

Stirling Burgh Wall Project, 2024

Data Structure Report (Draft)

Dominic Farrugia and Murray Cook, with contributions from Derek Hall

OASIS ID: **TBA**



Stirling Burgh Wall Project 2024

Data Structure Report

National Grid References (NGR) :

NS 79148 93695

NS 79201 93619

NS 79238 93565

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19/12/2024

Abstract

This report details the first phase of fieldwork conducted from October 2023 to October 2024, evaluating Stirling's 16th-century Burgh Walls. The excavation, which involved eight trenches, uncovered evidence of two previously undocumented defensive bastions and the remains of a third. Findings also revealed traces of human habitation and the adaptation of the defensive structure during early modern Stirling. These results enhance the reliability of the 1760 Board of Ordnance Map of Stirling and contribute additional context to the monument's history. The study illustrates how starting with the Anglo-Scots Wars of the 1540s, Stirling's municipal authorities planned, financed, and built a defensive enceinte incorporating advanced Renaissance military design elements.

Keywords: *Early Modern Scotland, Rough Wooing, Municipal Defence, Scottish Renaissance.*

1. Introduction

- 1.1.** This report refers to investigations into the Stirling Town Wall, some of which is protected as a Scheduled Ancient Monument under the care of Historic Environment Scotland under the **(SM1754) Stirling Town Wall and Bastion, and Port Street Bastion at 44 Bastion Wynd**. Excavation within the scheduled area were undertaken under **Scheduled Monument Consent – 300072323** (St John's Street, Stirling).
- 1.2.** Early Modern Scottish burgh walls are a neglected subject. The perceived lack of scholarly interest in the topic is perhaps due to a combination of factors, but it is likely because town walls lack the appeal of castles and other forms of medieval architecture. It has been suggested that, amongst other things, the vestigial nature of walls, a lack of archaeological interest and an over-reliance on documentary source material may be a factor in this phenomenon (Creighton & Higham 2005: 16). Yet it is the case that British town walls are less extensive and impressive than their European counterparts. The situation with Scottish town walls is no better; few examples of town walls remain, and with minor exceptions, little scholarly effort has been expended on the subject. The best-preserved example of a medieval town wall in Scotland is in the Royal Burgh of Stirling, shown in Figure 1. Yet, incredibly, the information available on the Stirling Burgh Wall (the Wall) is limited to a 1950s field observation (RCAHMS 1963) and the work of a nineteenth-century town clerk (Ronald 1899). That is not to say that these works are of poor quality; however, they are publications of their day and were written for specific purposes, reflected in their recording and interpretation.
- 1.3.** The interpretation of a monument is often 'frozen' at its publication, or inertia develops in its narrative. In the case of the Wall, the RCAHMS interpretation is nearly seventy years old and warrants refreshing. Furthermore, the RCAHMS account noted several areas where assumptions were being made or alternative interpretations might prevail. Therefore, this archaeological study forms part of a broader effort to revisit and update the Wall's narrative, utilising documentary, topographical, architectural and contemporary archaeological methods to produce a more nuanced understanding of the Wall and life in early modern Stirling.



Figure 1: Stirling and the Scheduled Monument Location of the Stirling Burgh Wall. Image reproduced by Author from Pastmaps and Historic Environment Scotland (SM1754)

2. Royal Burgh Status

- 2.1.** Stirling attained the status of a Royal Burgh in AD 1124 as part of the urbanisation efforts of David I (1124–53) (Astill 2000: 44). The Burgh developed around a naturally fortified rock crag, with Stirling Castle occupying the most defensible and prominent position (RCAHMS 1963: 304). While the lower elevation of the Burgh offered some natural defences, the steep, rocky southern slopes impeded easy access (*Ibid*). To the north, the Firth of Forth formed a natural barrier, leaving Stirling Bridge as the sole access point. The southeastern approach, however, lacked such natural protection, necessitating the construction of a defensive wall, although its precise extent and design remain unclear. The RCAHMS identifies two surviving round bastions and three extant masonry sections on the southern side of the Burgh as remnants of the original structure, as depicted in Figure 1.
- 2.2.** An initial desk-based study suggests that the Burgh Council may have departed from traditional medieval enceinte designs, opting to fund and construct a defensive curtain wall incorporating bastioned strongpoints, informed by contemporary advancements in flanking defensive architecture. If accurate, this approach signifies a significant evolution in military sophistication and intellectual engagement within a Scottish municipal context. Such an initiative would strongly reflect the influence of the Scottish Renaissance on urban planning and fortification. At a minimum, it underscores that 16th-century Renaissance Stirling was neither economically disadvantaged nor culturally isolated but relatively progressive and receptive to modern innovations in defensive architecture.

3. Academic Historiography on Early Modern Burgh Walls

- 3.1.** The study of this class of monuments remains underdeveloped, with limited scholarly attention given to municipal defensive architecture within a Scottish context. The existing literature offers only a superficial analysis of municipal defence infrastructure. Key works in the field include Bowler, Cox & Smith (1995), Coleman (1996), Holmes (1980), Lewis (1995), and Schofield (1978). While MacIvor's (1981) article on artillery and major fortifications in the Lothians and East Borders is a notable contribution, its focus is primarily on state or aristocratic fortifications rather than those commissioned by municipal authorities. Lawson and Reed's (2003) examination of Edinburgh's Flodden Wall is the most recent and relevant study. The Flodden Wall provides a practical comparative example for the Stirling Town Wall. However, it predates Stirling by approximately three decades, during which the science of artillery defence had evolved significantly.

4. Historical Context

- 4.1.** Traditionally, The construction of the Wall in 1547 has been attributed to the threat of invasion by English forces during the campaign known as the 'Rough Wooing' (RCAHMS 1963: 304; Ronald 1899: 192). The term, coined by H.E. Marshall, refers to an English dynastic initiative aimed at securing a marriage between the infant King Edward VI and the young Mary, Queen of Scots (Marshall 1906), to achieve 'the perpetual uniting of both realms' (Patten 1548: 30r). As a young female monarch, Mary represented a highly desirable marriage prospect, as her spouse would gain control over Scotland (Caldwell, Olesky & Rhodes 2023: 16). Edward Seymour, Duke of Somerset, described the coinciding of male and female heirs in the English and Scottish successions as a '*marvel that has not chanced for eight hundred years*' (Somerset 1548: f.7r). Beyond dynastic ambition, three additional factors motivated the English campaign. Firstly, religious conflict played a central role, with the Protestant English army seeking to deliver Scotland from the perceived 'dreadful' dangers of Catholicism (*Ibid*). Secondly, the campaign presented a strategic opportunity to expand Tudor influence northward (Merryman 2000: 13–15). Thirdly, the English sought to sever the longstanding alliance between Scotland and France (*Ibid*).

4.2. The Scottish nobles and public were understandably less enthusiastic. The reigning regent of the day, James Hamilton, the Earl of Arran, initially agreed to the marriage, but in December 1543, the Scottish Parliament rejected the proposal. Instead, it supported 'the old, ancient leagues, contracts and considerations of amity and kindness, which passes between the Kings of Scotland and France' (RPS 1543: 12-32). However, the Rough Wooing of 1547 was, in fact, one in a series of 'rough wooing' campaigns. In 1544, Henry VIII sent his army north, which led, amongst other things, to the burning of Edinburgh and the sacking of Holyrood Abbey (HP 2: 343). In 1545, further English incursions into Scotland caused widespread destruction to Lothians and Border communities but achieved little else (Caldwell, Olesky & Rhodes 2023: 19).

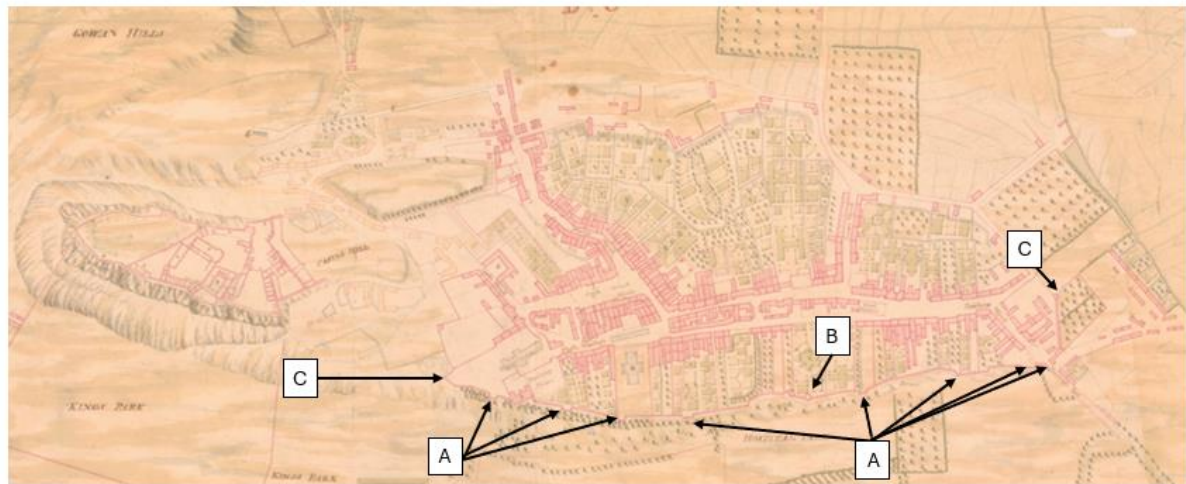
4.3. Currently, the monument is not well understood or widely acknowledged among the residents of Stirling. Hopefully, this study will enhance awareness and appreciation of its cultural heritage significance. This research is especially timely, as its publication aligns with the 900th anniversary of the Royal Burgh of Stirling.

