



The Pineapple Walled Gardens, Airth

Report : November 2007

A National Trust for Scotland Report

Produced by



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ILLUSTRATIONS

Figure 1: Location plan.

Figure 2: section of east facing elevation (southwest walled garden).

Figure 3: section of west facing elevation (southwest walled garden).

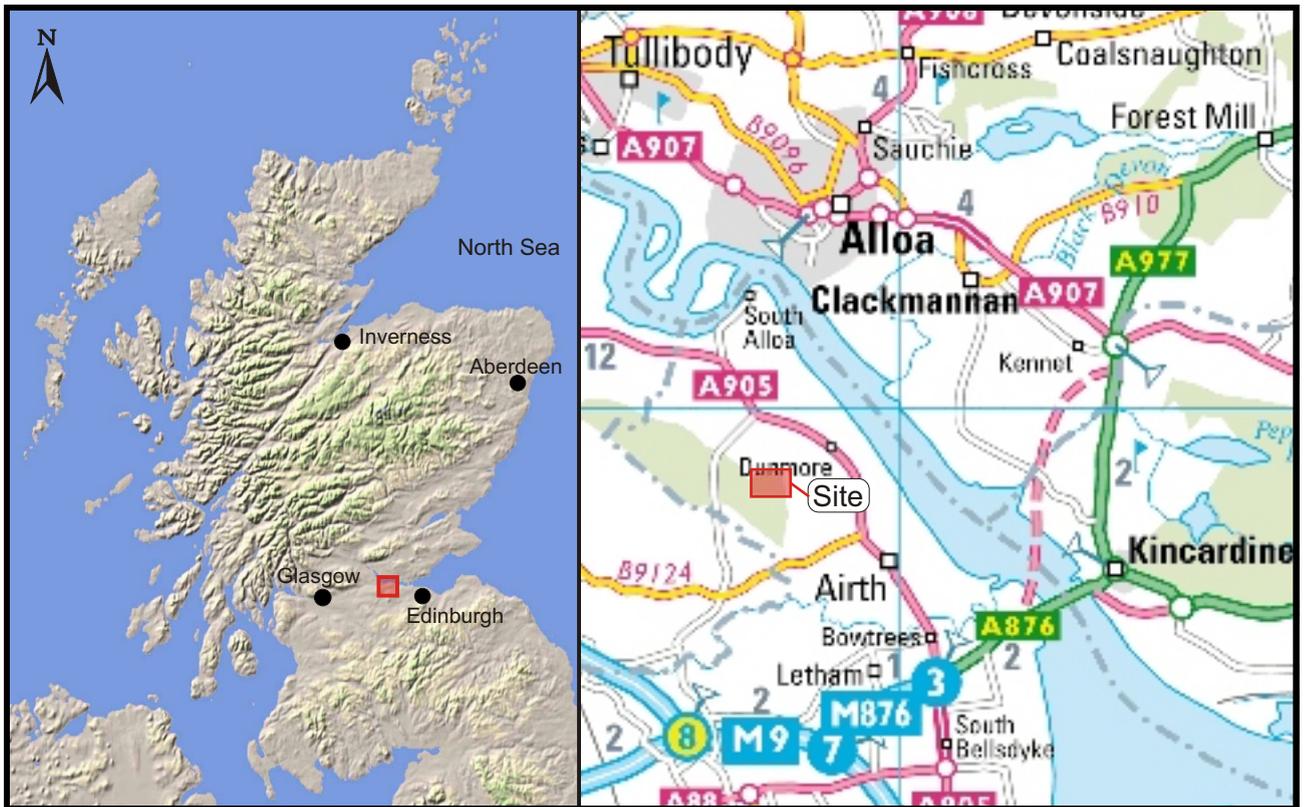
Figure 4: section of south facing elevation (northeast walled garden).

Figure 5: section of north facing elevation (northeast walled garden).

Appendix 1: Photo List

Appendix 2: DES entry

Appendix 3: Context List



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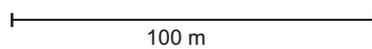


Figure 1: Location Plan

1.0 SUMMARY

- 1.1 An archaeological building record of two sections of walling in the southwest and northeast walled gardens of the Pineapple was required prior to repair, consolidation and rebuild. Robin Turner of the National Trust for Scotland commissioned these works to be undertaken in August 2007, and the scope was restricted to sections of wall in immediate need of remedial works. (Fig. 1).
- 1.2 The work will inform reconstruction and consolidation of the existing wall to the original height and ensure details of brickwork are correct.
- 1.3 Further work is not required for the current sections, however the entire walled garden is requiring an accurate and detailed drawn record in conjunction with interpretation.

