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Client: Transport Scotland
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The Results of an Archaeological Field Evaluation by Trial Trenching on the Forth Replacement Crossing at Castlandhill House (Land Parcel 2)

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Report Status: Approved



Executive Summary

Headland Archaeology conducted an archaeological evaluation by trial trenching on the Forth Replacement Crossing at Castlandhill House(Land Parcel 2), NGR: NT 12041 81844 (centred), to assess the presence/absence of archaeological remains or deposits and to target the possible remains of site 1305 Castlandhill Southern Gate Lodge identified during previous ground investigation works and noted in an area identified as having good archaeological potential in the Forth Replacement Crossing Environmental Statement (Jacobs Arup, 2009). The work was commissioned by Transport Scotland, managed and monitored by Jacobs Arup and undertaken in advance of the proposed commencement of construction works.

A total of 5 trenches totalling 84.75m² were excavated comprising a 2.3% sample across the Parcel. A small building was identified in the south-eastern corner of the site. Trenches were extended in order to identify the limits of the building, which established that it was rectangular in shape and had associated external features. The building is depicted on the first edition Ordnance Survey map of 1856 and is the Southern Gate Lodge associated with Castlandhill House to the north.

ARCHAEOLOGICAL EVALUATION
Forth Replacement Crossing: Land Parcel 2, Castlandhill

PROJECT SUMMARY SHEET (FRCE10)

<i>Client</i>	Transport Scotland
<i>Consultant</i>	Jacobs Arup
<i>National Grid Reference</i>	NT 12041 81844
<i>Project Manager</i>	Edward Bailey
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<i>Schedule</i>	
Fieldwork	19 th April – 21 st April 2011
Report	May 2011

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1 Introduction

1.1 General

1.1.1 This draft Data Structure Report is submitted as a report on the results of a programme of archaeological trial trenching undertaken on behalf of Jacobs Arup and Transport Scotland in respect of the proposed Forth Replacement Crossing (hereinafter 'FRC'), and in accordance with the mitigation measures recommended in the FRC Environmental Statement Chapter 14 (Cultural Heritage; Jacobs Arup 2009a) wherein the requirement for a programme of trial trenching was identified.

1.1.2 Between the 19th March and 21st April 2011, Headland Archaeology (UK) Ltd. undertook a programme of archaeological evaluation by trial trenching on Land Parcel 2 on the northern side of the landfall for the FRC (Illus 1). The project was managed by Edward Bailey (Project Manager), the fieldwork and reporting was overseen by Ian Hill. Two additional staff members were involved throughout the evaluation.

1.2 Project Background

1.2.1 In December 2007, following the completion of the FRC Study as part of the Strategic Transport Project Review (hereinafter 'STPR'), the Scottish Government confirmed the intention to provide a new cable-stayed bridge to the west of the existing Forth Road Bridge. Jacobs Arup (as a joint venture) was commissioned in January 2008 to assist Transport Scotland to develop the FRC proposals, to undertake an Environmental Impact Assessment (hereinafter 'EIA') and to prepare an Environmental Statement (hereinafter 'ES') (Jacobs Arup 2009a).

1.2.2 The purpose of the cultural heritage component of the EIA was to identify the cultural heritage baseline, evaluate the likely significant impacts that the proposed development would have on this resource, and recommend measures to mitigate identified impacts. .

1.2.3 The cultural heritage baseline data for the EIA was obtained via a desk-based assessment and walkover survey undertaken in 2008-2009 in accordance with the principles set out in DMRB Volume 11, Section 3 Part 2 'Cultural Heritage' (HA 208/07; Highways Agency 2007). Further information was also gathered during archaeological watching briefs on Ground Investigations for the proposed scheme carried out during 2008 and 2009 by variously Jacobs Arup, Glasgow University Archaeology Research Division and Headland Archaeology Ltd in accordance with the requirements of Historic Scotland to whom the results were reported (Transport Scotland 2010, 30).

1.2.3 Based on the results of the EIA the ES recommended that a programme of invasive and non-invasive archaeological works be undertaken, to include resistivity survey and trial trenching (Jacobs Arup 2009a).