5. Excavation Aims and Objectives

5.1. From a contemporary perspective, it is easy to conceive of the extant remains as linear; however, what remains of the structure is the product of many years of erosion and encroachment (Turner 1970: 55-6). Furthermore, Burgh walls were usually the product of multiple building sequences (Creigham & Higham 2005: 40) and a single element within a topography of defence; however, the RCAHMS made little effort to detail this or even offer a decisive route for the Wall. Consequently, a core aim of the broader study is to determine, as far as the evidence allows, the Wall's alignment, architectural, and topographical features, plus evidence of both alterations during and after its abandonment as a defensive structure.

5.2. Burgh walls were typically developed through multiple construction phases (Creigham & Higham 2005: 40) and formed part of a more extensive defensive system. However, the RCAHMS provided limited details or a definitive alignment for the Wall. As far as the evidence permits, this study aims to establish the Wall's alignment, architectural and topographical features, and any alterations made during or after its period as a defensive structure. This analysis began with a topographical review of historical cartography and images. Of particular relevance are five images. The 1760 Board of Ordnance Survey (Figure 2) shows that the Wall only defended the southern and southeastern sides of the Burgh, as depicted in Figures 3, 4, and 5. It also identifies two round bastions at the current Allan's Primary School and former Thistle Street, which are also partially visible in Figures 3 and 4. The Wall consistently encloses the southern and southeastern parts of the Burgh, following the natural rock outcrop (Figures 2, 3, 4, and 5), stopping short of Stirling Castle, thus distinguishing the Royal Castle from the municipal defensive enceinte. Figures 2, 3, and 5 further indicate that the Wall was not straight but featured protruding bastions, including two circular and seven rectangular, likely for flanking defence. Figures 3, 4, and 5 also show structures built on or within the Wall. Lastly, Figure 6 presents 18th-century Evidence of the Kirkyard Wall in the Old Town Cemetery.

Figure 2: Board of Ordinance. Produced in 1760 from a pre 1708 survey. 'Town, Castle and surrounding lands at the attack of the rebels, 1746.' Image from the National Archives, Kew.

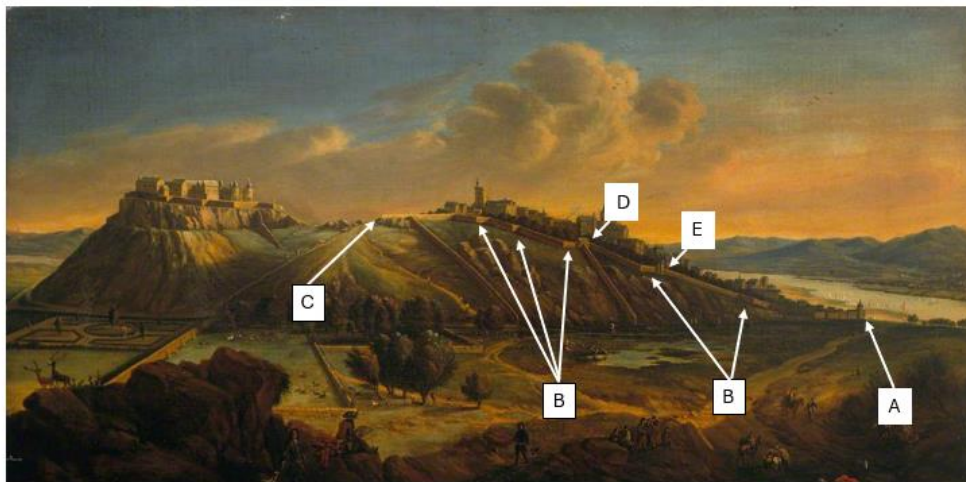


Comments:

- A. Seven rectangular bastions shown to protrude from wall
- B. Watch tower shown in what is now Allan's Primary School
- C. Wall stops at Lady's rock and turns north-east towards Mars Wark
- D. Thistle Street Round Bastion



Figure 3: Vosterman, Johannes. Produced in 1673. 'Stirling at the time of the Stuarts'. Image from the Smith Art Gallery & Museum



Comments:

- A. Thistle Street bastion
- B. Wall is demarcated by angular sections
- C. Wall terminates at Lady's rock
- D. Unknown building within the structure of the wall
- E. Bastion at Allans Primary School



Figure 4: Farington, J. 'View of the Town and Castle of Stirling, taken at St Ninians's'. Date 1792.
Image from British Library

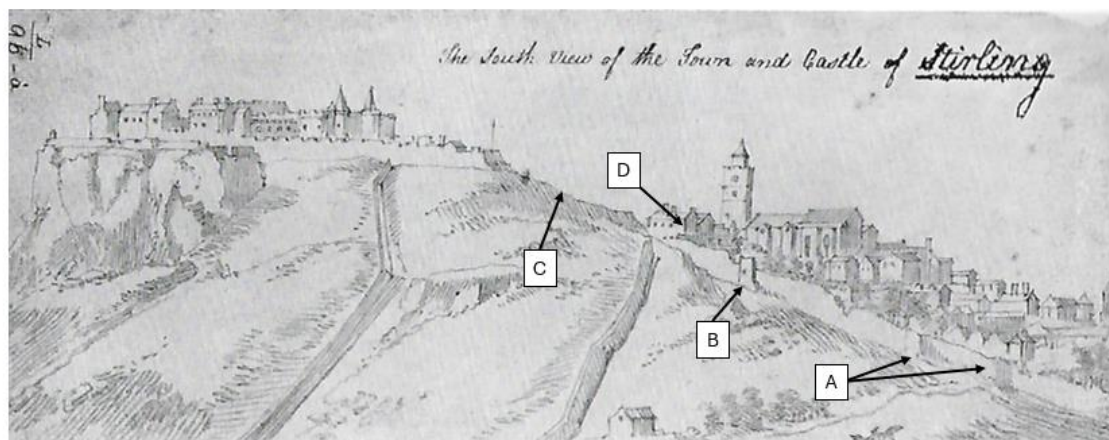


Comments:

- A. Round bastion at Allan's Primary School
- B. Unknown building built within the fabric of the wall
- C. Wall continues to Castle
- D. No clear separation between Castle and Burgh



Figure 5: Unknown artist and production date. 'The South view of the Town and Castle of Stirling'
Image from the British Library.



Comments:

- A. Shaded relief may suggest angular wall
- B. Unknown building built within the fabric of the wall
- C. Clear separation between Castle and Burgh
- D. Wall appears to terminate in the church yard, adjacent to the Church of the Holy Rude.



Figure 6: Mitchell, Robert. d1845. 'Kirkyard beside Scone MacCulloch Monument'.
Image from John Harrison.



Comments:

- A. Scone / MacCulloch Monument
- B. Church of Holy Rude
- C. Kirkyard Dyke
- D. Cowan's Hospital

5.3. The Wall is now over four hundred and seventy years old and suffers from erosion and encroachment, and the extant remains are fragmentary and discontinuous. Nevertheless, the topographical analysis of historic cartography poses several questions that warrant closer archaeological investigation. Precisely, three questions form the basis of the research objectives of this excavation:

- What was the actual topographical alignment of the Wall on the southern boundary of Stirling?
- Is there evidence of rectangular bastions to provide flanking defence?
- Is there any evidence of a structure on the southern boundary of the Wall?

5.4. Due to the fragmented nature of the surviving remains and the challenges posed by modern encroachment, excavation opportunities were limited to four areas involving eight trenches, as illustrated in Figure 7. Two of these areas are on private land, while the other two are on land managed by Stirling Council. An additional complication arose as one location (T8) lies within the scheduled area of 'Stirling Town Wall and Bastion, and Port Street Bastion at 44 Bastion Wynd (SM1754)'. Consequently, in addition to obtaining consent from landowners and Stirling Council, scheduled monument consent was also sought and granted by Historic Environment Scotland.

