Non-Invasive Archaeological Investigations for the Aberdeen Western Peripheral Route (AWPR Package)

Project code: AWPR-002

**Employer:** AWPR Managing Agent

Consultant: Jacobs UK Ltd

















# ABERDEEN WESTERN PERIPHERAL ROUTE PACKAGE (SOUTHERN LEG)

Kingcausie Bridge (Site 514) and Silverburn Bridge (Site 522)

**Building Recording Surveys** 



Report Author: Jürgen van Wessel Report Reference No: AWPR-SL-013

Date: 20 November 2012















# ABERDEEN WESTERN PERIPHERAL ROUTE PACKAGE (SOUTHERN LEG)

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# **Building Recording Surveys**

Contract: Non-Invasive Archaeological Investigations for the

Aberdeen Western Peripheral Route (AWPR

Package)

Employer AWPR Managing Agent

Consultant Jacobs UK Ltd

Contractor Headland Archaeology (UK) Ltd

Contract Manager Russel Coleman

Project Manager Sorina Spanou

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Illustrations Anna Sztromwasser

Survey Alison Cameron and Jürgen van Wessel

Schedule

Fieldwork October 2012

Report November 2012

### SUMMARY

A Level 3 building recording survey (English Heritage 2006) of Kingcausie Bridge (Site 514) was undertaken in order to provide an interpretative report and a full archive in advance of construction associated with the Aberdeen Western Peripheral Route (AWPR) (Southern Leg) scheme. The structure will be removed as part of the proposed construction work.

The site consists of a small stone bridge and two stone revetment walls. The bridge itself was built of six large stones, each spanning the stream and resting on the revetment walls. The two outer stones were the largest and formed substantial parapets; the remaining stones carried the trackway. The line of a second, disused water course leading to a stone wash house could be identified to the north.

An investigation of the documentary sources revealed no references to this structure, although it can be dated by map evidence to before 1869. The construction of the bridge may be related to a change of use of the wash house.

A second bridge at Silverburn (Site 522) was not surveyed at this time due to health and safety concerns.

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#### 1 Introduction

#### 1.1 General

- 1.1.1 This document is submitted as the report on a building recording survey at Kingcausie Bridge (Site 514) and Silverburn Bridge (Site 522) located on the proposed route of the Southern Leg of the Aberdeen Western Peripheral Route (AWPR). The building recording survey is part of a programme of archaeological non-invasive investigations to facilitate the construction of the AWPR and associated schemes. The work was undertaken in accordance with a specification prepared by Jacobs UK Ltd within the Invitation to Tender (ITT) (Aberdeen City Council 2012).
- 1.1.2 The AWPR is proposed as both a bypass and a distributor road around the City of Aberdeen. The route envisages the construction of a wholly new dual carriageway some 34.6km long around Aberdeen, together with a link to Stonehaven some 11.5 km long, and includes associated side roads and junctions. The AWPR is divided into three sections; the Northern Leg, Southern Leg and Fastlink (Illus 1).
- 1.1.3 The Employer is the AWPR Managing Agent, administrator of the Commission on behalf of Aberdeen City Council (ACC) and its funding partners. The Consultant is Adam Brossler of Jacobs UK Ltd. The Contractor is Headland Archaeology (UK) Ltd, the archaeological organisation appointed by the AWPR Managing Agent to carry out the work reported here. Historic Scotland provides advice, supervision and oversight of the content, conduct and quality of archaeological aspects of the Contract, acting in support of Transport Scotland.
- 1.1.4 On the 10<sup>th</sup> of October 2012 Headland Archaeology undertook the building recording survey of Site 514 to the specification provided in the ITT (Aberdeen City Council 2012). Site 522 was visited on the 16<sup>th</sup> of October 2012 but the survey was not undertaken due to health and safety concerns (see section 1.5). The project was managed by Russel Coleman (Contract Manager) and Sorina Spanou (Project Manager). Fieldwork was undertaken by Alison Cameron and Jürgen van Wessel, and reporting by Jürgen van Wessel.

#### 1.2 Background to the Project – AWPR

1.2.1 Desk-based assessment undertaken in support of the cultural heritage chapter of the Environmental Statement (ES) identified a total of 316 sites of cultural heritage significance along or close to the route (Jacobs UK Ltd 2007). Chapters 13 (Northern Leg), 28 (Southern Leg) and 43 (Fastlink) (Cultural Heritage and Archaeology) of the ES

for the scheme recommends measures to be undertaken to evaluate or mitigate potential impacts of the scheme on the cultural heritage resource. These recommendations include both invasive and non-invasive archaeological evaluation followed by archaeological mitigation.