1.3 Aims and Objectives of the Archaeological Works

1.3.1 The general objectives of the programme of archaeological works (Transport Scotland 2010) were to:

- ensure that significant archaeological or palaeoenvironmental remains shall be neither needlessly destroyed, nor destroyed without record;
- identify any unknown archaeological remains that may be affected by the scheme;
- enable a more confident assessment of the impact of construction of the proposed scheme on archaeological remains;
- enable the identification and design of any measures that may be necessary to mitigate the impact of the proposed scheme on newly identified archaeological remains, and
- enhance available information about known archaeological remains, where existing information is insufficient to enable a full assessment of impact or the design of mitigation measures.

2 Site Background

2.1 Archaeological and Historical Background

2.1.1 Within a study area ranging in extent from 500m from the proposed route to 6km from the proposed main crossing a total of 356 cultural heritage sites were identified by the ES, whilst a desk-based assessment of a wider study area undertaken at route selection stage, identified a total of 1200 cultural heritage sites (Transport Scotland 2010, 30). The results from these studies show that the scheme is located in a landscape containing archaeological evidence dating from the Mesolithic period, through the prehistoric and medieval periods, up to post-medieval and modern times.

2.1.2 Land Parcel 2 was identified as a site of potential cultural heritage significance due to the presence of Castlandhill House to the north. Castlandhill House Southern Gate Lodge (Site 1305) is shown on maps lying to the south of the main house, and structural remains potentially relating to it were identified during monitoring of ground investigation trial pits (Curtis 2010).

2.1.3 Pre-historic activity in the wider area is evidenced by the discovery in 1961 of an axe head rough out on Castlandhill Farm to the north. Reports of the presence of a lead mine in the area from the 18th century give an indication of previous land use. Recent research has confirmed that Castlandhill Hill was utilised as a defensive position by the Scottish Royalist forces at the Battle of Inverkeithing fought in 1651.

2.2 Site Topography and Land Use

2.2.1 The site is located to the east of the Port of Rosyth and lies at the entrance to the driveway of Castlandhill House (NMRS No. NT18SW 218). It is bounded to the south and west by Ferry Toll Road. The ground is very uneven, with steep sided rocky outcrops to the east. It generally slopes downhill towards the south. At the time of the evaluation the site was under open tree cover and hedgerow. The site is under the ownership of I E D Job and J S D Job.

2.3 *Site Geology*

- 2.3.1 The results of geotechnical investigations (Jacobs Arup 2009b) carried out demonstrate that the subsurface stratigraphy underlying the development corridor generally constitutes glacial till deposits of varying thickness; these are predominantly comprised firm to very stiff boulder clay deposits with occasional granular till deposits. The trial trenching (below) has identified small patches of free-draining sands and gravels.
- 2.3.1 The solid geology of the site is typified by igneous alkali dolerite (British Geological Survey 2008). The alkaline nature of the bedrock geology has the effect of breaking up the structure of clays within the soil matrix which negatively affects its water holding capacity, similar to the effect agricultural lime has on arable soils.

3 **Methodology**

- 3.1.1 All works were undertaken in accordance with the specification in the contract documents (Transport Scotland 2010), which had been agreed with Historic Scotland and Transport Scotland. The total area to be evaluated measured 3,673m² and a 2.3% sample of this was investigated by trial trenching, the total area of which comprised 84.75m². A large portion of the site was inaccessible due to near vertical rocky outcrops and the current driveway to the property, which is still in use. Prior to the works an indicative trench plan was agreed with the consultant archaeologists, Jacobs Arup. Trenches were sited to test the survival of the Southern Gate Lodge (Site 1305) of Castlandhill House and to provide good spatial coverage of the remainder of the site. Due to the tree cover on site, Trenches 1, 2 and 4 were re-positioned slightly. Trench 3 was re-located to the north of Trench 5 in order to reveal the extent of the Southern Gate Lodge.
- 3.1.2 All trenches were individually numbered and located using a pole-mounted Trimble G6 differential GPS programmed with the trench coordinates. The trenches were excavated using a JCB 3-CX mechanical excavator, fitted with a back actor and a 1.6m wide flat-bladed ditching bucket. The machine operated under continuous archaeological supervision and turf, topsoil and subsoil were removed down to the first archaeological horizon or clean geological deposits, whichever was encountered first. Turf, topsoil and subsoil were stored separately. Any potential features identified were hand cleaned and investigated appropriately. Archaeological features and deposits were hand excavated and recorded using standard archaeological methods and pro-forma record sheets. The excavated trenches and any archaeological contexts were recorded using a Trimble G6 differential GPS, as well as hand drawing where appropriate. Photographs were taken using colour slide film, black and white film, and digital.