2.0 INTRODUCTION

2.1 Site location

The two sections of wall are located at the Pineapple, Airth, site centred at NS 88930 88500. One section is in the southwest corner of the southwest Walled garden stretching from the northern gate pier to the north and the other section is in the northeast corner of the northeast walled garden in the area of the cart entrance (Fig. 1).

2.2 Site History

Built on the estate of John Murray, the 4th Earl of Dunmore, in 1761 the two walled gardens contain one of the most unusual buildings in Britain. The pineapple was a rare delicacy and a symbol of wealth where often you could rent the exotic fruit by the day to impress guests. The Earl's example is a dramatic 23m in height, and the pineapple is intricately carved from stone mounted on top of a Palladian pavilion, the design of this folly has been accredited to Sir William Chambers (1723-96). This structure was flanked by two glass houses where the fruit was cultivated, though these have now been removed.

Above the south entrance are designs taken from the Douglas-Hamilton coat-of-arms along with the motto *Fidelis in Adversis*, commemorating the marriage, in 1803, of George Murray, the 5th Earl of Dunmore, to Lady Susan Douglas-Hamilton, daughter of the Duke of Hamilton.

This monument was gifted to the National Trust for Scotland in 1974.

3.0 OBJECTIVES

- 3.1** To record the two sections of the garden wall that will be affected by immediate remedial works, and inform the rebuilds with evidence recovered from the record.

4.0 METHODOLOGY

- 4.1** The wall was photographed using a 10megapixel digital camera with a 2m ranging rod used for scale, a white horizontal/vertical string-line was used to ensure accuracy and orientation. A sketch pencil drawing of the outline of the wall, and larger stonework was also recorded.
- 4.2** The wall photographs were rectified and used as the base for interpretation, a further site visit was conducted to enhance the drawn record.



South

North

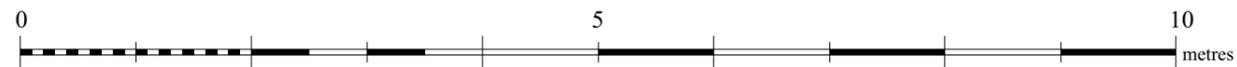
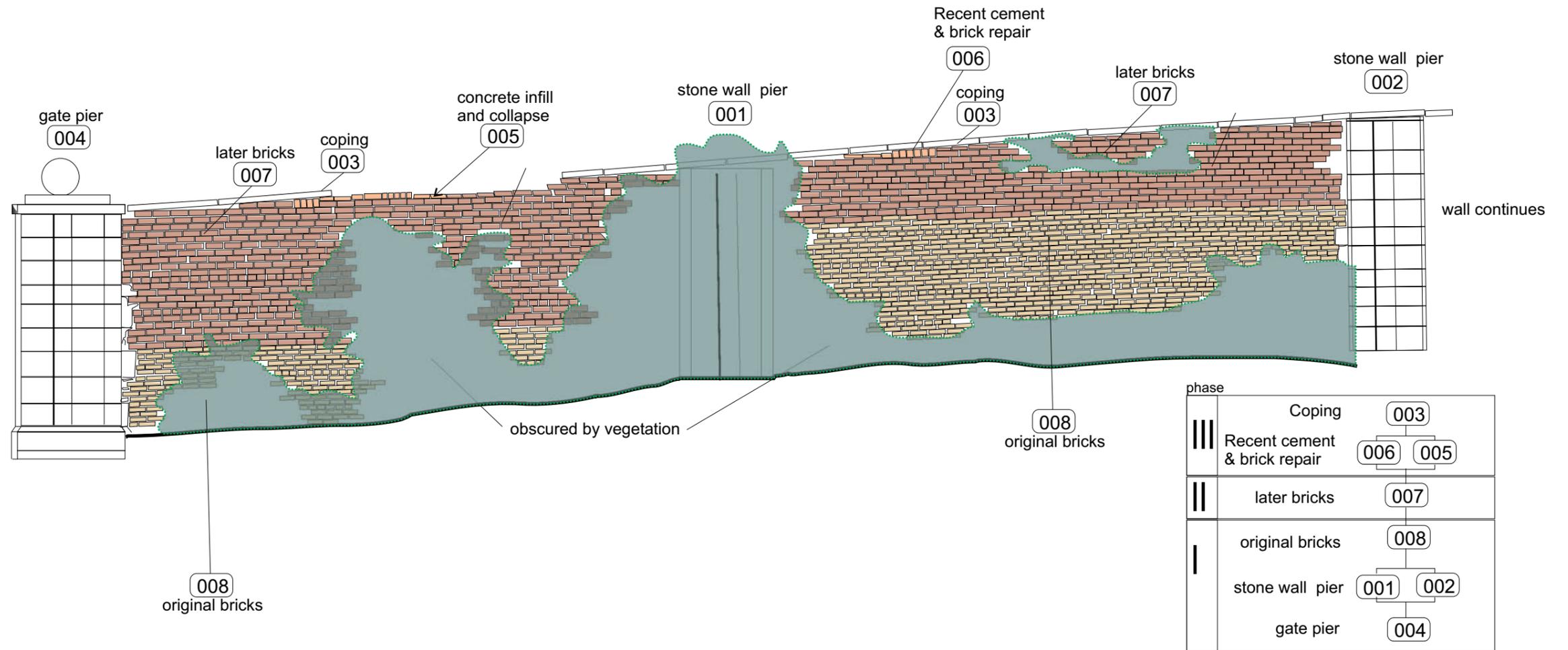