- 1.2.2 Based on the requirements of the ES and the results of subsequent dialogue with Historic Scotland, the following non-invasive archaeological investigations are required across all sections of the scheme:
  - topographic survey;
  - palaeoenvironmental assessment;
  - geophysical survey;
  - field walking;
  - metal detector survey; and
  - building recording
- 1.2.3 The present report deals with the building recording survey of Kingcausie Bridge (Site 514) located on the proposed Southern Leg of the route. The survey of Silverburn Bridge (Site 522) was not undertaken due to health and safety concerns (See section 1.5).

# 1.3 Aims and Objectives

- 1.3.1 The general aim of the archaeological non-invasive investigations is to identify the extent and character of known and unknown archaeological remains in order to enable a programme of mitigation to be designed. More specific aims and objectives are as follows:
  - to identify, investigate and record any such archaeological remains to the extent possible by the methods put forward in the ITT Specification (ACC 2012); in this case, to provide a record of Kingcausie Bridge (Site 514) and Silverburn Bridge (Site 522) in advance of the AWPR construction works;
  - to disseminate the results through deposition of an ordered archive and a detailed report at the National Monument Records of Scotland (NMRS), and publication at a level of detail appropriate to the significance of the results.
- 1.3.2 The results of the non-invasive investigations will enable a more accurate assessment of the potential impact of the scheme on archaeological remains and the design of any further evaluation works and an appropriate programme of mitigation works (if necessary). Such works will form part of a separate contract.

## 1.4 Site Locations & Descriptions

- 1.4.1 Kingcausie Bridge (Site 514) is located at NGR NO 86260 99892 in the parish of Maryculter (Illus 1). It stands at an elevation of 46.85m OD, c. 150m south-south-west of Kingcausie House. It carries a track across a small burn which runs through the woodland surrounding Kingcausie (see 3.1). The site consists of a small stone bridge and two stone revetment walls. The bridge itself is built of six large stones, each spanning the stream and resting on the revetment walls. The two outer stones are the largest and form substantial parapets; the remaining stones carry the trackway. The line of a second, disused water course leading to a stone wash house could be identified to the north. The proposed road corridor impacts directly on the eastern edge of the bridge, and also the southern end of the disused water course.
- 1.4.2 Silverburn Bridge (Site 522) is located at NGR NJ 85012 04410 in the parish of Peterculter (Illus 1). It stands at an elevation of 102m OD, around 170m east of East Silverburn Farm. It carries a local road over an unnamed watercourse. The bridge lies wholly within the proposed road corridor. The site was visited but not surveyed due to health and safety concerns (see section 1.5 for further details).

## 1.5 Limitations of survey

- 1.5.1 At Kingcausie Bridge (Site 514), the only clearly visible parts of the structure were the two large parapet stones and the revetment walls. The structural spans that carry the track were obscured from above by a layer of earth and moss; they could be partially seen from below but could not be measured safely. The ends of each stone were also hidden from below by the revetment walls. The parapet stones were largely covered in moss these could be surveyed but not analysed in detail for signs of working. A large rhododendron bush prevented access to the north-eastern bank, which required photographs of the north-north-western elevation to be taken obliquely.
- 1.5.2 The bridge at Silverburn (Site 522) carries a narrow single-track road over a small burn (Plate 1). The verge is narrow on both sides of the bridge and the ground falls away very steeply down to the burn. These slopes are also heavily overgrown, obscuring large parts of the bridge and the banks of the burn (Plate 2). It was decided not to pursue any further the survey of this site at this time due to safety concerns.

# 2 Survey Procedure and Methodology

2.1 The historic building recording of Kingcausie Bridge (Site 514) was undertaken to a Level 3 standard as defined by English Heritage in Understanding Historic Buildings – A guide to good recording practice (English Heritage 2006).