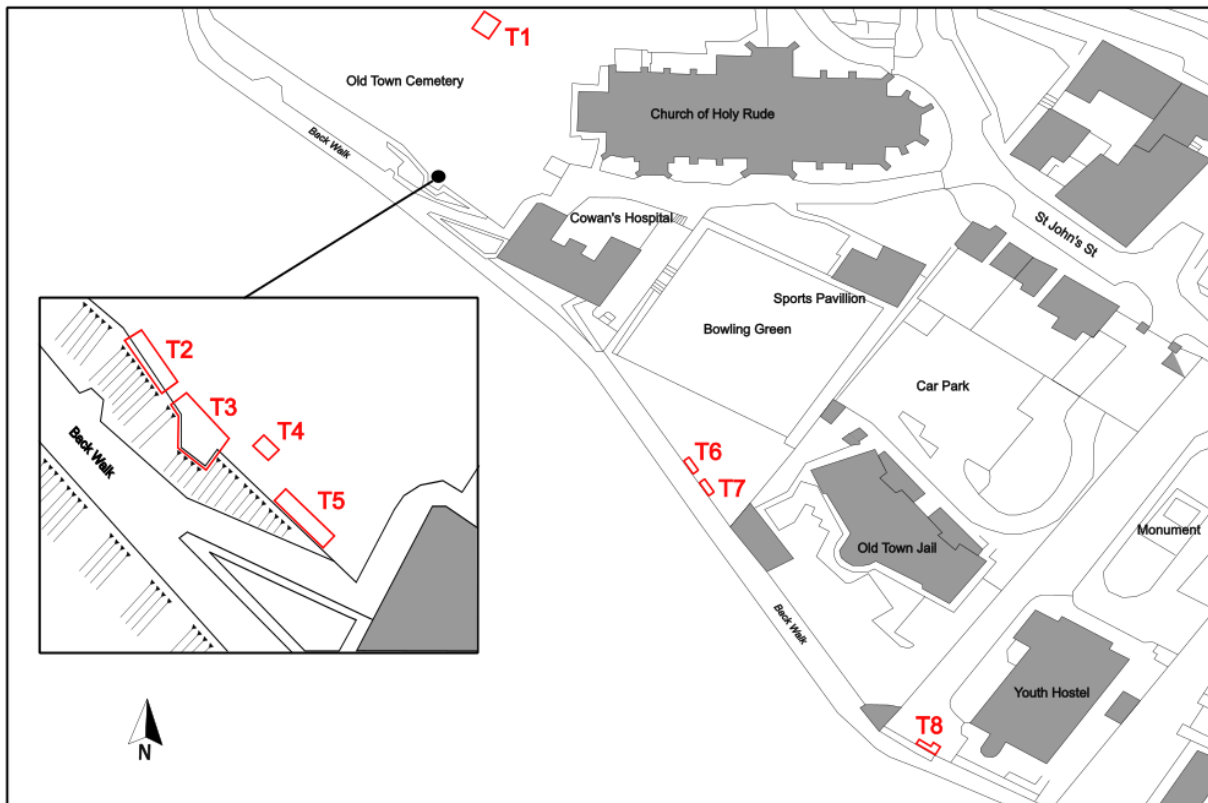


Figure 7 – Trench Locations (Not to Scale). Image from Author.

6. Methodology

6.1. Dominic Farrugia and Murray Cook ran the fieldwork with the assistance of Peter Dunn and community volunteers. All excavation and backfilling were undertaken by hand.

7. Results

7.1. The archaeological investigation was undertaken in mixed weather conditions, sometimes far from ideal. However, the excavation trenches were covered with gazebos, and excavation work paused during heavy rain. In total, eight trenches were excavated. The following text should be read with the data presented in Appendices A-D.

7.2. Trench 1

Situated on the northern boundary between the 'Old Town Cemetery' and the 'New Cemetery', this trench was positioned along the hypothesised alignment of the 'Churchyard Dyke'. This Wall was thought to connect the corner of Mar's Wark with the Town Wall, intersecting at Ladies Rock. The trench measured 1.5m by 1m with a depth of 60cm, yet no remnants of the Churchyard Wall were found. These results suggest that the Churchyard Dyke, which historical records indicate was dismantled in the mid-19th century (*Harrison per comms*), was entirely removed.

7.3. Trench 2

The initial trench was excavated at the southern edge of the Old Town Cemetery, adjacent to the boundary fence, measuring 3m by 1m and 0.5m in depth, extending from the fence line into the cemetery. The layer encountered was mid-brown topsoil, containing numerous inclusions of human charnel and coffin furniture [201]. It was noted that grave-cut dolerite bedrock [202] lay immediately adjacent to the Old Town Cemetery boundary, indicating that it had been cut to create space for

human inhumations—a clear sign of the intensive use of the cemetery over successive centuries. No significant findings were made within this section, prompting an extension of the trench by an additional metre beyond the wire fence to the cliff edge overlooking the Back Walk. This extension uncovered a 3m truncated stone walling bonded with lime mortar [203]. The stone, all of dolerite, varied in size, up to 30cm by 15cm by 15cm. The revealed section, measuring approximately 3m long and averaging 80cm in thickness (see Figure 8), was interpreted as part of the 16th-century city wall.



Figure 8: Trench 2: Volunteers cleaning in Trench 2 on the outward side of the wire fence adjacent to the cliff edge. Taken looking west towards Ladies Rock. Image from Author

7.4. Trench 3

The new trench was targeted east of Trench 2 based on historical cartographic evidence, suggesting a rectangular bastion's potential presence in this area (Figure 2). The trench, measuring 4m by 5m, was excavated to a maximum depth of 60cm in the northwest corner of the bastion. On the cemetery side of the wire fence, context [301] was excavated to a maximum of 30cm before stopping due to the frequent occurrence of human bone. Over the wire fence, the bastion was excavated through 20cm of soil [302] and approximately 30cm into [303]. These fully exposed dolerite blocks [305] formed the bastion's walls. Similarly, the joint of the bastion to the city wall (Kirkyard wall) masonry [306] was visible. The masonry in the southwest corner of the bastion was missing. Beneath [303], the remains of a discontinuous cobbled floor [307] were observed, beneath which medium sand with frequent

pebble inclusions [308] was recorded. Beneath this was the fractured dolerite bedrock [309]. The work was hampered by dense vegetation, which prevented a full excavation. Small finds included two fractured sections of floor tiles (See Section 8.0).



Figure 9: Corner of bastion in Trench 3 looking north showing dolerite masonry and human charnel visible along the wire fence line of the Old Town Cemetery. Image from Authors.



Figure 10 – Photogrammetry plan of excavated and previously unrecorded bastion and burgh wall section in Trench 3 - orientated south and adjacent to the Old Town Cemetery, Stirling. Image from Author.

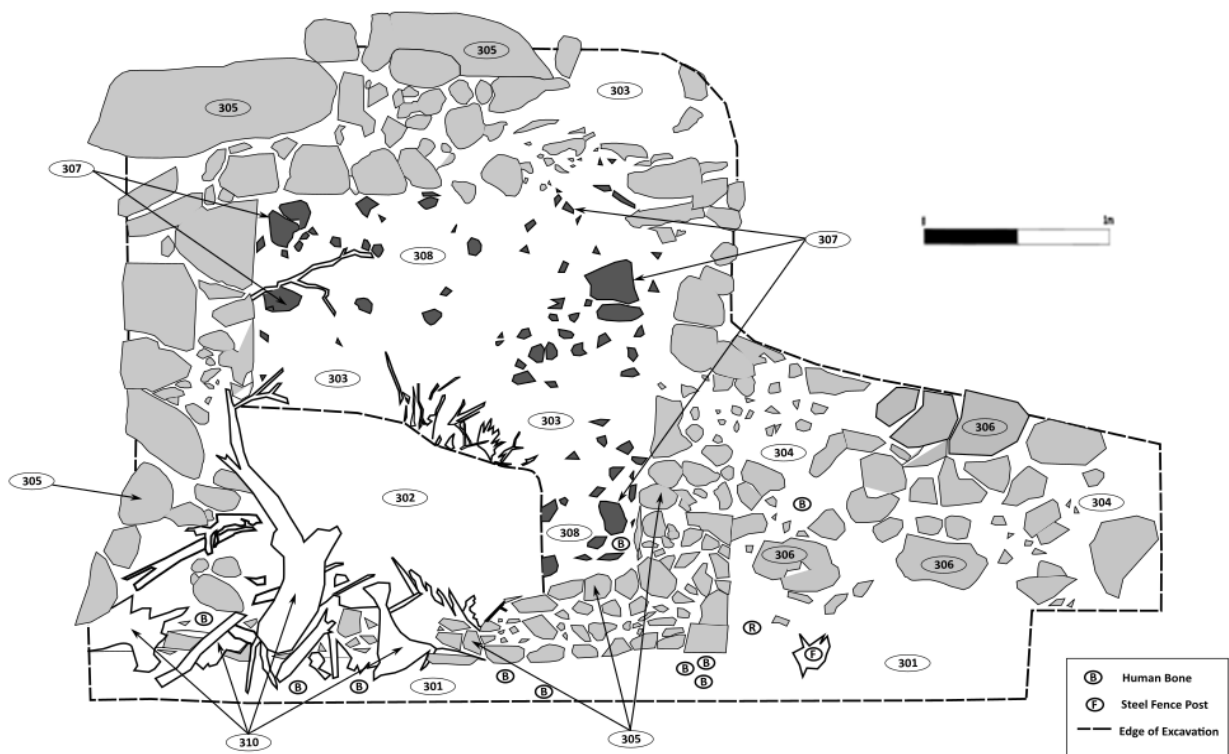


Figure 11 – Plan of Bastion in Trench 3, oriented south. Image from Author.