Figure 2: east facing wall, southwest walled garden

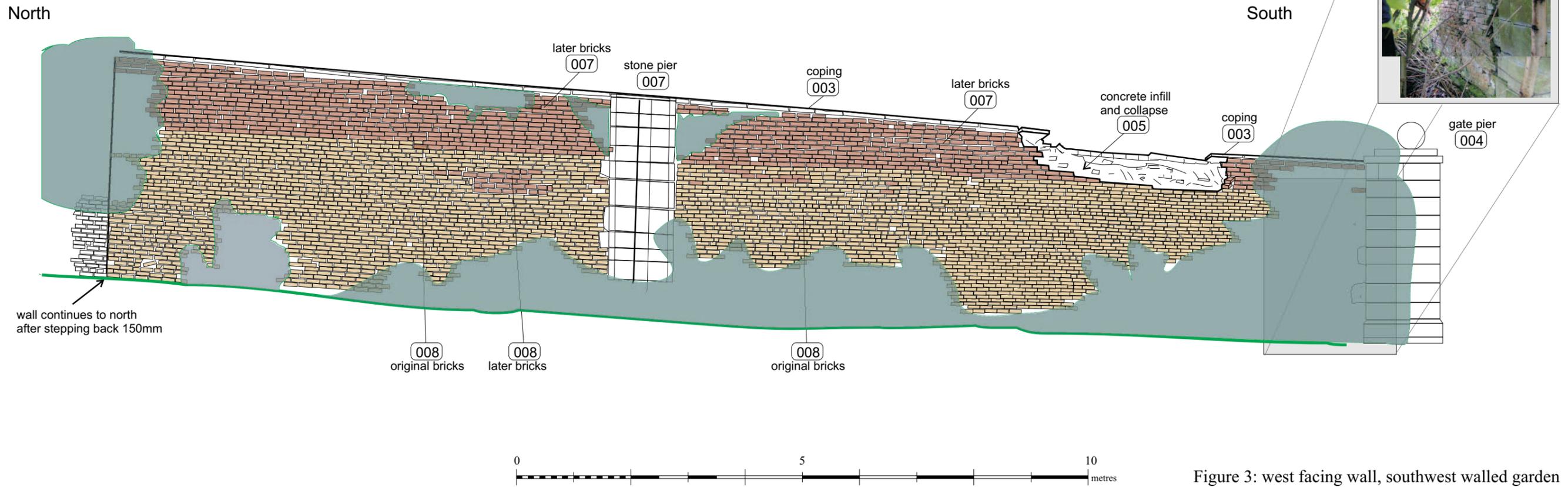


Figure 3: west facing wall, southwest walled garden

5.0 RESULTS

5.1 Southwest Walled garden (east facing elevation) (Fig. 2)

The surveyed section covered two bays of walling stretching from the northernmost sandstone built ashlar gate pier [004] to the north (left-hand bay: 7.20m wide and right-hand bay: 7.40m wide). Two further sandstone ashlar built piers [001] and [002] break the wall face, however do not penetrate the width of the wall, and extend only half way through the wall structure. The original brickwork [008] is of standard 18th-century size (approx 205mm x 55mm x 100mm) though it was observed that certain bricks are of an intermediate size (approx 155mm x 55mm x 100mm) and were used on an irregular basis to 'even up' a course. A rough garden bond, was used and bonded with a dark cream mortar with few inclusions. The width of the brick walling is c. 400mm.

At some point in the 19th or early 20th century, an extensive repair took place with machine-made bricks (220mm x 72mm x 100mm) being used to rebuild the upper sections of the wall skin [007], with more extensive repair evident within the first bay.

The wall is coped with sandstone slabs (or what appears to be sandstone) [003] which overlay two areas of obvious late 20th century repair [005] & [006] where modern brick and cement has been used. The main area of wall failure and collapse is in the first wall bay and the recent repair has been exposed, though this is best viewed from the west site.

5.2 Southwest Walled garden (west facing elevation) (Fig. 3)

The west facing elevation shows the same phasing as the east facing elevation, however part of the original brick wall [008] seems to survive to a greater height. Above this section the wall has been once again rebuilt with 19th/20th century bricks as before [007]. The stone wall piers [001 & 2] do not appear in this elevation, though a sandstone ashlar pier [009] is found on this side approximately half way between the two on the east face. A small amount of earlier repair [010] can be seen within the fabric of [008]. The collapse and failure of the wallhead is clear within the first bay, and exposed cement and recent bricks shows the failure has come in an area of recent repair. Further twisting of the wall away from the gate pier [001] is located behind the tree that obscures the elevation, with a large structural crack and evidence of the footings shifting from the vertical, which have been reported to the structural engineer. The wall steps back a bricks width at the extreme. (left-hand bay to stepback: 8.75m wide and right-hand bay: 12.10m wide)

5.3 Northeast Walled garden (south facing elevation) (Fig. 4)