- 2.2 English Heritage's Guide (2006, 14) states: Level 3 is an analytical record, and will comprise an introductory description followed by a systematic account of the building's origins, development and use. The record will include an account of the evidence on which the analysis has been based, allowing the validity of the record to be re-examined in detail. It will also include all drawn and photographic records that may be required to illustrate the building's appearance and structure and support an historical analysis. The information contained in the record will for the most part have been obtained through an examination of the building itself. If documentary sources are used they are likely to be those which are most readily accessible, such as historic Ordnance Survey maps, trade directories and other published sources. The record will not normally discuss the building's broader stylistic or historical context and importance at any length. It may, however, form part of a wider survey - thematic or regional, for example - of a group of buildings, in which additional source material contributes to an overall historical and architectural synthesis. A Level 3 record may be appropriate when the fabric of a building is under threat but time or resources are insufficient for detailed documentary research, or where the scope for such research is limited.
- 2.3 The fieldwork consisted of a metric survey of the building by EDM. The survey was controlled by differential GPS. Since much of the structure was obscured and angles of photography limited in places (see section 1.5), no attempt was made to produce rectified imagery. A full photographic record was made of all accessible areas using a high resolution digital camera and black and white film to provide full coverage of the building and to put it into context (Appendix 1).

#### 2.4 The drawn record included:

- measured plans of the structures, identifying evidence for phasing, alteration etc;
- measured elevation drawings of the structures showing significant structural detail and
- all drawings were annotated with information on structural detail,
   changes in building material, evidence for phasing, function and alteration.
- 2.5 A full photographic record was made of the structure using a 35 mm analogue Single Lens Reflex camera for the production of black-and-white photographs, and a high resolution digital camera for the production of colour images. The resultant negatives and prints from the film-type camera will provide a longer lasting and a more stable photographic output for archival purposes.
- 2.6 Digital images were supplied in a suitable digital format for long-term storage and accessibility, e.g. uncompressed TIFF format. An illustrative selection of digital images was provided in hard copy as part of the project archive.

- 2.7 The photographic record of the site was used to amplify and illuminate the archive drawings and supplement and verify the written record.
- 2.8 The photographic record included black and white prints and digital photographs showing:
  - the overall appearance of the structure in its setting, including oblique and parallel shots:
  - the elevations of the building, including coverage of the exterior and interior; and
  - structural and decorative details.
- 2.8 Plans showing the location and direction of all photographs (Illus 2) and a full photographic index (Appendix 1) were also provided.
- 2.9 The written recording of the structure, historic surfaces and associated heritage assets was undertaken using pro forma record forms.
- 2.10 All field records and other products of the work shall be archived with the National Monuments Record of Scotland (NMRS) and the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS), following and adhering to its standards and guidance for project archiving (RCAHMS 1996a, b).

#### 3 Results

#### 3.1 Documentary evidence

- 3.1.1 Kingcausie House is located 150m north-north-east of the bridge. It is a substantial 3-storey mansion which has been constructed in three main phases (NMRS ref NJ80SE 26). The original building dates to the 17<sup>th</sup> century; the appearance of the present building relates mostly to modifications made in 1852 by architect David Bryce. The estate associated with the house is substantial, and includes 17<sup>th</sup>-19<sup>th</sup> century designed landscapes (Aberdeenshire SMR, Bracegirdle 2009) and large areas of long-established plantation woodland (SNH data). The 1869 and 1900 Ordnance Survey 25-inch sheets show an extensive network of tracks providing access throughout the estate (Illus 3 and 4). The bridge discussed in the present report is shown where one of these tracks crosses a small stream that runs through the woodland.
- 3.1.2 The stream can be followed on the 1900 edition OS from its source at a small lake 700m south-west of the bridge, to an outflow at the Crynoch Burn 240m to the west. The stream appears in plan to be either entirely artificial or a heavily modified natural

- channel; south of the bridge it runs in an almost completely straight line for 250m through the woodland (Plate 3).
- 3.1.3 The bridge itself is not listed in the NMRS, Aberdeenshire SMR or Historic Scotland Listed Building databases. It was identified as having local importance in the Environmental Statement (Jacobs 2007).
- 3.1.4 The Environmental Statement (Jacobs 2007, Chapter 28, Gazetteer, Sites 514, 515) refers to a nearby Mill Building and Lade (Site 515). The building was in fact used as a wash house (Mr. Irvine-Fortescue, pers. comm.), and is visible on the Thomson map of 1832 (Illus 5), as well as the 1869 and 1900 Ordnance Survey maps. The building lies outwith the proposed road corridor. The disused water course or lade north of the bridge is not shown on either the Thomson or Ordnance Survey maps. Only the south-eastern part of the water course is affected by the proposed road corridor.

