Written Scheme of Investigation (WSI), will be defined within their *addenda*.

Fieldwork Methodology

6.1 The strategy to be employed during the evaluation comprised the following:

- Three evaluation trenches were hand excavated across the proposed pipeline route that lies directly on the Antonine Wall Scheduled Monument area. These three evaluation trenches aligned roughly north/south were placed across the width of the Antonine Wall. They measured 2 m in length by 1 m in width (Figure 1) and were each hand excavated by experienced GUARD archaeologists.
- The topsoil or overburden was removed in spits to the first archaeological horizon or, where none was found, to the natural subsoil. Any archaeological features encountered

was cleaned by hand to determine the date of the deposits, their character and extent. Such features were recorded by written description on *pro forma* recording sheets, by photograph and by measured drawing. In each trench the 'natural subsoil' was tested to ensure the subsoil had not been re-deposited across the site masking archaeological deposits below.

- Excavation work ceased when archaeological deposits of possible Roman date were encountered and no further investigatory work was carried out, except recording as outlined above.

- Any archaeological features encountered were dealt with by the on-site Archaeologists. A full record of excavated features was made using a single context planning system using pro forma sheets, drawings and photographs. All archaeological features were photographed and recorded at an appropriate scale. Sections were drawn at 1:10, and plans at 1:20. All levels were tied into Ordnance Datum and archaeological features accurately located within the National Grid.

- All archaeological finds were dealt with by the on-site Archaeologists. Finds were collected as bulk samples by context.

- Significant archaeological remains were encountered during the evaluation, requiring more than the limited sampling outlined above, the remains were left *in situ* pending the agreement of the client and Historic Environment Scotland on an appropriate excavation project design, in accordance with paragraph 2.2 of the WSI.

- All elements of the fieldwork were undertaken in line with the policies and guidelines of the Chartered Institute for Archaeologists (CIfA) (Code of Conduct 2014; Standards and guidance for archaeological excavation 2014) of which GUARD Archaeology Ltd is a *Registered Organisation*.

Results

7.1 Prior to work commencing, the trench locations were surveyed using a sub-centimetre DGPS to aid accuracy of excavation. Unfortunately this appeared to show that the trenches were located high up on the eastern slope of the cutting. Following advice from John Malcolm of Historic Environment Scotland, Trenches 2 and 3 were moved to the base of the cutting, near to the approximate position of the present sewer pipe. Trench 1 was retained in its survey position as it was near the base of the eastern slope (Figure 1). All three trenches were hand excavated and then backfilled following archaeological works.

Trench 1

7.2 Trench 1 was located near to the base of the eastern slope and was covered in long grass and nettles (Plate 2). The topsoil comprised mid grey clay silt 001 with inclusions of plant roots and contained modern debris including glass and pottery sherds. It measured 0.12 m in depth. Below was found a grey clay silt 002 followed by a redeposited pink grey silty clay 003, with a combined depth of 0.48 m. Both deposits contained modern detritus including glass and pottery sherds suggesting they were modern dump layers. Below was found a layer of relatively flat sub-rounded cobbles 010 which appeared to be set within the natural subsoil 011 which comprised an orange silty sand with light grey sand below. The cobble layer appeared of drystone construction with the cobbles measuring on average 0.2 m x 3 m in size. The cobbles did not extend across the whole trench but appeared to form a relatively straight line orientated roughly NE/SW at the south-east end (Plate 3). Above and in between several of the stones was a very thin patchy grey silt deposit 012 which was sampled for possible environmental and dating evidence. No artefacts relating to Roman activity was uncovered during the work. Prior to backfilling, geotextile membrane was placed across the stones to aid their protection.

Plate 2: Trench 1 position

Plate 3: Possible wall base 010

Trench 2

7.3 Trench 2 was located within the central area of the cutting and to the east of the present sewer pipe, as indicated by the upstanding manholes. It was also covered in thick vegetation which was removed prior to work commencing. It slope downwards towards the north. The topsoil 001 and redeposited clay 003 deposits were similar to those found in trench 1 although the underlying deposits differed slightly, with more overburden deposits present including a dark grey silty clay 005 and an orange/beige/pink sandy clay 006. Both contained modern debris suggesting their non-archaeological origin. However, below 006 and at the northern end of the trench was found a dark brown clay silty sand which might represent an old topsoil deposit 013. This was located 0.6 m below the present ground surface. A mixed beige sandy silt 014 was located at the southern end and was probably redeposited natural. Below both deposits was a beige/pink sand with cobble and pebble inclusions 016 which contained a very thin grey silt 015 on its surface, which again is of probable natural origin. No archaeological features or finds were encountered within this trench.