A single cart entrance penetrates the northeast walled garden in the north corner. The low arch and quoins [013] on the internal elevation are of a

finegrained sandstone with broad droving and broached margins. The arch is a shallow segmental type. This supports a brick wall skin of 18th century style handmade bricks (230mm x 65mm 100mm) [012], which are flush pointed with a creamy mortar, though this has in the main been lost from the upper half of the skin, leaving the joints unmortared and vulnerable. The style of bond is typical garden bonding. The sandstone slab coping [014] has been damaged by vegetation egress above the arched entrance, rendering the wall open to weather damage and causing shifting of the copes.

5.4 Northeast Walled garden (north facing elevation) (Fig. 5)

The external wall is constructed of coursed sandstone rubble [015] bedded in a creamy gritty mortar around the sandstone arch [013]. The low arch and quoins [013] on the external elevation are of the same finegrained sandstone as the internal elevation however the droving and broached margins are finer and finished with a higher degree of quality. The arch is a shallow segmental type. Movement and loss of the coping [014] has again allowed the joints in the upper section of the wall to be weakened and the pointing and render has been lost. The rough cast render is still in evidence on the lower section of the wall [016].

6.0 CONCLUSIONS AND RECOMMENDATIONS

Southwest Walled garden

Although a simple garden wall, the build shows three distinct phases of construction. The southwest walled garden has an inner and outer skin of brickwork with sandstone pillars forming distinct bays along the west wall. The original 18th-century brickwork seems to have been heavily repaired in the 19th or early 20th century (this is evidenced by the brick typology). A further repair in the later 20th century used cement – which is now seen as an inappropriate material, and the collapse of the wallhead shows the repair did not take into account the nature and construction of the wall, and therefore leaves open the potential that the entire walled garden may require remedial works. Cement and rubble seem to have been used to infill the skin walls of brick. A programme of repair, including repointing, structural repairs and reinstating the cope would benefit the wall. The northern gate pier was examined; however access to the external elevation was difficult due to a large evergreen cypress type tree. What was clear though was a twisting in the wall to the north, which has caused a severe structural crack the full height of the wall. A final observation of the earlier brickwork was the discovery of a 2/3rds size brick, which seemed to be used to even up courses of brickwork, this extra size of brick has an affect on the character of the wall, and should be considered during repairs and reconstructions.