4 **Results of Fieldwork (Illus 2)**

4.1 *Trial Trenching*

- 4.1.1 Five trenches were excavated across Land Parcel 2 (Illus 2) with a combined total area of 84.75m² comprising a 2.3% sample of the Parcel. Full detailed descriptions of each

trench are provided in Appendix 1 and individual contexts are presented in Appendix 2. The results of the evaluation are summarised below.

- 4.1.2 The natural geology (007) seen in the trenches varied from brownish grey clay to free draining gravels and orange-brown sand. This was generally overlain by 0.30m of mid brown clayey silt topsoil (020) containing dense roots.
- 4.1.3 Colluvial deposits (021) were identified in Trenches 1, 2 and 4, which ran across a sharp north to south dip to the west of the current driveway. These were up to 1m in depth and comprised brown silts containing dense tree roots.
- 4.1.4 Archaeological remains were identified in Trenches 3 and 5. No archaeological remains or deposits were found in Trenches 1, 2 or 4. Trench 1 contained a rubble field drain.
- 4.1.5 Trench 5 contained the remains of a small building. The trench was extended to the south and north in order to determine the extent of the building. The southern, western and eastern walls (011, 012 & 015) of the structure were exposed, confirming the building was 6m wide. The total length of the building from the southern most wall (011) to the northernmost wall revealed in trench 3 (001) was 7.5m.
- 4.1.6 The southern (011), western (012) and eastern (015) walls of the building were constructed of random coursed mortar bonded dressed dolerite boulders up to 0.36m x 0.25m x 0.20m. The exposed southern wall (011) was 5.50m in length and was 0.50m wide. The wall three courses high survived to a height of 0.32m. The exposed western wall (012) was 2.50m in length and was 0.40m wide and consisted of two courses surviving to a height of 0.25m. The exposed eastern wall (015) was 1.80m in length and was 0.50m wide and consisted of three courses surviving to a height of 0.30m.
- 4.1.7 The interior remains of the building were very disturbed with two unbonded brick surfaces identified; both of which had been partially truncated away. The first, (017), was adjacent to the interior of wall (011) at the western end, surviving over an area 1.5m by 0.4m. The bricks were laid on edge and were stamped 'BonnyBridge' on the base. The second surface (010) was seen at the north end of the trench in the western half of the building. The bricks had been laid on bed, and the surface survived over an area measuring 2m by 0.60m. A deposit of stone and brick rubble (018) was present between the two surfaces. Further rubble and debris deposits were exposed along the eastern exterior of the building, consisting mainly of broken slate roof tiles (016).
- 4.1.8 The western wall (012) was cut by ceramic drain (013). The drain ran into the building and underlay deposit (010).
- 4.1.8 The foundations for the building had been cut into natural sand (007), and a mixed silt and rubble infill deposit (014) filled the foundation cut for the building on the southern and western sides.
- 4.1.9 Trench 3 was excavated to the north of Trench 5 in order to determine the northern extent of the building. Similar remains were discovered with the foundations of the

building cut into the natural orange sands (007) and a mixed silt and rubble infill deposit (006) filled the west side of foundation cut of wall (002).

- 4.1.10 Two random coursed mortar bonded dressed dolerite walls were exposed in Trench 3. Wall (002) was a continuation of the western wall (012) from Trench 5. It was exposed to a length of 3m and was 0.50m wide. Two courses survived to a height of 0.20m. Wall (001) formed the northern wall of the building. 1.50m of the wall was exposed in the trench and it was 0.40m wide and consisted of three courses surviving to a height of 0.37m.
- 4.1.11 The interior of the structure consisted of a mixed rubble infill deposit (005) that was 0.37m deep and overlay a compacted, red sand and stone surface (009).
- 4.1.12 Abutting the northern wall (001) was a concrete platform (003) with a moulded gutter (004). The exposed platform was 1.40m in length and was 0.90m wide and continued beyond the limit of excavation. The moulded gutter was 0.30m in width and had a U shaped profile and was 0.03m in depth. This feature formed paving possibly at an entrance to the building.
- 4.1.13 A further random coursed mortar bonded dolerite wall (019) is located to the east of the building remains. It is aligned north-west to south-east, running parallel with the building remains at a distance of 2m. The wall stands to a height of 0.90m, with a maximum five courses visible, although it is lower towards its northern end where three courses were visible. The wall is 6m in length marking the limit of the steeply sloping ground to the north-east. It forms a revetment for this material and is thought to be contemporary with the building.