Trench 3

7.4 Trench 3 was also located to the east of the line of the present sewer and was located on the flat ground and was lowest in height of all the trenches, due to the sites downwards slope to the north. The topsoil 001 and redeposited silty clay 003 was similar to trenches 2 and contained similar modern detritus. The subsoil 004 was located at 0.21 m in depth and comprised a light orange sand with mid to dark orange mottling (Plate 5). No artefacts or features relating to Roman activity were encountered.

Plate 4: NW facing section of trench 2 with overburden deposits

Plate 5: Trench 3 subsoil

Discussion

8.1 The archaeological evaluation has uncovered the possible remnants of the stone foundation of the rampart associated with the Antonine Wall in Trench 1. Unfortunately no artefacts of Roman date were recovered during the work to aid the structures dating and intrepretation. However, despite the lack of dating material, it is very likely that the stone structure uncovered

is associated with the Antonine Wall and/or its construction due to its location and context. No features relating to Roman or other archaeological activity were found in either Trenches 2 or 3 which comprised mainly modern overburden deposits, probably a result of construction work associated with the present sewer pipe. Both these trenches were lower lying than Trench 1 and it is reasonable to assume that they may lie below the level of any surviving Roman activity. These trenches were also closer to the approximate location of the present sewer pipeline and any surviving Roman structures/deposits may have been destroyed during its construction.

Conclusions

9.1 The present work programme has uncovered possible remnants of the Antonine wall base in Trench 1 only. It is therefore, recommended that further archaeological works be carried out within the environs of Trench 1, and in the area leading southwards along the proposed pipeline route, to establish the full extent of any remains that could potentially be impacted upon by the proposed works. These further investigations will enable the works to avoid any unnecessary disturbance of Roman deposits relating the the WHS. In addition, it is recommended that any and all ground disturbance associated with the proposed pipeline works, outwith and to the north of Trench 1, will be monitored under an archaeological watching brief to ensure that any other archaeological depsoits surviving are investigated and recorded to an appropriate level prior to the pipe being installed. Should the watching brief encounter other remains of possible Roman origin, HES will be consulted on an appropriate mitigation strategy prior to works continuing in such areas.

9.2 GUARD Archaeology would stress that these recommendations are intended for guidance only. While the recommended mitigation strategy was developed following consultation with Tom Rees, East Dunbartonshire Council archaeological advisor and John Malcolm, Historic Environment Scotland, final decisions on the nature and extent of any future archaeological work rest with the planning authority.

Acknowledgements

10.1 GUARD Archaeology Ltd would like to thank Scottish Water for commissioning us to do the work and to John Malcolm of Historic Environment Scotland for his advice prior to and during the fieldwork phase. The work was directed by Maureen Kilpatrick who was assisted by Ashleigh Airey, Juan Ignacio De Vicente Ojeda and Erica Villis. Technical support was provided by Aileen Maule and Clark Innes. The illustrations were produced by Jennifer Simonson. The report was desk top published by Gillian Sneddon. The project was managed for GUARD Archaeology by Warren Bailie.

Ailsa Drive, Kirkintilloch, Archaeological Evaluation Data Structure Report

Section 2: Appendices

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Appendices

Appendix A: Bibliography

British Geological Survey http://mapapps.bgs.ac.uk/geologyofbritain/home.html? [accessed online 24/10/17].

National Record of the Historic Environment http://pastmap.org.uk/ [accessed online 24/10/17]

Appendix B: List of Finds

Find No	Trench	Context No	No of Pieces	Material	Description
001	2	006	1	Stone	Large sub-rounded cobble with hole
002	1	003	10	Ceramic	Modern pottery fragments
003	2	003	4	Glass and Ceramic	Modern glass and pottery sherds

Appendix C: List of Samples

Sample No	Trench	Context No	Size	Reason for Sampling				Application/Comments
				Pot	Bone	Lithics	Botanics	
001	1	012	1xM					Grey silt above stone base 010