Northeast Walled garden

In contrast to the southwest walled garden the secondary area is constructed of an internal skin of 18th century brick with an external wall of coarse rubble stonework and render. A rougher sandstone cart entrance is the main

exit to the north around which this survey has been conducted. It should be noted that the level of finishing of the cart entrance quoins and arch voussoirs is of higher quality than the interior, with finer droving marks, for the obvious reason that this would be the side viewed by visitors to the estate rather than the interior which would only be seen by estate workers. There have been no repairs to this wall, with evidence for only a single phase of construction. The coping slabs have fallen from directly above the cart entrance and are allowing deterioration of the structure.

Reconstruction should take into account the variation of brick type from each period and the two separate coping details. Re-rendering of the exterior could be considered as an option to ensure the weatherproofing of the stone walling – to allow further water damage to the interior would negate any other repairs to the fabric.

David Connolly November 2007

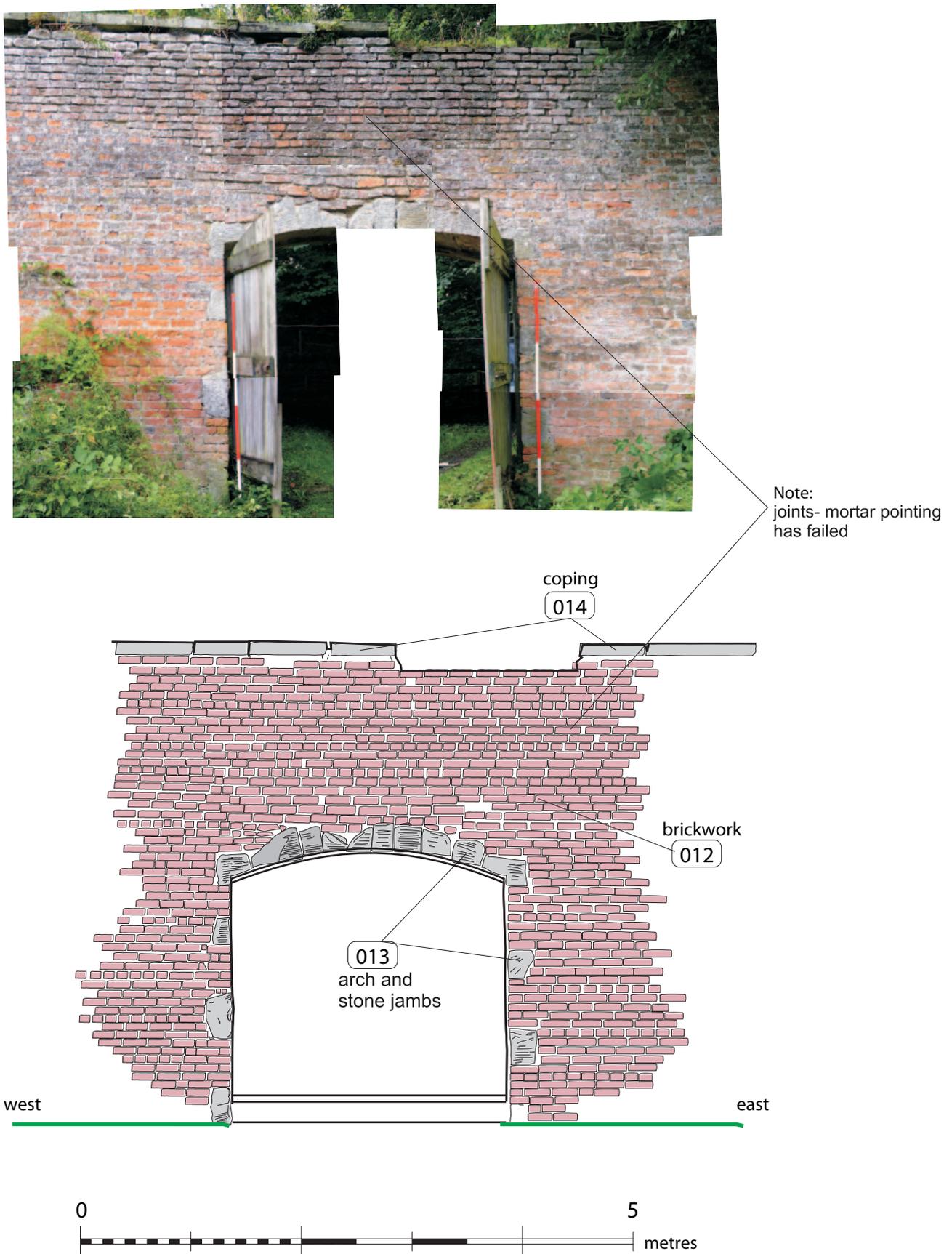


Figure 4: south facing wall, northeast walled garden

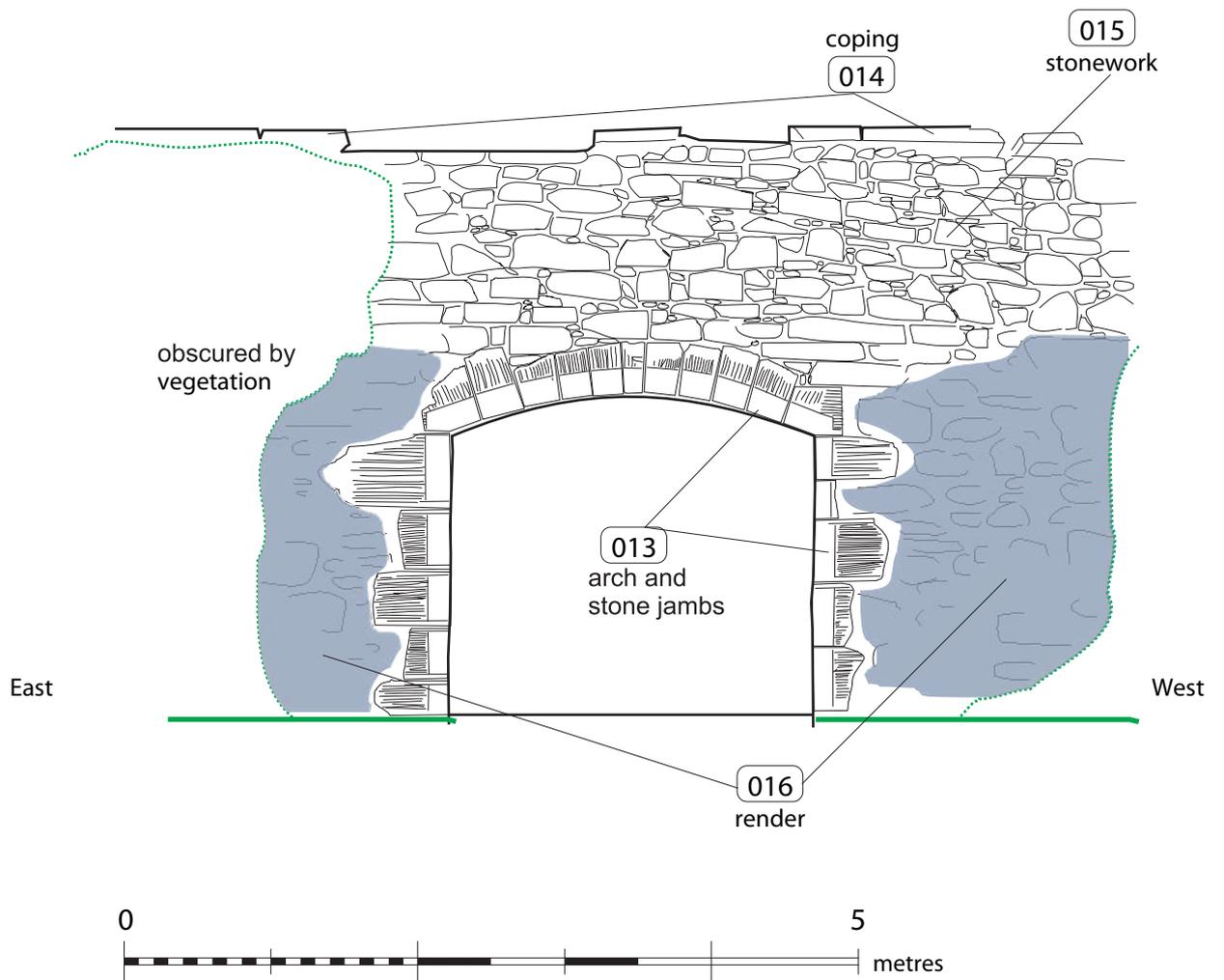


Figure 5: north facing wall, northeast walled garden

Appendix 1 Photo Register

Photo Record List – Walled Gardens – The Pineapple				
Photo ID	Digital	Description	Direction from	Date
1	PGW07_1_001	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
2	PGW07_1_002	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
3	PGW07_1_003	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
4	PGW07_1_004	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
5	PGW07_1_005	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
6	PGW07_1_006	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
7	PGW07_1_007	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
8	PGW07_1_008	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
9	PGW07_1_009	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
10	PGW07_1_010	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