5 Conclusions

- 5.1.1 The building that was revealed in Trenches 3 and 5 represents the remains of the southern gate lodge associated with Castlandhill House (NMRS No. NT18SW 218). The house and lodge first appear on the Ordnance Survey (OS) six inch to the mile 1st edition map published in 1856. The lodge is shown sitting to the east of the drive leading up to the main house, the location of the lodge was confirmed by the trial trenching.
- 5.1.2 The gate lodge continued to appear on Ordnance Survey mapping until the 1961 edition from which it is absent. This indicates the gate lodge was demolished sometime during the mid 20th Century.
- 5.1.3 Based on the results of the fieldwork in which no finds or environmental samples were retrieved, the archaeological archive is assessed as having no potential and therefore no further works are recommended

6 References

6.1 Bibliographic References

Curtis, A. 2010 *Forth Replacement Crossing Additional Ground Investigation: Archaeological Monitoring*. Unpublished Jacobs Arup client report

Jacobs Arup 2009a *Forth Replacement Crossing: Environmental Statement*. November 2009.

Jacobs Arup 2009b *Transport Scotland Forth Replacement Crossing: Network Connections – South Ground Investigations Report*. Jacobs Arup November 2009.

Transport Scotland 2010 *Forth Replacement Crossing*. ‘Competition for the Land Based Invasive and Non-Invasive Archaeological Survey and Evaluation Contract Volume 2: Tender Document.’

6.2 Cartographic References

1856 (surveyed 1854) *Fifeshire Sheet 39* 1:10560

1896 (surveyed 1895) *Fifeshire Sheet XLIII.2* 1:2500

1915 (surveyed 1913) *Fifeshire Sheet XLIII.2* 1:2500

1927 (surveyed 1925) *Fifeshire Sheet XLIII.2* 1:2500

1961 (surveyed 1960) *Sheet NT1281 and NT 1381* 1:2500

1967 (surveyed 1965) *Sheet NT1281 and NT 1381* 1:2500

British Geological Survey 2008 *Linlithgow, S032W*, (version B&Sup), 1: 50 000.

7 Appendices

Appendix 1: Trench Register

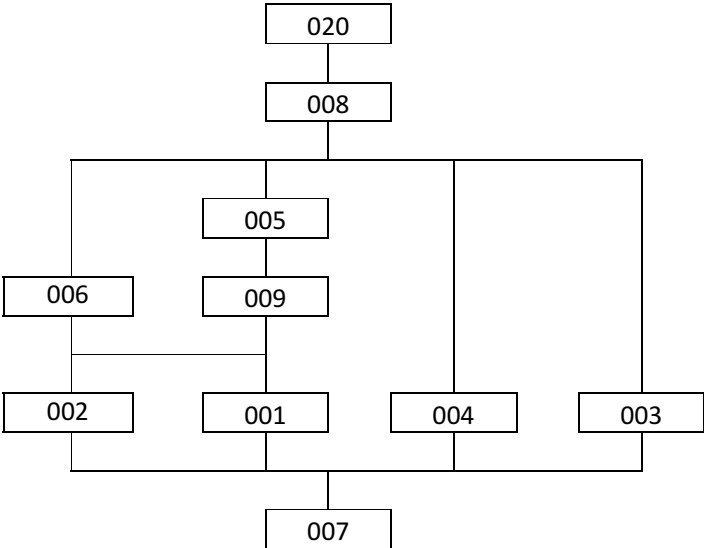
Trench No	Area (m²)	Maximum Depth (m)	Description
1	17.6	0.80m	SE-NW. Rubble drain S-N.
2	16	0.30m	NW-SE.
3	13.75	0.40m	S-N. Contains built structure [001-009].
4	10.4	1.00m	S-N.
5	27	0.40m	E-W. Contains built structure [010-014].