7.5. Trench 4

Trench 4 was established as a test pit to investigate the potential extension of the Old Town Cemetery. The trench measured 1m by 1m and was excavated to a depth of 1m. Only one context, [401], was identified, which contained occasional human charnel but no articulated human remains. This absence may be attributed to the limited depth of the excavation.

7.6. Trench 5

Trench 5 was positioned east of Trenches 3 and 4 to examine the extant remains of the Wall located immediately west of Cowan's Hospital. Measuring 4m by 1.5m, the trench was excavated to a depth of 1.83m at its deepest point through dark silt soil [501]. It revealed a substantial masonry wall section demarcating the boundary between the Old Town Cemetery and the Back Walk, as illustrated in Figure 12. The western side of the trench exposed brickwork foundations associated with an 1820 cemetery watch tower, although these were not fully excavated as they fell outside the scope of the research. A 1m by 1m sondage within Trench 5 was dug to reveal the internal face of the masonry wall, which comprised dolerite and sandstone blocks. The Wall's thickness was measured at 35cm. The findings indicate that this section of the boundary wall is not the original 16th-century defensive town wall but a later, reduced reconstruction that predates the bothy construction in 1820.



Figure 12- Excavation of Trench 5 looking east, showing 18-19th century watchtower foundations and boundary and cemetery boundary wall.

7.7. Trench 6 & 7

Located within the parterre garden of Cowan's Hospital, the site adjoins a significant masonry boundary wall that separates the garden from the Back Walk. Two trenches measuring 1.5m by 1m and excavating to a depth of 1m were positioned at a location identified as a bastion in Figure 2. A small sondage (50cm by 50cm) was further excavated to a depth of 20cm. The masonry boundary wall [604] and [704] was constructed on a masonry footing that projected 40cm outward from the Wall with a depth of 35cm, indicating that the footing and the Wall were part of the same construction phase. Contexts [601] and [701] were observed as backfill over [605] and [705], forming the ground level of the parterre garden. Below the footing [605] and [705], at a depth of 55cm, a demolition layer [602] and [702] were noted, containing frequent angular rock inclusions. Beneath this, Contexts [603] and [703] were documented, with a sondage excavated to an additional 20cm depth, resulting in a total depth of 1.2m. An earlier phase of the masonry wall was identified immediately below the footing [604] and [704], suggesting that a pre-existing structure was in place before the construction of the masonry footing and boundary wall [605] and [705]. This earlier structure appeared to have undergone partial demolition, with remnants visible in [602] and [702].



Figure 13 – Photogrammetry of Trench 7. Image from Author

7.8. Trenches 6 and 7 exhibited similarities, though Trench 7 provided additional detail (Figure 13 & 14). Specifically, masonry [704] was identified as a distinct phase and was not integrated with [704], as

depicted in Figure 13. Furthermore, context [707] lacked a visible footing, suggesting its foundations extended deeper than 1m and were separate from [704]. At the base of [707], a second demolition layer [708] was observed, characterised by grey clay silt with sub-angular pebble inclusions, extending 60cm into the parterre garden. Beneath this layer, a random infill of dolerite cobbles with numerous voids was noted. The total depth of this infill could not be ascertained, but it is presumed to extend deeper beyond that which was visible in the trench.

- 7.9.** Overall, the findings from Trench 6 and Trench 7 indicate multiple phases of masonry construction between Cowan's Hospital Parterre Garden and the Back Walk. The evidence suggests the presence of an earlier masonry structure situated below the current Wall, which was partially, but not entirely, reduced in height before the construction of a new footing and masonry wall. This reconstruction likely occurred during the establishment of the 17th-century garden.

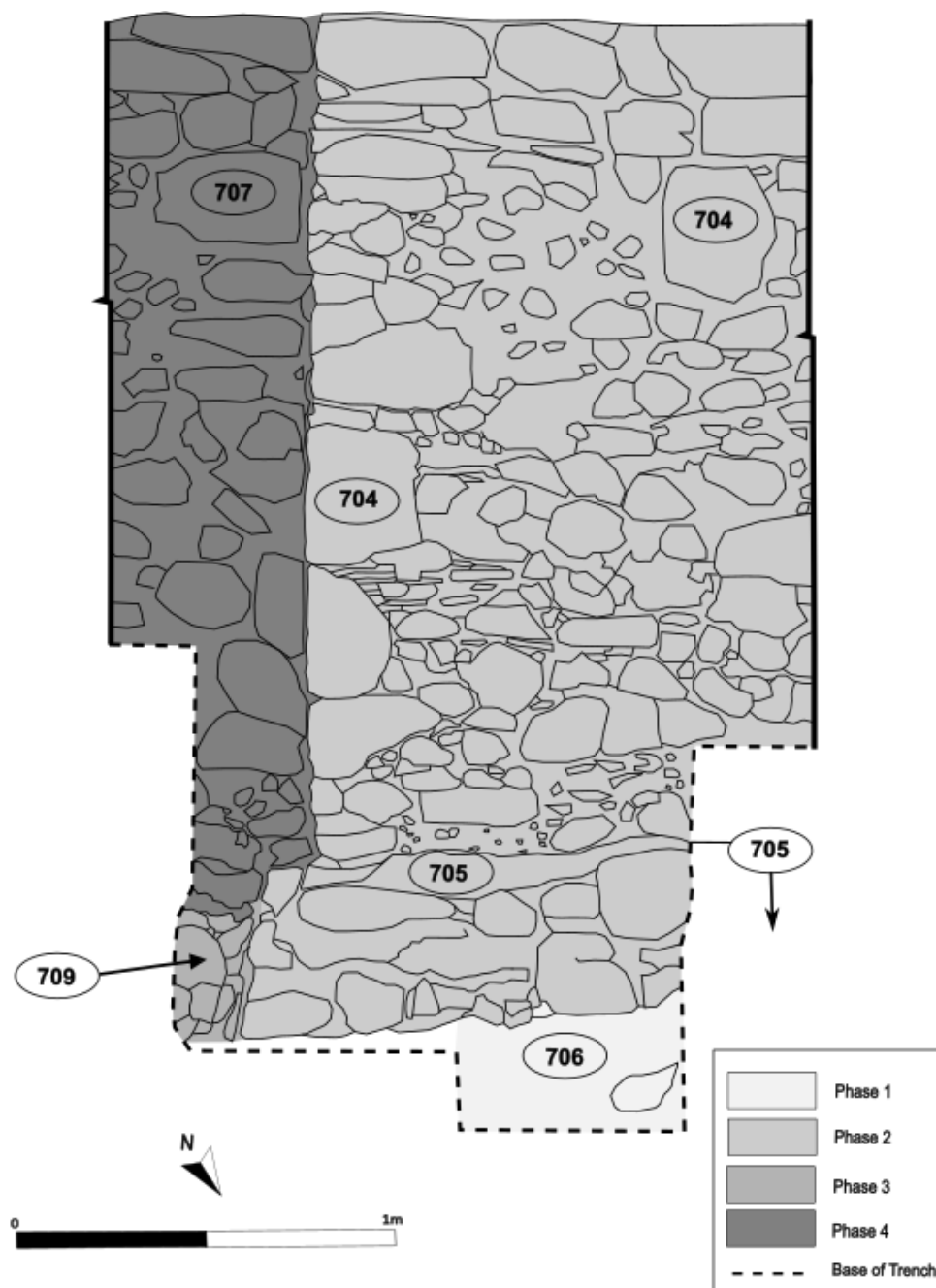


Figure 14 – Elevation Trench 7

7.10. The eastern section of Trench 7 presented additional findings, indicating an additional phase of demolition and construction following the formation of the parterre garden. The boundary wall [707] in this area was not integrated with [704] and did not rest on [705]. The stone blocks were constructed using modern hydraulic cement, suggesting that [704] was constructed no earlier than the mid-19th century, coinciding with the first use of modern Portland cement (Halstead 1961: 37). Evidence indicates that an earlier wall [706], likely dating to the 16th century, was initially reduced and replaced by [704] in the 17th century. Subsequently, a section approximately 20m in length of [704] was demolished and rebuilt, most likely in the 19th century, to facilitate the construction of the nearby Old Town Jail (Sturgeon & Muir 1985: 30). Demolition material from these two phases is evident in contexts [702], [708], and [709]. Furthermore, it is plausible that this section of the boundary wall may have once housed a rectangular bastion, as suggested in Figure 2. The evidence supports the interpretation that Trench 7 represents the western return of a former bastion associated with the original 16th-century town wall.