11	PGW07_1_011	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
12	PGW07_1_012	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
13	PGW07_1_013	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
14	PGW07_1_014	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
15	PGW07_1_015	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
16	PGW07_1_016	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
17	PGW07_1_017	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
18	PGW07_1_018	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
19	PGW07_1_019	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
20	PGW07_1_020	Northeast Walled Garden – Northeast External Elevation (fig 5)	N	06/08/2007
21	PGW07_1_021	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
22	PGW07_1_022	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
23	PGW07_1_023	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
24	PGW07_1_024	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007

The Pineapple Walled Garden, Airth, August 2007

Photo Record List – Walled Gardens – The Pineapple				
Photo ID	Digital	Description	Direction from	Date
25	PGW07_1_025	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
26	PGW07_1_026	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
27	PGW07_1_027	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
28	PGW07_1_028	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
29	PGW07_1_029	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
30	PGW07_1_030	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
31	PGW07_1_031	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
32	PGW07_1_032	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
33	PGW07_1_033	Northwest Walled Garden – South facing internal elevation (fig 4)	S	06/08/2007
34	PGW07_1_034	Southwest Walled Garden gate pier (fig 2)	E	06/08/2007
35	PGW07_1_035	Southwest Walled Garden gate pier (fig 2)	E	06/08/2007
36	PGW07_1_036	Southwest Walled Garden gate pier (fig 2)	E	06/08/2007
37	PGW07_1_037	Southwest Walled Garden gate pier (fig 2)	E	06/08/2007
38	PGW07_1_038	Southwest Walled Garden – West facing external elevation (fig 3)	SW	06/08/2007