Appendix D: List of Drawings

Drawing No	Trench	Sheet No	Subject	Scale
001	1	1	Plan of trench 1	1:20
002	2	1	During excavation	1:20
003	1	1	Post-excavation plan with stone base 010	1:20
004	1	1	West facing section	1:10
005	2	1	SW facing section	1:10
006	2	2	SW facing section	1:10
007	2	2	Post-excavation plan	1:20

Appendix E: List of Photographs

Film 1			4733_1_(1) to (83)	
Image no.	Trench	Context no.	Details	Taken from
1			General shot of site	E
2			General shot of site	E
3			General shot of site	E
4			General shot of site	S
5			General shot of site	S
6			General shot of site	S
7			General shot of eastern slope	S
8			General shot of eastern slope	E
9	1		Trench 1 surveyed position	SE
10			General shot of slope	SE
11			General host of eastern slope	S
12	3		Trench 3 surveyed position	SE
13	3		Trench 3 surveyed position	SE
14	3		Trench 3 surveyed position	SE
15			General shot of eastern slope	S
16			General shot of eastern slope	SE
17			General shot of eastern slope	N
18			General shot of eastern slope	SE
19			General shot of eastern slope	SE
20			General shot of eastern slope	SE
21			General shot of eastern slope	SE

Image no.	Trench	Context no.	Details	Taken from
22			General shot of wooded area	SE
23			General shot of wooded area	SE
24			General shot of wooded area	SE
25			General shot of wooded area	SE
26	1		Pre-exc of trench 1	SW
27	1	001, 002	During excavation	SW
28	1	001, 002	During excavation	SE
29	1	001, 002	During excavation and post removal of large stones	SE
30	1		Temporary fencing in situ	SW
31	2		During excavation	SW
32	2		During excavation	N
33	2	001-003	During excavation	W
34	2	001-003	During excavation	W
35	2	001-003	During excavation	W
36	2	001-003	Temporary fencing in situ	W
37	3	001, 003	During excavation	W
38	3	001, 003	During excavation	W
39	3	001, 003	During excavation	W
40	3	001, 003	During excavation	W
41	3	001, 003	General shot	S
42	2	001, 003, 005	Genral shot, post cleaning	W
43	2	001, 003, 005	Genral shot, post cleaning	W
44	2	001, 003, 005	Genral shot, post cleaning	N
45	2	001, 003, 005	Working shot - Erica	N
46	3	001, 003, 004	Working shot - Ashleigh	N
47	3	004	Post-excavation	SE
48	3	004	Post-excavation	SE
49	3	004	Post-excavation	E
50	3	004	Post-excavation	E
51	3	004	Post-excavation	NE
52	3	004	Sondage through subsoil	NW
53	3	004	Sondage through subsoil	NW
54	3		Post trench backfill	NW
55	2	001, 003, 005-008	Plan shot of trench with slot 1	SW
56	2	001, 003, 005-008	Plan shot of trench with slot 1	SW
57	2	001, 003, 005-008	Plan shot of trench with slot 1	NW
58	2	001, 003, 005-008	NW facing section of slot 1	NW
59	2	001, 003, 005-008	Plan shot of slot 1	NW
60	2	001, 003, 005-008	Plan shot of slot 1	
61	2	001, 003, 005-008	SW facing sectio of slot 1	SW
62	1	001, 002	Plan showing feature	NW
63	1	001, 002	Plan showing feature	NW
64	1	001, 002	NW facing section	NW
65	1	001, 002	Plan of feature	NW
66	1	001, 002	Plqn of feature	NW
67	1	001, 002	Plan of trench 1	NW
68	1	001-003, 009, 010	NW facing section	NW
69	1	001-003, 009, 010	Close up of 009 clay deposit during excavation	NW