7.11. Trench 8

Located at the rear of Stirling Youth Hostel on St John's Street and within the protected scheduled area of SM1754. Historic Environment Scotland recognises the section of masonry structure to the rear of this property as an original and singularly continuous section of the 16th-century town wall. The masonry structure has a parapet and crenelations [808] and comprises random cut dolerite and sandstone blocks, pointed and capped with modern Portland Cement. In the east, it directly adjoins a straight section of the town wall running downhill [809]. In the west, it abuts the boundary wall of the 1847 Old Town Jail, and in the south, the structure separates the Youth Hostel grounds from the Back Walk, acting as a retaining wall to the higher ground level in the Youth Hostel, as shown in Figure 15.



Figure 15 – Trench 8 location before excavation. Image from Authors

7.12. The excavation was conducted on the inner face of the crenellated platform, designated as Structure 1, which comprised two contexts: [808] and [805]. The trench was configured in an 'L' shape, measuring 4m in length, with a maximum width of 2m and a depth of 1m (refer to Figure 16 for the working image). The excavation penetrated through a 35cm layer of dark brown garden soil [801], which overlain a demolition layer of coarse sand [802]. This was situated above mid-brown silt [803], extending an additional 45cm to the trench's base. Both contexts [801] and [803] yielded pottery fragments and occasional human charnel and coffin furniture.



Figure 16 – Trench 8 under excavation in August 2024. Image from Authors.

- 7.13.** The masonry extends to the full depth of the trench, revealing a sealed door opening complete with a lintel and fragmented masonry entrance threshold. The door provided access to a chamber, sealed with silt [807], where a defensive gunloop (now blocked) was situated. The gun loop provided a flanking fire along the face of the town wall. It was established that the bottom of the gunloop matched the level of the threshold floor stone at the door entrance; however, the chamber itself was not excavated as this exceeded the permission of the Scheduled Monument Consent.
- 7.14.** The masonry of Structure 1 extends eastward from the door, where it runs perpendicular and protrudes into the grounds of the Youth Hostel by 90cm. The blockwork within Structure 1 [805] is composed exclusively of cut dolerite angular blocks bonded with lime mortar. At the base of the door threshold, a small test sondage was excavated to a depth of 15cm, revealing a potential occupation floor [810] composed of numerous angular, flat dolerite cobbles. A detailed examination of this occupation floor is planned for future investigation. The current excavation concentrated on the

eastern section of the trench, where it was observed that the above-ground masonry wall [809] extending east from the bastion represented a distinct phase of construction. Masonry context [809] was positioned on top of and adjacent to [806] but was not integrated with it.

- 7.15.** Additionally, the truncated remnants of a secondary structure, Structure 2 [805], were noted running perpendicularly to [806] into the Youth Hostel grounds. Structure 2 [805] abuts, but is not attached to, [806], as illustrated in Figure 19. On the eastern side of [805], a demolition layer [804] was documented, containing numerous sub-angular and sub-rounded cobbles. This layer [804] lies beneath [801] and overlays [803], differing from [802] in its higher concentration of stone inclusions. This variation suggests a predominant pattern of demolition progressing in an eastward direction.



Figure 17 – Photogrammetry of Trench 8. Image from Authors.

7.16. Trench 8 contains significant archaeological remains, revealing multiple phases of construction. The evidence indicates that Structure 1 [806], [807], [809] and [808], represents the initial phase of construction, forming part of a substantial defensive bastion integral to the town's defensive enceinte. This bastion incorporated a covered chamber on its eastern side, providing access to a gun loop designed for defensive flanking fire. The structure's walls are c.1.4 meters thick. The parapet [808] is likely an original feature dating to the 16th century; however, the crenelations are unlikely to be contemporaneous, as crenellated designs are wholly absent elsewhere along the city wall. These features may represent a 19th-century artistic enhancement of the parapet. Significant alterations have occurred at the bastion's western end, where certain sections have been demolished and rebuilt during the jail's construction. Consequently, whether the western elevation originally mirrored the eastern side is unclear but could be the subject of future excavation. Additionally, a larger gun loop is present in the centre of the bastion, facing directly south. Again, this feature, however, was not excavated, as it lay beyond the scope of the current consent.

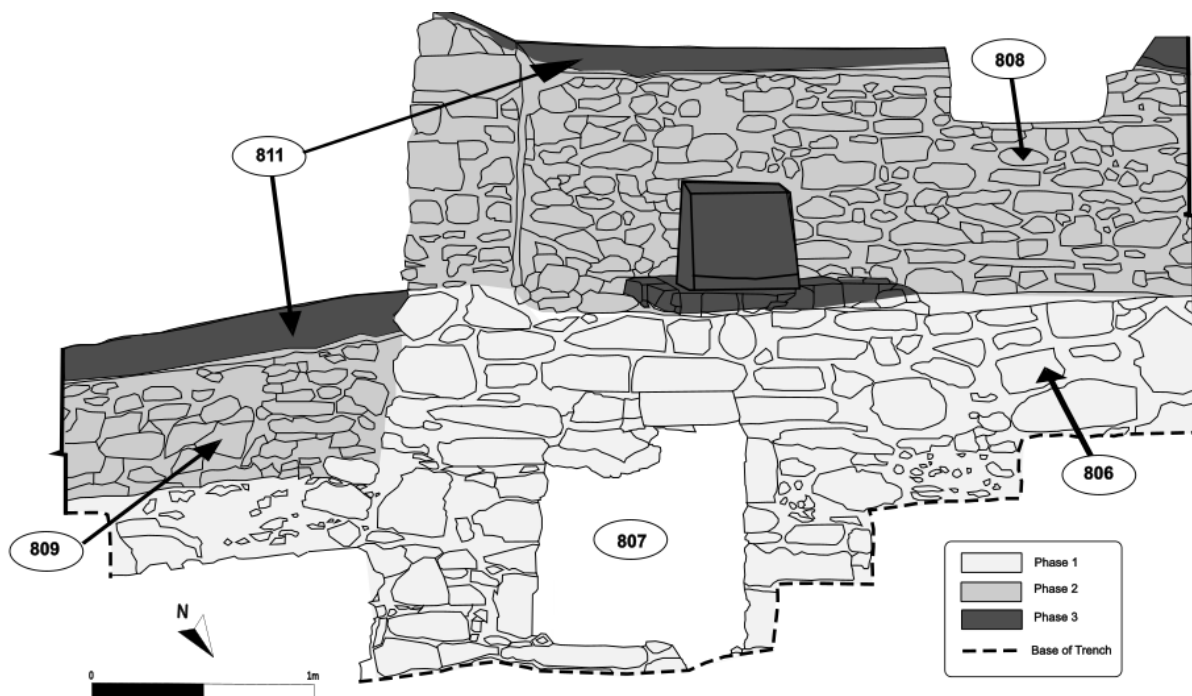


Figure 18 – Section of the bastion at Trench 8 showing multi-phasing. Image from Authors

7.17. In addition, the evidence suggests that a second phase [805] was constructed adjacent to or on top of Structure 1 [806] and ran into the grounds of the Youth Hostel Figure 21. This is likely to be the structure noted in Figures 3,4 and 5.



Figure 19 – Plan of Trench 8

8. Pottery Analysis

David Hall

8.1. Introduction & Method

Trench 3 produced a sherd of pottery and two-floor tile fragments from context [301]. Trench 8 produced 18 pottery sherds from Contexts [801] and [803]. These finds were examined by eye and x10 hand lens and assigned to a fabric type and provenance based on similar material known to the author.

8.2. Trench 3

T3 -Context 301 SF1 (Figure 20)

Basal angle in Scottish Redware with oxidised exterior surface and reduced grey core and interior. Tiny flecks of green-brown glaze are visible on its exterior surface. This belongs to the later end of the Scottish Redware industry before the onset of mass-produced vessels in Scottish Post Medieval Oxidised and Reduced Wares (also known as Throsk-Type Wares) (Caldwell and Dean 1992; Harrison 2002; Haggarty, Hall & Chenery 2011, 13). It potentially dates to the 16th / 17th centuries.



Figure 20 - Trench 3 Context [301] SF1 Basal angle of Scottish Redware. Image from D. Hall.