39	PGW07_1_039	Southwest Walled Garden – West facing external elevation (fig 3)	SW	06/08/2007
40	PGW07_1_040	Southwest Walled Garden – West facing external elevation (fig 3)	SW	06/08/2007
41	PGW07_1_041	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
42	PGW07_1_042	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
43	PGW07_1_043	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
44	PGW07_1_044	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
45	PGW07_1_045	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
46	PGW07_1_046	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
47	PGW07_1_047	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
48	PGW07_1_048	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
49	PGW07_1_049	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
50	PGW07_1_050	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007

The Pineapple Walled Garden, Airth, August 2007

Photo Record List – Walled Gardens – The Pineapple				
Photo ID	Digital	Description	Direction from	Date
51	PGW07_1_051	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
52	PGW07_1_052	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
53	PGW07_1_053	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
54	PGW07_1_054	Southwest Walled Garden – West facing external elevation (fig 3)	W	06/08/2007
55	PGW07_1_055	Southwest Walled Garden – East facing internal elevation (fig 2)	E	06/08/2007
56	PGW07_1_056	Southwest Walled Garden – East facing internal elevation (fig 2)	E	06/08/2007
57	PGW07_1_057	Southwest Walled Garden – East facing internal elevation (fig 2)	E	06/08/2007
58	PGW07_1_058	Southwest Walled Garden – East facing internal elevation (fig 2)	E	06/08/2007
59	PGW07_1_059	Southwest Walled Garden – East facing internal elevation (fig 2)	E	06/08/2007
60	PGW07_1_060	Southwest Walled Garden – East facing internal elevation (fig 2)	E	06/08/2007
61	PGW07_1_061	Southwest Walled Garden – East facing internal elevation (fig 2)	E	06/08/2007
62	PGW07_1_062	Southwest Walled Garden – East facing internal elevation (fig 2)	E	06/08/2007
63	PGW07_1_063	Southwest Walled Garden – East facing internal elevation (fig 2)	E	06/08/2007