## 3.2 Survey and Description

- 3.2.1 Kingcausie Bridge (Site 514) (Plate 4) is oriented east-north-east to west-south-west, carrying a 1.6m wide track over a 1.2m wide stream (Illus 6). The stream flows from the south-south-east under the bridge, then turns gradually to the west. The bridge structure consists of three main elements; the spans, parapets and the revetment walls. Each shall be discussed in turn below.
- 3.2.2 The track is carried on four substantial stones, each of which spans the width of the stream (1.2m). These stones were covered in earth and moss, at the time of the survey. No structural detail of these stones could therefore be seen from above. However, they were photographed from a low angle at either side of the bridge (Plate 5). The stones were irregular but appeared to be quarried. They measured approximately 0.38m wide and 0.25m high; their full length could not be seen. The stones rested directly on the revetment walls.
- 3.2.3 The two stone parapets also spanned the stream but were much more substantial than the other stones. They appeared to be quarried, but were still irregular in shape. The south-south-eastern parapet (Illus 6a) was the largest, measuring 2.18m long, 0.79m wide and 0.89m high. Its upper side was gently curved in profile; it was not possible to see whether it had been worked to this shape due to a heavy covering of moss. The opposite parapet (Illus 6b) was smaller, measuring 1.58m long, 0.47m wide and 0.73m high. It was more angular in profile, with the narrow top of the stone sloping to the west-south-west. Much of the stone was covered in moss.
- 3.2.4 The two revetment walls on which the bridge rested were of random rubble dry stone construction. As well as supporting the bridge for the full width of 2.8m, they extended to either side to revet the stream banks. The eastern wall (Plate 6) extended for 7.3m to the north-north-western side of the bridge, following the bend of the stream to the west. The

western 1.3m of this wall had collapsed and could be seen as a spread of stones at the edge of the stream. The eastern wall extended 1.7m to the south-south-west of the bridge and had been somewhat disturbed by the roots of a large tree growing in the stream bank (Plate 7). The western wall extended for 5.9m to the north-north-west of the bridge, with the western 1.7m in a collapsed state (Plate 8). This wall continues for 0.95m to the south-south-east of the bridge (Plate 9). Under the bridge, the revetments stood 0.83m tall under the south-south-eastern parapet and 0.94m tall under the north-north-western parapet, accounting for an 11cm drop in the basal level of the stream. The thickness of the walls could not be seen. The base of the channel was stony, but it was not clear whether this was a built lining. The stones were slightly more densely packed in the revetted part of the stream.

- 3.2.5 An earthen mound (Plate 10) measuring 4m by 2.5m and up to 0.3m high was recorded immediately west of the south-south-eastern parapet. This may be related to the construction of the bridge, possibly where the bank had been excavated to install the spanning stones. It is possible that a similar bank exists immediately north-east of the bridge but this area was obscured by a dense rhododendron bush.
- 3.2.6 A disused water course (Plate 11) could be seen 7m to the north-north-west of the bridge; this continues on the south-south-east to north-north-west alignment of the existing stream south of the bridge. It was 2.3m wide, 0.3m deep and run towards a stone wash house building 35m to the west-north-west. The eastern revetment wall that supported the bridge also cut off the line of this water course; it must therefore be assumed that this water course had fallen out of use prior to the construction of the bridge.

#### 4 Discussion

- 4.1 The present survey work has created a detailed record of Kingcausie Bridge (Site 514) in its immediate context. Some parts of the structure were not visible but a good understanding has been gained of how the bridge had been constructed, and a chronology relative to surrounding features could be surmised.
- 4.2 The stream, which is likely to have been either entirely artificial or modified from an existing water course, has previously run on a different course north of the location of the bridge, possibly providing water for a wash house to the north-west. It is unclear whether the present westerly course of the stream was in use simultaneously with this alignment. At some point, this source of water was no longer needed; either the wash house fell out of use or drew its water supply from elsewhere. The stream was diverted entirely to the western course by the construction of new revetment walls. These were cut into the bank, with the excavated material piled up on the south-west (and possibly north-east) banks. The source of the stone for the revetment walls is unclear but could be re-used clearance stone. These walls provided support for the six large spanning stones, which are likely to have been specifically quarried for the purpose.