8.3. T3 - Context 301 SF2 (Figure 21)

A corner from a fragment of 2cm thick Redware floor tile that measures 7cm by 8cm has traces of a white slip with tiny flecks of glaze on its edges and surfaces. Its potential upper surface has a visible incised line parallel to one of the edges. The fabric of this tile is very red, and the presence of a white slip makes it highly likely that it is an import from a low country.



Figure 21 - Trench 3 Context [301] SF2 Corner fragment of white slipped Low Countries floor tile, red arrow indicates incised line running parallel to one of the edges. Image from D. Hall.

8.4. T3 - Context 301 SF3 (Figure 22)

A corner from a fragment of 2cm thick Redware floor tile that measures 12cm by 10cm and has streaks of green glaze visible on one edge and one surface. The fabric of this tile has an oxidised surface and a reduced grey core, and it is a Scottish product.



Figure 22 - Trench 3 Context [301] SF3 Corner fragment from Scottish Redware floor tile. Image from D. Hall.

8.5. Trench 8

Context 801 SF1 (Figure 23)

A rim sherd in Scottish Post Medieval Oxidised Ware with an oxidised exterior surface, oxidised core and interior splash glazed green, brown. Vessels in Scottish Post-Medieval Oxidised and Reduced Wares (also known as Throsk-Type Wares) are mass-produced and represent a development in firing technology from the earlier Scottish Medieval Redwares (Caldwell and Dean 1992; Harrison 2002;

Haggarty, Hall and Chenery 2011, 13). This sherd is probably from a chamber pot and dates to the 16th / 17th centuries.



Figure 23 - Trench 8 Context [801] SF1 Rim and sidewall possibly from a Scottish Post-Medieval Oxidised Ware chamber pot. Image from D. Hall.

8.6. Context 801 SF2

A body sherd in Scottish Post Medieval Reduced Ware glazed green externally with a grey core and interior. This is probably from a jug and dates to the 16th/17th centuries.

8.7. Context 801 SF3

A body sherd in Scottish Post Medieval Reduced Ware internally glazed green on a ridged surface. A purple-brown heat skin is visible on its exterior surface. This is from an open vessel form and dates to the 16th/17th centuries.

8.8. Context 801 SF4

A body sherd in Scottish Post Medieval Reduced Ware externally glazed green. This is probably from a jug and dates to the 16th/17th centuries.

8.9. Context 801 SF5 (Figure 24)

A body sherd in Scottish Post Medieval Reduced Ware is internally glazed green with an external green glaze streak and a slightly carbonised deposit. This may be from a cooking vessel to the 16th/17th centuries.



Figure 24 - Trench 8 Context [801] SF5 Bodysherd from a cooking vessel? in Scottish Post Medieval Oxidised Ware that is internally glazed green with an external green glaze streak and a carbonised deposit. Image from D. Hall.

8.10. Context 801 SF6

A body sherd in Scottish Post Medieval Reduced Ware glazed green externally with a grey core and interior surface. The surface has been wiped before glazing. This is probably from a jug and dates to the 16th/17th centuries.

8.11. Context 801 SF7

A basal angle in Scottish Post Medieval Oxidised Ware internally glazed green, brown. This is from an open vessel form and dates to the 16th/17th centuries.

8.12. Context 801 SF8

A small rim sherd with the remains of a spout in Scottish Post Medieval Oxidised Ware splash glazed green, brown. This is too small to identify its form accurately, but it dates to the 16th/17th centuries.

8.13. Context 801 SF9

A basal angle in Scottish Post Medieval Reduced Ware externally glazed green, brown. This is probably from a flat-based jug dating to the 16th/17th centuries.

8.14. Context 801 SF10

A body sherd in Scottish Post Medieval Reduced Ware glazed green internally and externally. This is too small to accurately identify its form but dates to the 16th/17th centuries.

8.15. Context 801 SF11 (Figure 25)

A strap handle fragment in Scottish Post Medieval Reduced Ware splash glazed green internally with traces of a purple-brown heat skin on its external surface. This is probably from a jug and dates to the 16th/17th centuries.



Figure 25 - Trench 8 Context [801] SF11 A strap handle fragment from Scottish Post Medieval Reduced Ware vessel splash glazed green internally and traces of a purple-brown heat skin on its external surface. Image from D. Hall.

8.16. Context 801 SF12

A body sherd in Scottish Post Medieval Reduced Ware glazed green externally with a grey core and interior. This is probably from a jug and dates to the 16th/17th centuries.

8.17. Context 801 SF13

A basal angle in Scottish Post Medieval Reduced Ware with a red-brown exterior, a grey core and a splash green glaze interior. This is probably from a flat-based jug and dates to the 16th/17th centuries.

8.18. Context 801 SF14

A body sherd in Scottish Post Medieval Oxidised Ware externally splashed glazed green on a horizontally ridged surface. This is too small to identify its form accurately, but it dates to the 16th/17th centuries.

8.19. Context 803 SF15

A body sherd in Scottish Post Medieval Oxidised Ware internally splashed glazed green with an external purple, brown heat skin. This is from an open vessel form and dates to the 16th/17th centuries.

8.20. Context 803 SF16

A basal angle in Scottish Post Medieval Oxidised Ware is internally glazed green with an external purple-brown heat skin. This is from an open vessel form and dates to the 16th/17th centuries.

8.21. Context 803 SF17

A basal angle in Scottish Post Medieval Reduced Ware with spots of green glaze on its external surface and a grey core and interior. This is probably from a flat-based jug dating to the 16th/17th centuries.

8.22. Context 803 SF18 (Figure 26)

A rim sherd from a fine green glazed Whiteware vessel with an external horizontal ridge. This is probably French and from a vessel in Beauvais Lead Glazed Earthenware (Haggarty 2006, File 26). It dates to the 16th and 17th centuries.



Figure 26 - Trench 8 Context [803] SF18 Rimsherd from a fine green glazed Whiteware vessel. French probably Beauvais Lead Glazed Earthenware. Image from D. Hall.

9. Pottery Discussion

- 9.1.** Within Trench 3, the basal angle (T3 - SF1) of Scottish Redware dates to the 16th or 17th centuries; dating undecorated floor tiles is difficult, but both T3-SF2 and T3-SF3 can be said to be indeed of a Late Medieval / Post Medieval date. Interestingly, there is a 16th-century reference to a tile maker being asked to move from Bothwell in Lanarkshire to Stirling, probably to help with the construction of a furnace for casting guns, which confirms that tile manufacture was taking place in Stirling from at least that date (Haggarty, Hall & Chenery 2011: 25). The possible Low Countries tile is similar to others that have been chemically sourced to that area from Aberdeen and North Berwick (Hughes 2014; 2017). Trench 8 produced a tightly dated group of ceramics that, apart from a single sherd from context [803] is all from vessels in Scottish Post-Medieval Oxidised or Reduced Wares of a 16th/17th-century date (Caldwell and Dean 1992; Harrison 2002; Haggarty, Hall & Chenery 2011: 13). Where it is possible to identify vessel types jugs, a chamber pot and open forms (bowls?) are present. It is interesting to see a single sherd that is potentially from a French Beauvais Lead Glazed Earthenware vessel of a similar date. Beauvais Earthenware vessels are often found in Scotland, commonly from monastic sites or castles, and have previously been found in excavations in Stirling Castle (Haggarty 2006, File 26; Franklin 2015; Hall 2022).
- 9.2.** Chemical analysis using Inductively Coupled Plasma-Atomic Emission Spectrometry (ICP-AES) was conducted on a 16th–17th century lead-glazed Whiteware sherd from Trench 8 Context [803] SF18, to determine its chemical composition and origin. The analysis (Brorsson 2024) revealed the sherd's closest chemical resemblance to Beauvais Redware from Bovenkarspel, Netherlands, and a Whiteware sherd from Andenne, Belgium, despite differing clay types. Comparisons with French ceramics showed distinct differences, suggesting the vessel was likely manufactured near the River Meuse in Belgium. These findings highlight trade connections between Stirling and the Low Countries, providing valuable insights into material sourcing and distribution in early modern Europe.