Image no.	Trench	Context no.	Details	Taken from
70	1	001-003, 009, 010	Post-excavation plan	NW
71	1	001-003, 009, 010	NW facing section	NW
72	1	001-003, 009, 010	Close-up on structure 010	NW
73	2		N facing section	S
74	2		E facing section and plan shot	W
75	2		Plan view of trench	
76	2		N facing section	S
77	2		S facing section	S
78	2		W facing section	W
79	2		W facing section	W
80	2		S facing section	S
81	2		S facing section	S
82	2		Backfilled trenches	
83	2		Backfilled trenches	
Film 2			4733_2_(1) to (62)	
1	1	010, 011	Stone base layer	W
2	1	010, 011	Stone base layer	W
3	1	010, 011	Stone base layer	W
4	1	010, 011	Stone base layer	W
5	1	010, 011	Stone base layer	W
6	1	010, 011	Stone base layer	W
7	1	010, 011	Stone base layer	W
8	1	010, 011	Stone base layer	W
9	1	010, 011	Stone base layer	W
10	1	010, 011	Stone base layer	W
11	1	010, 011	Stone base layer	E
12	1	010, 011	Stone base layer	E
13	1	001-003, 010, 011	W facing section	W
14	1	001-003, 010, 011	W facing section	W
15	1	001-003, 010, 011	W facing section	W
16	1	001-003, 010, 011	N facing section	N
17	1	001-003, 010, 011	N facing section	N
18	1	001-003, 010, 011	N facing section	N
19	1	001-003, 010, 011	N facing section	N
20	1	001-003, 010, 011	N facing section	N
21	1	001-003, 010, 011	S facing section	S
22	1	001-003, 010, 011	S facing section	S
23	2	001, 003, 005-006, 013-015	W facing section	W
24	2	001, 003, 005-006, 013-015	W facing section	W
25	2	001, 003, 005-006, 013-015	W facing section	W
26	2	001, 003, 005-006, 013-015	W facing section	W

Image no.	Trench	Context no.	Details	Taken from
27	2	001, 003, 005-006, 013-015	NE facing section and plan	NE
28	2	001, 003, 005-006, 013-015	NE facing section and plan	NE
29	2	001, 003, 005-006, 013-015	NE facing section and plan	NE
30	2	001, 003, 005-006, 013-015	W facing section	W
31	2	001, 003, 005-006, 013-015	W facing section	W
32	2	001, 003, 005-006, 013-015	W facing section	W
33	2	001, 003, 005-006, 013-015	W facing section	W
34			General shot of site	E
35			General shot of site	E
36			General shot of site	E
37			General shot of site	S
38			General shot of site	N
39			General shot of site	S
40	3		Surveyed trench 3 position	E
41	2		General shot of trench 2 location	E
42			General shot of cutting	S
43			General shot of cutting	S
44			General shot of cutting	S
45			General shot of cutting	S
46			General shot of cutting	S
47	1		Trench 1 location	SW
48	2		Trench 2 location	S
49	2 and 3		Trenches 2 and 3 location	S
50	2 and 3		Trenches 2 and 3 location	S
51	2 and 3		Trenches 2 and 3 location	S
52	3		Backfilled trench	S
53	2		During excavation	NW
54	2		During excavation	NW
55	2	001-003, 005-006, 013-015	SW facing section	SW
56	2	001-003, 005-006, 013-015	SW facing section	SW
57	2	001-003, 005-006, 013-015	SW facing section	SW
58	2	015, 016	Post-excavation	SE
59	2	001-003, 005-006, 013-015	Post-excavation	SE
60	2	015, 016	Post-excavation	SE
61	2	001-003, 005-006, 013-015	NW facing section	NW
62	2	001-003, 005-006, 013-015	Post-excavation	NW

Appendix F: Discovery And Excavation Scotland Entry

LOCAL AUTHORITY:	East Dunbartonshire Council
PROJECT TITLE/SITE NAME:	Ailsa Drive, Kirkintilloch
PROJECT CODE:	4733
PARISH:	Kirkintilloch
NAME OF CONTRIBUTOR(S):	Maureen C. Kilpatrick
NAME OF ORGANISATION:	GUARD Archaeology Ltd
TYPE(S) OF PROJECT:	Archaeological Evaluation
NMRS NO(S):	n/a
SITE/MONUMENT TYPE(S):	UNESCO World Heritage Site (location of)
SIGNIFICANT FINDS:	Possible stone wall base of Antonine Wall rampart
NGR (2 letters, 6 figures)	NS 66642 74662
START DATE (this season)	16th October 2017
END DATE (this season)	20th October 2017
PREVIOUS WORK (incl. DES ref.)	--
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	An archaeological (hand-excavated) evaluation was carried out by GUARD Archaeology Ltd at the proposed site for the installation of upsized sewer pipelines and a Combined Storm Overflow chamber at Ailsa Drive, Kirkintilloch, East Dunbartonshire. This work is to replace a pre-existing sewer pipe and associated structures. During the work, three trenches were hand excavated along the route of the proposed pipeline with only trench one revealing any archaeological deposits, the possible stone base of the Antonine Wall rampart/military way. No further excavation work was carried out in relation to the finding, as per the protocol outlined by Historic Environment Scotland.
PROPOSED FUTURE WORK:	--
SPONSOR OR FUNDING BODY:	Scottish Water
CAPTION(S) FOR ILLUSTRS:	--
ADDRESS OF MAIN CONTRIBUTOR:	GUARD Archaeology Limited, 52 Elderpark Workspace, 100 Elderpark Street, Glasgow, G51 3TR
EMAIL ADDRESS:	bob.will@guard-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS

Appendix G: Written Scheme of Investigation

AILSA DRIVE, KIRKINTILLOCH

ARCHAEOLOGICAL EVALUATION

WRITTEN SCHEME OF INVESTIGATION

PROJECT 4733

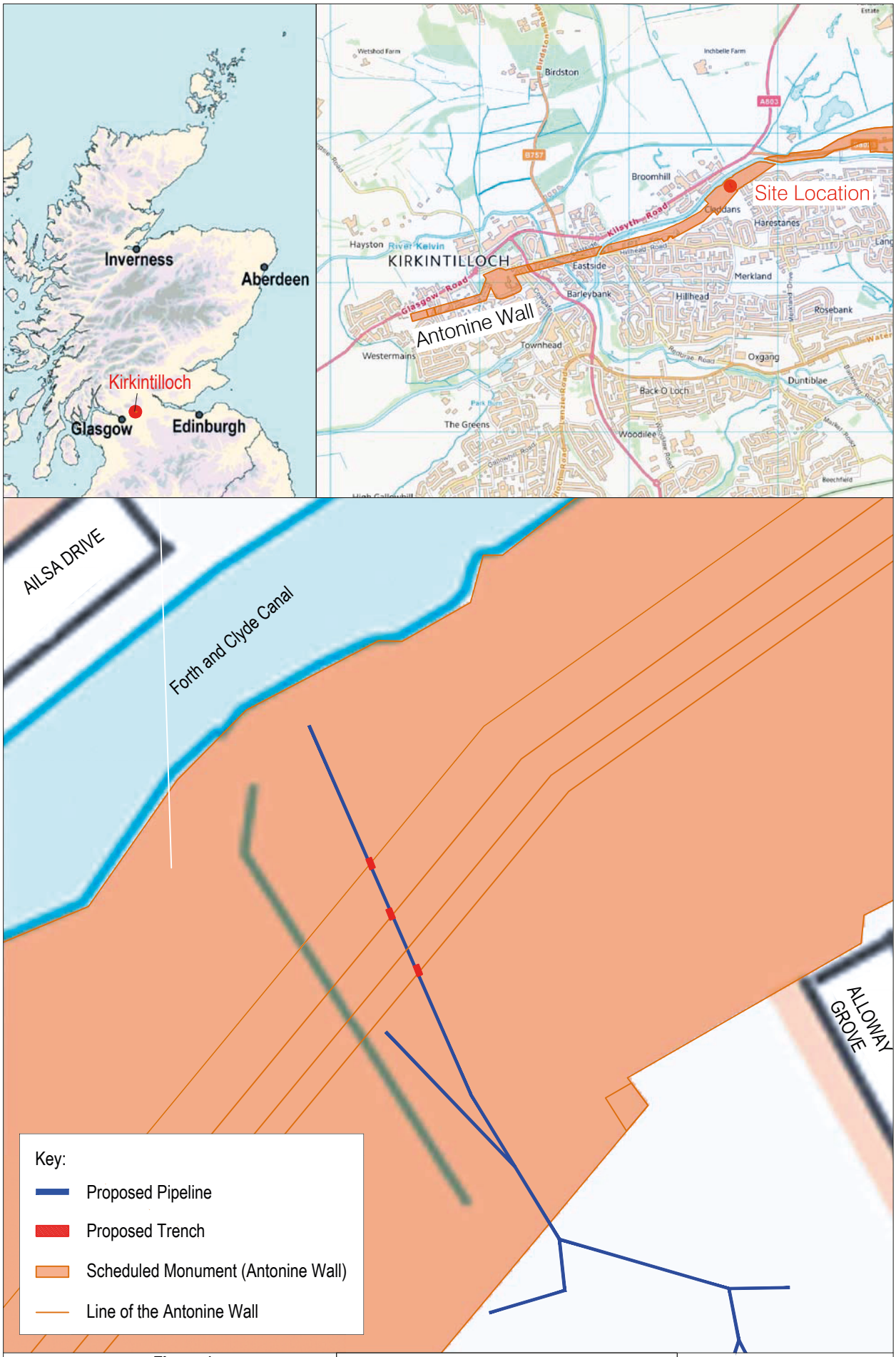

Figure 1:
Site and
Proposed Trench Location

Executive Summary

1.1 This document sets out a Written Scheme of Investigation (WSI) for an archaeological (hand-excavated) evaluation at Ailsa Drive, Kirkintilloch in East Dunbartonshire. This WSI was prepared in consultation with East Dunbartonshire Council Archaeological Adviser and Historic Environment Scotland. The archaeological evaluation will aim to determine if archaeological deposits survive within the area of the proposed installation of upsized sewer pipelines and a Combined Storm Overflow chamber. The WSI, and subsequent Addenda, will extend to cover the mitigation of any potential conflict with archaeological remains in keeping with the principles of the Supplementary Planning Guidance (SPG); this would include Stage 2 excavation and Stage 3 post excavation analysis and publication.

Introduction

2.1 This WSI sets out the scope and methodology for an archaeological evaluation for the proposed installation of sewer pipelines and related works at Ailsa Drive, Kirkintilloch. This proposal, which Scottish Water has discussed with East Dunbartonshire Council, conforms to all current planning regulations including the 'Antonine Wall supplementary planning guidance' that relate to the site's World Heritage status (http//www.historic-scotland.co.uk/antonine-wall-supplementary-planning-guidance). The archaeological evaluation will consist of three trenches in total placed across the width of the Antonine Wall Schedule Monument (Figure 1). The aim of the evaluation is to establish the presence, extent and nature of any significant archaeological remains. Should significant remains, not of Roman origin, be identified and it is not possible to preserve them *in situ* a further phase of archaeological works may be required to ensure their preservation through record; the specification of any further work would need to be agreed with HES and the Planning Authority. Should remains attributable to the Roman period be identified they must be preserved *in situ* to be compliant with the SPG and the protection of the Outstanding Universal Value (OUV) of the World Heritage Site (WHS).