Appendix 2: Context Register

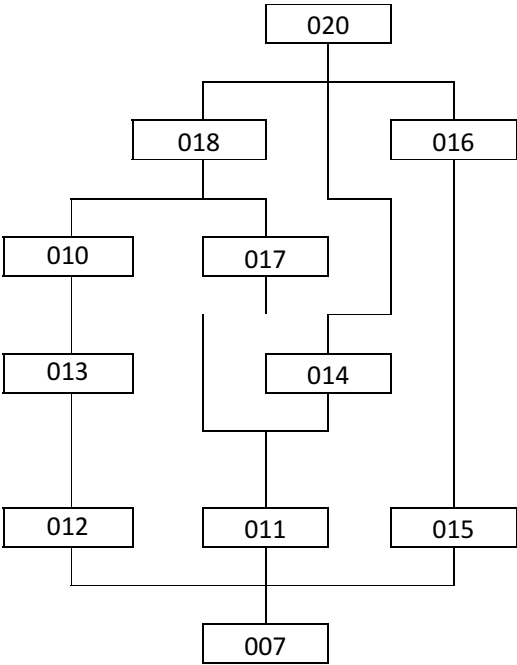
Context No.	Trench	Description
001	Tr 3	Mortar bonded dolerite wall. Measured 1.50m in length by 0.40m wide and to maximum height of 0.37m.
002	Tr 3	Mortar bonded dolerite wall. Measured 3m by 0.50m and to a maximum height of 0.20m.
003	Tr 3	Concrete platform. Measured 1.40m by 0.90m.
004	Tr 3	Moulded concrete guttering. Measured 0.30m wide and 0.03m deep with a U shaped profile, extended 2m north-west to the limit of excavation and 1.80m north-east to the limit of excavation.
005	Tr 3	Mixed rubble infill. Measured 2.40m by 0.90m. Continued beyond the limit of excavation.
006	Tr 3	Rubble infill of foundation trench. Measures 1.4m by 0.19m. Not excavated.
007	All	Orange-brown natural sand
008	Tr 3	Mixed silty and rubble subsoil. Measures 0.80m by 0.70m.
009	Tr 3	Compacted red sand and stone surface.
010	Tr 3	Brick surface at northern edge of trench. Measured 2m by 0.60m.
011	Tr 5	Southern wall, Mortar bonded stone wall. Measured 5.50m by 0.50m and 0.32m in height.
012	Tr 5	Western wall, mortar bonded stone wall. Measured 2.50m by 0.40m wide and 0.25m in height.
013	Tr 5	Drain cutting through western wall
014	Tr 5	Brown silty infill of possible foundation trench.
015	Tr 5	Eastern wall, mortar bonded stone wall. Measured 1.80m by 0.50m and 0.30m in height.
016	Tr 5	Rubble infill. Measured 1.5m by 1.4m. Not excavated.
017	Tr 5	Brick surface abutting (011) to the north. Measured 1.50m by 0.40m.
018	Tr 5	General rubble within interior of building at western end.
019	-	Mortar Bonded stone wall to the east of the building
020	All	Topsoil
021	Tr 1, 2 & 4	Colluvium

Appendix 3: Trench Matrices

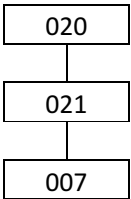
Trench 3



Trench 5



Other Trenches



Appendix 4: Photographic Register

Photo No.	Direction	Description
188	E	General Shot of Tr 5 LP2
189	S	General Shot of Tr 4 LP2
190	SW	General Shot of Tr 1 LP2
191	WSW	General Shot of Tr 2 LP2
192	SE	General Shot of Features in Tr 3 LP2
193	N	Shot of (003) and (004) Tr 3 LP2
194	E	Shot of (002) Tr 3 LP2
195	N	Shot of (001) and (009) Tr 3 LP2
196	W	General Shot of features in Tr 5 LP2
197	NE	General Shot of features in Tr 5 LP2
198	N	General Shot (010) Brick Surface
199	E	General Shot South Wall (011)
200	E	General Shot West Wall (012)
201	E	Drain (013) close-up
202	E	General Shot East Wall (015)
203	S	General Shot Bricks (017)
204	E	Detail of Mortar Bonded Stone Wall to E of Building (019)
205	SE	General Shot of Wall (019) to E of Building