10. General Discussion

- 10.1. The 2023–2024 archaeological fieldwork represents the first systematic investigation of the Stirling Burgh Wall. Despite its limited scope and duration, the excavation targeted two areas of known extant remains and a previously unidentified structure. These efforts have enhanced the understanding of the section of the Wall between the Old Town Cemetery and Stirling Youth Hostel. In the Old Town Cemetery, Trenches 2 and 3 revealed a solid dolerite masonry wall along the boundary with the Back Walk, enhancing the natural topographical defences. Documentary sources refer to this location as the 'Kirkyard Dyke', although its precise alignment and extent remain unclear. Historical records suggest its origins may date to the late sixteenth century, following parliamentary directives for kirkyards to be enclosed with stone walls in 1597. While extant remains are truncated due to the demolition of the Wall in 1858, the structure's original height likely did not exceed 2 metres, as depicted in Figure 6.
- 10.2. The bastion, composed of a natural dolerite outcrop reinforced with masonry, occupies a commanding position overlooking the southern approach to Stirling. Artefacts such as 16th- and 17th-century Flemish floor tiles and Scottish earthenware ceramics suggest significant investment to ensure its utility and defensive readiness. Excavations in Trench 3 confirm that this bastion was integrated into the broader defensive enceinte, as evidenced by its connection to the perimeter wall and an entrance. This defensive enceinte extended west of Cowan's Hospital, corroborated by discovering a masonry wall and demolished bastion position. However, further westward evidence is likely lost due to 19th-century cemetery modifications.
- 10.3. Investigations in Trench 5 indicate that the masonry wall there is a 19th-century reconstruction, following the alignment of the earlier Kirkyard Dyke but incorporating modern materials. Meanwhile, Trenches 6 and 7, located near Cowan's Hospital, revealed an earlier dyke wall beneath the visible boundary wall, with stratigraphic evidence of phased demolition and redevelopment. Trench 7 aligns with the location of a demolished bastion, suggesting its removal during the construction of the Old Town Jail and subsequent replacement with a recycled masonry wall.
- 10.4. Excavations in Trench 8 provide further evidence of a defensive bastion, including two surviving gun loops. While protective against enemy fire, the chambered design posed hazards for defenders due to the confined space. The western portion of this bastion was likely symmetrical but may have been lost to the construction of the Old Town Jail.
- 10.5. The discovery of bastions along the Stirling Burgh Wall underscores its significance as an example of Renaissance artillery fortification. Originating in Italy during the 15th century, this design addressed vulnerabilities in medieval defences by incorporating outward-projecting bastions and flanking capabilities. While Scotland was slower to adopt Renaissance military engineering, the Stirling Burgh Wall demonstrates an early application of these principles. Unlike other contemporary Scottish examples, typically state-sponsored, evidence suggests that Stirling's Wall was conceived as a bastioned curtain wall from the outset.
- 10.6. Although fragmentary and eroded, the Wall's surviving elements align closely with the 18th-century military map in Figure 2. Traditionally dated to 1547, recent research (*Farrugia & Cook upcoming*) suggests construction may have begun earlier, possibly in 1544, predating other Renaissance-style defences in Scotland. If confirmed, the Stirling Burgh Wall represents one of the earliest examples of Renaissance artillery fortification in Scotland, contributing significantly to our understanding of the evolution of military architecture in the region.
- 10.7. The findings of this study strongly suggest that early modern municipal Stirling was neither economically deprived nor insular in its defensive strategies. Instead, the town demonstrated a

distinctly European and progressive approach to fortifications. The question of who principally drove the construction of these defences—whether the municipal authorities, an aristocratic figure, or even a royal actor—remains an area for further investigation. However, it appears particularly unusual that the burgesses of the Burgh, who represented the civil authority at the time, would independently conceive, implement, and fund such an advanced and extensive defensive structure.

- 10.8.** The excavations have offered a compelling glimpse into the daily life and functioning of the Wall, as well as its ongoing modifications and reuse, aspects that will require further analysis. The discovery of the sealed gunloop chamber and Structure 2 necessitates additional excavation and detailed examination. Nevertheless, their presence suggests that some form of human habitation, whether permanent or intermittent, occurred in proximity to the Wall. This finding underscores the close relationship between the Stirling Burgh Wall and the lived experiences of those residing and working in early modern Stirling.

11. Conclusions

This study has revealed that a more significant portion of the Stirling Burgh Wall survives than previously recognised by the RCAHMS or documented in the HES Scheduled Monument records while highlighting its complex construction, demolition, and rebuilding history. Further research, particularly in Trench 8, is essential to fully explore its potential, including deepening and extending the trench to examine the cobbled occupation floor to encompass Structure 2 and further investigating the relationship of gun loops to the structure. Investigations in the Old Town Cemetery may uncover additional sections of the Wall. However, this is unlikely beyond the Sconce Monument due to 19th-century modifications. At the same time, further exploration adjacent to Trench 5 is required to establish a better chronology for wall construction and its relationship to the cemetery. However, the study emphasises the limitations of archaeology alone in providing a definitive chronology or narrative, advocating instead for a multidisciplinary approach that integrates archaeological, documentary, topographical, and architectural analyses to elucidate the Wall's 470-year history fully. Addressing the key research questions, the study has confirmed the Wall's topographical alignment with the dolerite outcrop on the Burgh's southern side, extending west of Cowan's Hospital, identified three newly discovered bastions consistent with its design as a bastioned curtain wall and located an ancillary structure near the southern boundary. Overall, this research has enhanced our understanding of the Stirling Burgh Wall, revealing it as a sophisticated and well-preserved structure of considerable national importance.

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Appendix A: Context Register

Trench	Context	Description
1	101	Dark brown top silt with 10% clay content to a depth of 30cm, containing occasional sub-rounded medium pebbles (6mm-20mm), sitting on top of [102].
1	102	Mid Brown top silt with 5% clay content to a depth of 30cm containing occasional sub-rounded medium pebbles (6mm-20mm) sitting below [101].
1	103	Toppled Gravestone visible on side of trench adjacent to and within [101].
2	201	Mid brown silt with 10% clay content and occasional sub-angular inclusions (6-20mm) together with a lens of coarse granular material with a reddish hue running near boundary of [202]. This is interpreted as the broken down fragments of dolerite with high iron content. Contains abundant human charnel and coffin furniture / nails.
2	202	Dolerite bedrock, with extensive grave cuttings through bedrock visible along boundary fence, observed for 30cm before reaching the trench bottom.
2	203	Dolerite random blocks, maximum 30cm x 15cm cemented with lime mortar directly sitting on dolerite bedrock [202].
3	301	Mid brown friable silt with 10% clay content and occasional sub-angular inclusions (20-60mm) Contains a frequent human charnel and coffin furniture, coffin nails, occasional pottery.
3	302	Mid brown friable silt with 10% clay content and occasional sub-angular inclusions (20-60mm).
3	303	Mid brown friable silt with 25% clay content and occasional sub-angular inclusions (6-100mm), occasional inclusions of slate, shattered mortar and charcoal flakes. Lens of coarse granular material with a reddish iron hue. Partly overlays [305] and all of [307].
3	304	Mid brown friable silt in fill on Kirkyard wall adjacent to bastion. 25% clay content and occasional sub-angular inclusions (6-20mm) together with a lens of coarse granular material with a reddish iron hue. Contains infrequent human charnel.
3	305	Dolerite random blocks, maximum 20cm x 70cm cemented with lime mortar directly on dolerite bedrock [308].
3	306	Kirkyard Dyke Dolerite random blocks, maximum 40cm x 50cm cemented with lime mortar directly sitting on dolerite bedrock [309].
3	307	Cobbled floor 40-200mm of dolerite cobbles overlaying [308] and [309].
3	308	Medium sand with frequent inclusions of fine dolerite pebbles 2-6mm overlaying [309].
3	309	Fractured Dolerite bedrock
3	310	Dense Vegetation
4	401	Mid brown friable silt with 10% clay content and occasional sub-angular inclusions (6-20mm). Contains occasional human charnel and coffin furniture.
5	501	Made ground - Dark brown top silt with 10% clay content, containing occasional sub-rounded medium pebbles (6mm-20mm) and occasional human charnel and coffin furniture. Seals all contexts. Excavated to depth 1.83m. Common 'white' 18 th / 19 th century pottery found at 1.83m.
5	502	Brickwork wall of bothy, cuts [504].
5	503	Floating reused cemetery memorial stone adjacent to [501]. Cuts 504.
5	504	Cut of [501]. Dark brown top silt with 10% clay content to a depth of 500m, containing occasional sub-rounded medium pebbles (6mm-20mm).