Potential Impacts

2.2 The construction of the pipeline and associated work has the potential to damage or destroy unknown archaeological features within the site from the following activities:

- Ground disturbance from excavations for installation of upsized sewer pipelines and a Combined Storm Overflow chamber.

2.3 As a result, further works which will include a watching brief and any necessary excavation and recording, will be required on all ground works regardless of the archaeological results of the evaluation.

Site Location

3.1 The development site is located opposite Ailsa Drive and across the Forth and Clyde Canal, Kirkintilloch, in East Dunbartonshire (NGR NS 66642 74662). The area of the proposed work currently consists of open recreational space with scattered deciduous trees. The line of the Antonine Wall which extends north-east to south-west along the Forth and Clive Canal, is crossed by the proposed development on an approximate north/south alignment.

Archaeological Background

4.1 The proposed development lies across the line of the Antonine Wall. The section of the wall as it crosses this portion of Kirkintilloch is not upstanding with the land having been first used for agricultural fields and subsequent development thereafter. This section of the Antonine Wall, is a Schedule Monument known as 'North of Whitehill Avenue, Hillhead, Kirkintilloch' (SM90324). It includes the Antonine Wall rampart, berm, ditch and upcast mound, and an area to the north and south where traces of activities associated with the construction and use of the monument may

survive. The Antonine Wall is a UNESCO World Heritage Site and forms part of the Roman frontier systems. The Antonine Wall marks the north-western limit of the Roman Empire in the second century AD and stretches for 37 miles across central Scotland between the Firths of Clyde and Forth. Construction of the frontier system began in AD 142, in the reign of the emperor Antoninus Pius, and represented a planned advance by the Romans from the previous frontier marked by Hadrian's Wall in northern England. Unlike Hadrian's Wall, the Antonine Wall was constructed principally of turf rather than stone and, as a consequence relatively little of the monument survives today in an upstanding condition.