- 4.3 It is unclear whether the track predated the bridge; if this was the case, there may previously have been a ford at this location, although no physical evidence for this was found during the survey.
- 4.4 There is presently no evidence from readily available sources to provide an absolute date for the construction of the bridge. It is shown on the 1869 Ordnance Survey 25-inch map, but no available earlier map is of sufficient detail to confirm its presence. Further research into the use of the wash house may help date the bridge. Another approach may be to assess in detail the development of the designed landscapes of the Kingcausie Estate.

#### 5 References

#### 5.1 Bibliographic References

Aberdeen City Council 2012: Invitation to Tender for the non-Invasive Archaeological Investigations for the Aberdeen Western Peripheral Route (AWPR Package)

Bracegirdle, E 2009 *Kingcausie: Secret charms of an old Deeside estate*, Leopard Magazine, March 2009.

English Heritage 2006 Understanding Historic Buildings- A guide to good recording practice.

Jacobs UK Ltd 2007 Environmental Statement. Aberdeen Western Peripheral Route (AWPR)

RCAHMS 1996a. Publication and Archiving of Archaeological Projects

RCAHMS 1996b. Guidelines for Archiving Archaeological projects

#### 5.2 Maps consulted

Ordnance Survey 1869, 25-Inch Aberdeen Sheet LXXXV.12
Ordnance Survey 1900, 25-Inch Aberdeenshire, Sheet 085.12
Thomson, J 1832, Kincardine Shire

#### 5.3 Archives Consulted

Aberdeenshire Council Sites and Monuments Record Historic Scotland Listed Buildings Database National Monuments Record of Scotland

#### 5.4 Online Resources Consulted

Aberdeenshire Council SMR record for NJ80SE0068 – Kincausie House, accessed 14<sup>th</sup> November 2012

http://www.aberdeenshire.gov.uk/smrpub/shire/detail.aspx?tab=main&refno=NJ80SE0068

Historic Scotland Data Website - Listed Buildings: KINGCAUSIE HOUSE, accessed 8<sup>th</sup> November 2012

http://data.historic-scotland.gov.uk/pls/htmldb/f?p=2200:15:0::::BUILDING:16489

NMRS Site Record for Kingcausie House Kingcausie; Kingcausie House Policies Details, accessed 8<sup>th</sup> November 2012

http://canmore.rcahms.gov.uk/en/site/19388/details/kingcausie+house/

Scottish Natural Heritage website - Dataset Results for Habitats & Species - Scotland Ancient Woodland Inventory, accessed 8<sup>th</sup> November 2012

https://gateway.snh.gov.uk/pls/apex\_ddtdb2/f?p=101:11:518076954685821::NO::P11\_D S\_ID:680

# 6 Appendices

# 6.1 Appendix 1 Photographic record

All photos were taken as both digital and black-and-white print, except where stated.

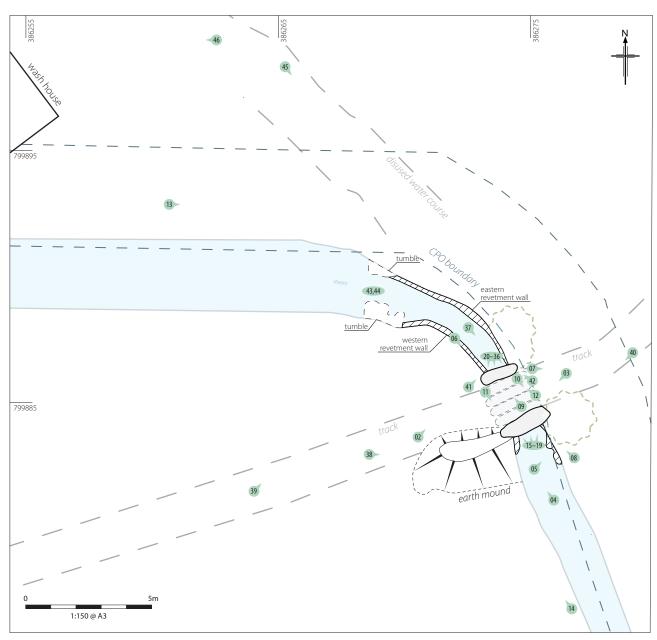
Photo Number	Direction Facing	Description
001	-	ID shot
002	east-north-east	General view of bridge
003	west-south-west	General view of bridge
004	north-north-west	General view of bridge
005	north-east	Detail of south-eastern revetment
006	east-south-east	Detail of north-eastern revetment
007	east	Detail of north-western revetment
008	north-west	Detail of south-western revetment
009	north-north-west	Detail of north-north-western parapet from bridge
010	south-south-east	Detail of south-south-eastern parapet from bridge
011	south-south-east	General view of south-south-eastern parapet and stream from bridge
012	north-west	General view of north-north-western parapet and stream turning to the west from bridge
013	east	General view of stream and bridge from the west
014	north-north-west	General view of stream and bridge from the south
015	-	Detail of stonework beneath bridge, from south side (digital only, various angles and exposures)
016	-	Detail of stonework beneath bridge, from south side (digital only, various angles and exposures)
017	-	Detail of stonework beneath bridge, from south side (digital only, various angles and exposures)
018	-	Detail of stonework beneath bridge, from south side (digital only, various angles and exposures)
019	-	Detail of stonework beneath bridge, from south side (digital only, various angles and exposures)
020	-	Detail of stonework beneath bridge, from north side (digital only,