Appendix 2

Discovery and Excavation Scotland

LOCAL AUTHORITY: Falkirk

Site Name: Pineapple Walled Garden

Parish: Airth

Name of Contributor(s): David Connolly (Connolly Heritage Consultancy)

Type of Site or Find: 18-19th Century Garden Walls

NGR (2 letters, 6 or 8 figures): NS 88930 88500

Report:

A section of walling in the main southwest Walled garden at the entrance to the private residence was recorded prior to reconstruction. A further section of dangerous walling above the cart entrance in the north east walled garden was also recorded prior to remedial work. Distinct phases of development were noted, ranging from the original construction through later repair and consolidation. Constructional details will be used to enable accurate reconstruction.

Sponsor(s): HS, Society, Institution, Developer, etc. (where appropriate):

The National Trust for Scotland

Address(es) of Main Contributor(s):

Connolly Heritage Consultancy

Traprain House

Luggate Burn

Whittingehame

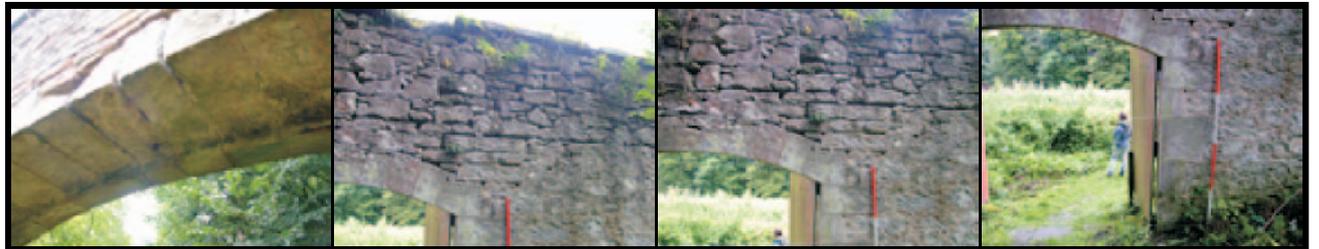
East Lothian

EH41 4QA

Appendix 3 Context Register

Photo Record List – Walled Garden - Pineapple		
Wall Context	Phase	Description
1		Sandstone Ashlar wall Pier (sw walled garden – east facing internal)
2		Sandstone Ashlar wall Pier (sw walled garden – east facing internal)
3		Sandstone slab coping (sw walled garden)
4		Sandstone gate pier (northern) (sw walled garden)
5		Recent cement and brick repair to wall head (area of wall collapse) (sw walled garden)
6		Recent cement and brick repair to wall head (sw walled garden)
7		19 th / 20 th century brick rebuild (sw walled garden)
8		18 th century original brick build (sw walled garden)
9		Sandstone Ashlar wall Pier (sw walled garden – west facing external)
10		19 th / 20 th century brick repair (sw walled garden – west facing external)
11		Unused number
12		18 th century original brick build (ne walled garden – south facing internal)
13		Sandstone tooled quoins and voussoirs of cart entrance (ne walled garden)
14		Sandstone slab coping (ne walled garden)
15		Coursed rubble build external wall skin (ne walled garden – north facing external)
16		Rough mortar render (ne walled garden – north facing external)

Photograph Register - Thumbnails

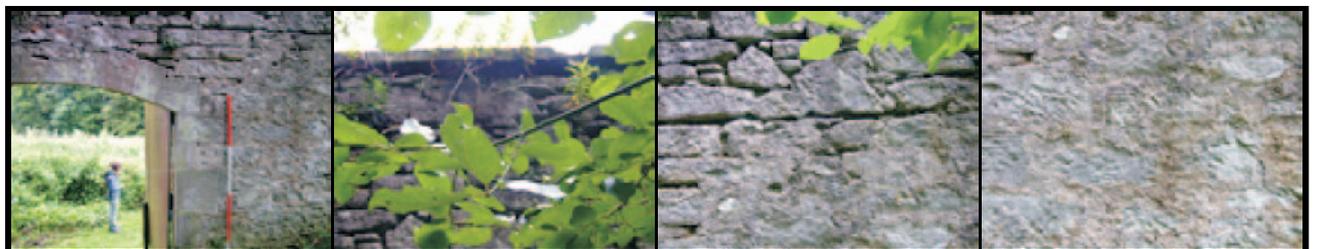


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