5	505	20mm Lens of coarse sand, beneath [504] and cutting [501].
5	506	Sandstone and dolerite masonry wall. 35cm thick. Cemented with lime mortar
5	507	Rough Sandstone and dolerite masonry wall. 35cm thick Putative cut to [506]. Cemented with lime mortar
6	601	Dark brown and loose garden silt with minimal clay content. Occasional well rounded fine pebble inclusions (2mm-6mm) to a depth of 55cm.
6	602	Demolition Layer 12cm thick of light brown medium grain sand and frequent inclusions of coarse sub-angular pebbles (20-60mm).
6	603	Mid brown friable garden silt with greyish hue and 15% clay content with inclusions of moderate medium rounded pebbles (6mm-20mm).
6	604	Random rubble masonry wall comprising a mixture of dolerite and sandstone cut angular blocks up to a maximum of 40cm x 30cm, but more commonly 15 x 10cm and below, cemented with lime mortar with frequent modern pointing with hydraulic Portland cement.
6	605	Random rubble masonry footing for [604] comprising random rubble rounded and sub-angular cobbles up to a maximum of 30cm x 20cm, cemented by lime mortar. Extends 40cm outward from [604] and is 36cm deep. Observed to be above the level of demolition rubble [602]
6	606	Random rubble masonry wall immediately cemented with lime mortar below [605], visible through 50x50cm sondage in base of Trench 6.
7	701	Dark brown and loose garden silt with minimal clay content. Occasional well rounded fine pebble inclusions (2mm-6mm) to a depth of 55cm.
7	702	Demolition Layer 12cm thick of light brown medium grain sand and frequent inclusions of coarse sub-angular pebbles (20-60mm).
7	703	Mid brown friable garden silt with greyish hue and 15% clay content with inclusions of moderate medium rounded pebbles (6mm-20mm).
7	704	Random rubble masonry wall comprising a mixture of dolerite and sandstone cut angular blocks up to a maximum of 40cm x 30cm, but more commonly 15 x 10cm and below, cemented with lime mortar [with frequent modern pointing with hydraulic Portland cement.
7	705	Random rubble masonry footing for [704] of random rubble rounded and sub-angular cobbles up to a maximum of 30cm x 20cm, cemented by lime mortar. Observed to be above the level of demolition rubble [702] and adjacent to [701]. Footing extends 40cm outwards from [704] and is 35cm deep.
7	706	Random rubble masonry wall immediately cemented with lime mortar below [705], visible through 50x50cm sondage in base of Trench 7.
7	707	Random rubble masonry wall cemented with modern hydraulic mortar. Comprises dolerite and sandstone cut angular blocks averaging 15x10cm, and extends below level of [705]. Abuts but not tied into [704] or [705].
7	708	Demolition layer of grey clay silt with yellowish hue, with inclusions of medium sub-angular pebbles (6-20mm). Sits on top off [709] and abuts [707].
7	709	Random floating cobble infill (60mm-200mm), with voids visible, comprising dolerite cobbles (60mm-200mm) expanding 75cm into parterre garden from [707]. Located below [708] and abuts [705].
7	710	Demolition layer 20cm thick of light brown medium clay and sand with frequent inclusions of coarse sub-angular pebbles (20cm-60cm). Same demolition layer as [702] but separate from [708].
8	801	Dark brown top silt with 5% clay content to a depth of 35cm, containing occasional sub-angular and sub-rounded medium pebbles of dolerite (6-20mm), with a lens of human and animal charnel and occasional inclusions of pottery sherds. Overlays [802].

8	802	Demolition layer 20cm in depth located within the interior of Structure 2. Yellowish friable coarse sand and lime mixture with fine pebbles (2-6mm). Occasional inclusions of sub-angular and sub-rounded medium pebbles (6-20mm) and occasional Overlays [803].
8	803	Mid-brown buried silt with 5% clay content. Rare angular and rounded pebbles averaging 12cm in length and 8cm in width. 45cm in depth, with a lens of human and animal charnel and occasional inclusions of pottery sherds. Overlays [802].
8	804	Demolition layer 20cm in depth located adjacent to the exterior Wall of Structure 2. Yellowish friable coarse sand and lime mixture with fine pebbles (2-6mm). Abundant inclusions of sub-angular and sub-rounded cobbles (60-200mm). Overlays [803].
8	805	Structure 2 – subsurface placed dolerite cut stone cemented with lime mortar, occasional inclusions of common periwinkle shells (<i>Littorina littorea</i>) within lime mortar.
8	806	Structure 1 – subsurface placed dolerite cut stone cemented with lime mortar with occasional inclusions of common periwinkle shells (<i>Littorina littorea</i>) within lime mortar.
8	807	Dark brown silt with 5% clay, same as [801], forming infill to the doorway within Structure 1 [806] of dimension but containing abundant angular coarse pebbles (20-60mm) and angular cobbles (60mm-200mm). Contains a lens of demolition material similar to [802]. Dimensions are 90cm width by 130cm height. Located below [808].
8	808	Surface placed dolerite cut stone, no lime mortar visible, but pointed in modern hydraulic cement, forming lintel and visible area above lintel in Structure 1. The structure has been repointed in modern times.
8	809	Surface placed dolerite and sandstone cut stone, cemented with lime mortar but largely pointed with modern hydraulic cement. Sits on top of Structure 1 [806], but not keyed into [806].
8	810	Dolerite angular and sub-angular cobbles (60mm – 100mm) visible in a 15cm deep test sondage sunk in [8003]. Potentially forming a cobbled occupation floor immediately adjacent to Structure 2 [805]
8	811	20 th or 21 st Century modifications

Appendix B Pottery Find Register

Trench	Context	SF	Sherd	Description	Spot Date
3	301	1	1	Basal angle of Scottish Redware with tiny flecks of glaze on exterior	16/17th
3	301	2	1	Corner from Redware floor tile with visible purple heat skin and flecks of glaze on a white slip	16/17th
3	301	3	1	Corner from Redware floor tile with grey core, visible streaks of green glaze not slipped	16/17th
8	801	13	1	Basal angle from SPMRW vessel, red brown exterior grey core and interior splash glazed green	16/17th
8	801	12	1	Bodysherd from SPMRW vessel glazed green externally grey core and interior	16/17th
8	801	3	1	Bodysherd from SPMRW vessel internally glazed green (ridged surface), purple, brown exterior surface	16/17th
8	801	6	1	Bodysherd from SPMRW vessel glazed green externally grey core and interior	16/17th
8	801	2	1	Bodysherd from SPMRW vessel glazed green externally grey core and interior	16/17th
8	801	5	1	Bodysherd from SPMRW vessel internally glazed green with an external green glaze streak and slightly carbonised deposit	16/17th
8	801	1	1	Rimsherd from SPMOW vessel splash glazed green, brown internally	16/17th
8	801	11	1	Strap handle fragment from SPMRW vessel splash glazed green internally and externally traces of a purple, brown heat skin are visible	16/17th
8	801	8	1	Rimsherd from SPMOW vessel splash glazed green, brown	16/17th
8	801	10	1	Bodysherd from SPMRW glazed green internally and externally	16/17th
8	801	7	1	Basal angle from SPMOW vessel internally glazed green, brown	16/17th
8	801	4	1	Bodysherd from SPMRW vessel externally glazed green	16/17th
8	801	9	1	Basal angle from SPMRW vessel externally glazed green, brown	16/17th
8	801	14	1	Bodysherd from SPMOW vessel externally splash glazed green on a horizontally ridged surface	16/17th
8	803	18	1	Rimsherd from fine Whiteware vessel with external horizontal ridge glazed green French - Beauvais Lead Glazed Earthenware	16/17th
8	803	16	1	Basal angle from SPMOW vessel internally glazed green with external purple, brown heat skin	16/17th
8	803	17	1	Basal angle from SPMRW vessel with spots of green glaze	16/17th

8	803	15	1	Bodysherd from SPMOW vessel internally splash glazed green with external purple, brown heat skin	16/17th
TOTALS			21		

SPMRW Scottish Post Medieval Reduced Ware

SPMOW Scottish Post Medieval Oxidised Ware

Appendix C Drawing Register

Drawing Number	Scale	Description
Figure 7	Not to scale	Trench Location Plan
Figure 11	1:20	Trench 3 Plan
Figure 14	1:20	Trench 7 Elevation
Figure 18	1:20	Trench 8 Elevation
Figure 19	1:20	Trench 8 Plan

Appendix D Photographic Register

Exposure Number	Direction Facing	Description
IMG4429	West	T1 Plan
IMG1203	North	T2 Kirkyard Wall
COW3776	West	T2 Kirkyard Wall
COW3763	South	T3 South-West Corner of Bastion
COW3773	South	T3 North-East Corner of Bastion
COW3774	West	T3 North Boundary of Bastion
COW3775	South	T3North-West Corner of Bastion
COW3228	West	T5 Trench Section
COW3221	West	T6 Trench Side Section
COW3223	South	T6 Trench Plan
COW3224	South	T6 Full Height of Wall
COW3113	South	T7 Trench & Sondage
COW3120	West	T7 Side Section
COW3122	South	T7 Trench with Wall Foundation
COW3124	South	T7 Sondage looking below foundation
COW3125	West	T7 West Trench Section
COW3126	East	T7 Demolition Layer and Infill Material
COW3127	South	T7 Showing Bastion Cut
COW3131	South	T7 Full Height of Wall
COW3432	South	T8 Elevation
COW3433	South	T8 Elevation
COW3435	East	T8 Plan
COW3436	South	T6 Plan showing Structure 1 and 2
COW3439	West	Trench Section