		various angles and exposures)
021	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
022	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
023	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
024	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
025	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
026	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
027	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
028	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
029	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
030	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
031	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
032	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
033	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
034	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
035	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
036	-	Detail of stonework beneath bridge, from north side (digital only, various angles and exposures)
037	east-south-east	Detail of north-eastern revetment
038	east	General view of earthen mound to south-west of bridge
039	east-north-east	General view of track and bridge from the west
040	west-south-west	General view of track and bridge from the east
041	north-east	Detail of north-north-western parapet supported on revetment, west end
042	west-north-west	Detail of north-north-western parapet supported on revetment, east end
043	-	Vertical view of stream bed at western extent of tumble
044	-	Vertical view of stream bed at western extent of tumble

045	south-south-east	General view of disused water course
046	west	General view of disused water course and remains of wash house

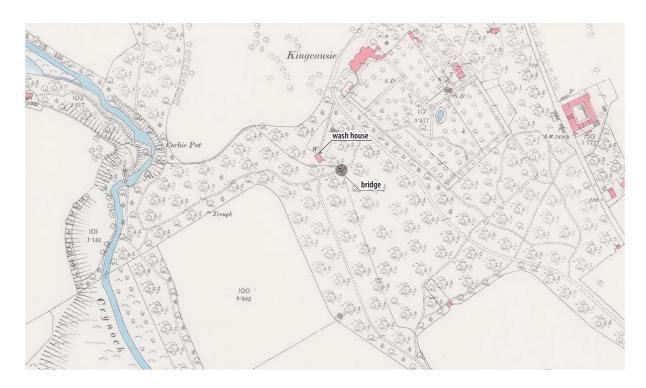
# 6.2 Appendix 2 Illustrations



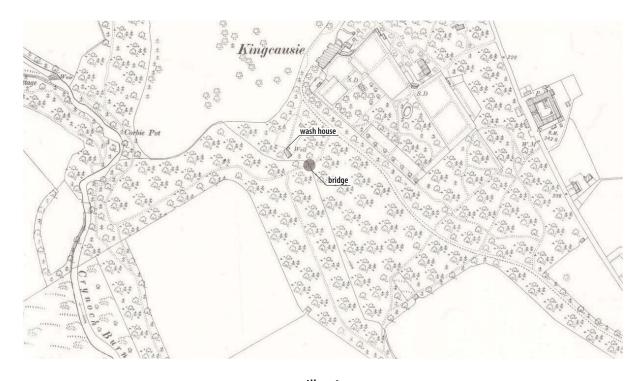


**Illus 2** *Plan showing photo directions* 

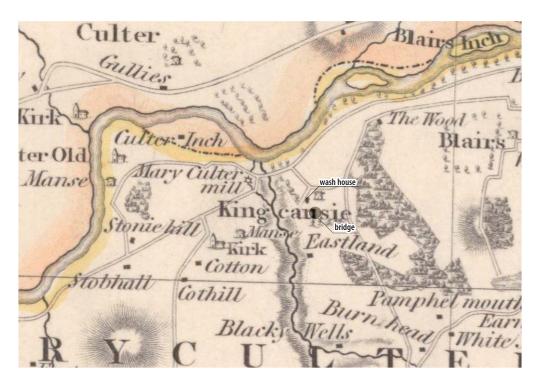




**Illus 3**1869, Ordnance Survey 25-inch, Aberdeenshire, Sheet LXXXV.12
Reproduced by permission of the Trustees of the National Library of Scotland