4.2 To the north of the development area lies the 'Forth and Clyde Canal: Kirkintilloch- Auchinstarry Farm' Scheduled monument (SM6769). The monument includes the entire length of the canal together with the banks on either side and the towing path running along one side, as well as some canal structures. No works in relation to the proposals set out in this document will impact upon the Forth and Clyde Canal.

Aims, Objectives and Scope

5.1 The main aim of the archaeological evaluation is to establish whether important archaeological remains survive within the development area. Therefore, the aims and objectives of the evaluation are as follows:

- establish the presence or absence of any archaeological remains within the area of the proposed pipeline and associated works,
- determine the character, extent and significance of any archaeological deposits encountered,
- prepare a report on the results of the evaluation along with any mitigation methods that may be necessary,
- It should be noted that given the fact that the development area lies on top of the line of the Antonine Wall, it may not be possible to provide mitigation if Roman deposits are uncovered and that changes to the proposed development may be necessary to protect the archaeological deposits.

5.2 The objectives of subsequent Stage 2 and 3 works would be defined within their *addenda*.

Evaluation Methodology

6.1 The strategy to be employed during the evaluation will consist of the following:

- Three evaluation trenches will be hand excavated in total across the proposed pipeline route that lies directly on the Antonine Wall Scheduled Monument area. These three evaluation trenches aligned roughly north/south will be placed across the width of the Antonine Wall. They will measure 2 m in length by 1 m in width (Figure 1) and they will be each hand excavated by experienced GUARD archaeologists.
- The topsoil or overburden will be removed in spits to the first archaeological horizon or, where none is found, to the natural subsoil. Any archaeological features encountered will be cleaned by hand to determine the date of the deposits, their character and extent. Such features will be recorded by written description on *pro forma* recording sheets, by photograph and by measured drawing. In each trench the 'natural subsoil' will be tested to ensure that subsoil has not been re-deposited across the site masking archaeological deposits below.
- Should archaeological deposits be uncovered that relate to Roman occupation or activity excavation shall cease and no further excavation shall take place within the trenches.
- Any archaeological features encountered will be dealt with by the on-site Archaeologists. Should negative-cut features be encountered they will be 25-50% excavated in order to determine their significance, date and function. A full record of excavated features will be made using a single context planning system using pro forma sheets, drawings and photographs. All archaeological features will be photographed and recorded at an appropriate scale. Sections will be drawn at

1:10, and plans at 1:20. All levels will be tied into Ordnance Datum and archaeological features accurately located with the National Grid.

- All archaeological finds will be dealt with by the on-site Archaeologists. Finds and animal bone will be collected as bulk samples by context.
- Should significant archaeological remains be encountered during the evaluation, requiring more than the limited sampling outlined above, the remains will be left *in situ* pending the agreement of the client and Historic Environment Scotland on an appropriate excavation project design, in accordance with paragraph 2.2 above.
- Should human remains be revealed, the local police, the client and Historic Environment Scotland will be informed immediately. Any human remains will be left *in situ,* pending the agreement of the police, the client and Historic Environment Scotland on an appropriate mitigation strategy.
- All elements of the fieldwork will be undertaken in line with the policies and guidelines of the Chartered Institute for Archaeologists (CIfA) (Code of Conduct 2014; Standards and guidance for archaeological excavation 2014) of which GUARD Archaeology Ltd is a *Registered Organisation*.

Report Preparation and Contents

7.1 A report detailing the results of the archaeological fieldwork will be submitted to the client within two weeks of completion of fieldwork and then, subject to client approval, submitted to Historic Environment Scotland. The report will take the form of a Data Structure Report and will contain an analysis of the results of the archaeological evaluation. The report will include a full descriptive text that will characterise the date and extent of any archaeological deposits along with a selection of photographs that show the site and details of the deposits encountered. It will also include plans at an appropriate scale showing the area subjected to ground-breaking works, archaeological features and archiving lists of all finds, samples, field drawings and photographs.

7.2 If appropriate, the report will also include an addendum to this Mitigation Strategy for further archaeological fieldwork, post-excavation analysis and publication, should significant archaeology have been encountered. On agreement with the Historic Environment Scotland, this mitigation strategy would become *addenda* to this WSI defining such Stage 2 or 3 works, the absolute need for such works being determined by Historic Environment Scotland.