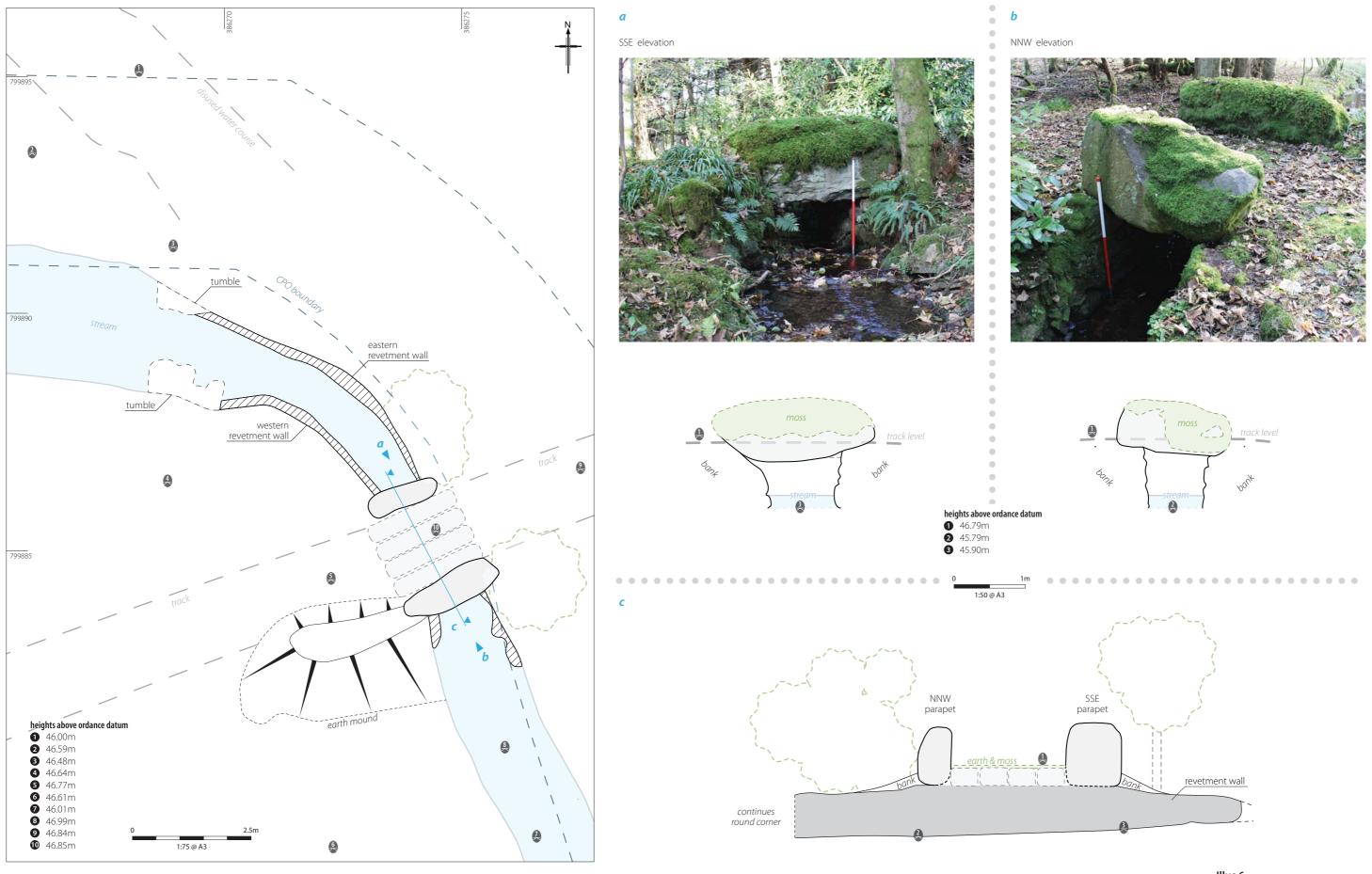


Illus 4



Illus 5

1832, Thomson, Kincardineshire Reproduced by permission of the Trustees of the National Library of Scotland



**Illus 6** *Plan, elevations and section of Kingcausie bridge* 



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