7.3 The report will include the following:

- executive summary;
- a site location plan to at least 1:10,000 scale with at least an 8 figure central grid reference;
- OASIS reference number; unique site code;
- SMC reference number;
- contractor's details including date work carried out;
- nature and extent of the proposed development, including developer/client details;
- description of the site history, location and geology;
- a site plan to a suitable scale and tied into the national grid so that features can be correctly orientated;
- discussion of the results of field work;
- context & feature descriptions;
- features, number and class of artefacts, spot dating & scientific dating of significant finds presented in tabular format;
- plans and section drawings of the features drawn at a suitable scale;
- initial assessment of relevant finds/samples if appropriate;

- recommendations regarding the need for, and scope of, any further archaeological work such as excavation (Stage 2) and Post-excavation finds analysis, conservation & publication (Stage 3);
- bibliography.

7.4 An appropriate number of hard copies and digital pdf copies of the report will be prepared for the client, for distribution to the relevant bodies.

7.5 The report will be presented in an ordered state and bound within a protective cover/sleeve. The report will be page numbered and supplemented with section numbering for ease of reference.

Copyright

8.1 The copyright for any report resulting from the archaeological work undertaken as part of the project will be deemed the intellectual property of GUARD Archaeology Ltd.

Publication

9.1 A summary of the project results will be submitted to *Discovery and Excavation in Scotland*. In the event of minor archaeological remains being encountered during the archaeological fieldwork, it is proposed that a comprehensive report submitted to *Discovery and Excavation in Scotland*, will form the Stage 1 publication of the site. A copy of this will be included in the Data Structure Report.

Archive

10.1 The archive for the project, including a copy of the report, will be submitted to the National Monuments Records for Scotland within three months of completion of all relevant work.

10.2 The online OASIS form at http://ads.ahds.ac.uk/project/oasis/ will be completed within 3 months of completion of the work. Once the Data Structure Report has become a public document by submission to or incorporation into the SMR, Historic Environment Scotland will validate the OASIS form thus placing the information into the public domain on the OASIS website.

Finds Disposal

11.1 The arrangement for the final disposal of any finds made in connection with the archaeological work, will be deposited in keeping with Scottish legal requirements as set out in the Treasure Trove Code of Practice published by the Scottish Government in January 2016. The laws relating to Treasure Trove and *Bona Vacantia* in Scotland apply to all finds where the original owner cannot be identified. This includes all material recovered during archaeological fieldwork. Accordingly, all assemblages recovered from archaeological fieldwork are claimed automatically by the Crown and must be reported to the Scottish Archaeological Finds Allocation Panel through its secretariat, the Treasure Trove Unit. In the event of the discovery of small finds, a filled-out copy of the form "Declaration of an Archaeological Assemblage from Fieldwork" and two copies of the pertinent Data Structure Report will be submitted to the Panel at the conclusion of the fieldwork. The Panel will then be responsible for recommending to the Queen's and Lord Treasurer's Remembrancer which museum should be allocated the finds. All artefacts will be temporarily stored by GUARD until a decision has been made by the panel.

Personnel and Liaison

12.1 The GUARD team will comprise the following qualified and experienced GUARD archaeologists:

- Project Manager: Warren Bailie
- Project Director (on-site Archaeologist): Maureen Kilpatrick
- Other on-site Archaeologists: TBC

- Finds and Environmental Support and Conservation: Aileen Maule
- Illustrator: Gillian McSwan
- Quality Assurance: Dr John Atkinson

12.2 The GUARD Project Manager, Warren Bailie, will be the point of contact for the archaeological works. A full CV for individuals concerned can be made available on request.

Monitoring

13.1 The proposed start date for the archaeological fieldwork is TBC. Historic Environment Scotland will be provided two weeks notice prior to the commencement of fieldwork.

Health & Safety and Insurance

14.1 GUARD Archaeology Limited adheres to the guidelines and standards prescribed for archaeological fieldwork set down in the (now Chartered) Institute for Archaeologists approved Health and Safety in Field Archaeology document. It is standard GUARD Archaeology policy, prior to any fieldwork project commencing, to conduct a risk assessment and to prepare a project safety plan, the prescriptions of which will be strictly followed for the duration of all archaeological fieldwork. Copies of the resultant project safety plan and of GUARD Archaeology Limited's Fieldwork Safety Policy Statement may be viewed upon request.

14.2 GUARD Archaeology Ltd also possesses all necessary insurance cover, proofs of which may be supplied upon request.

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