

**NORTH REVETMENT WALL
LINCOLN CASTLE**

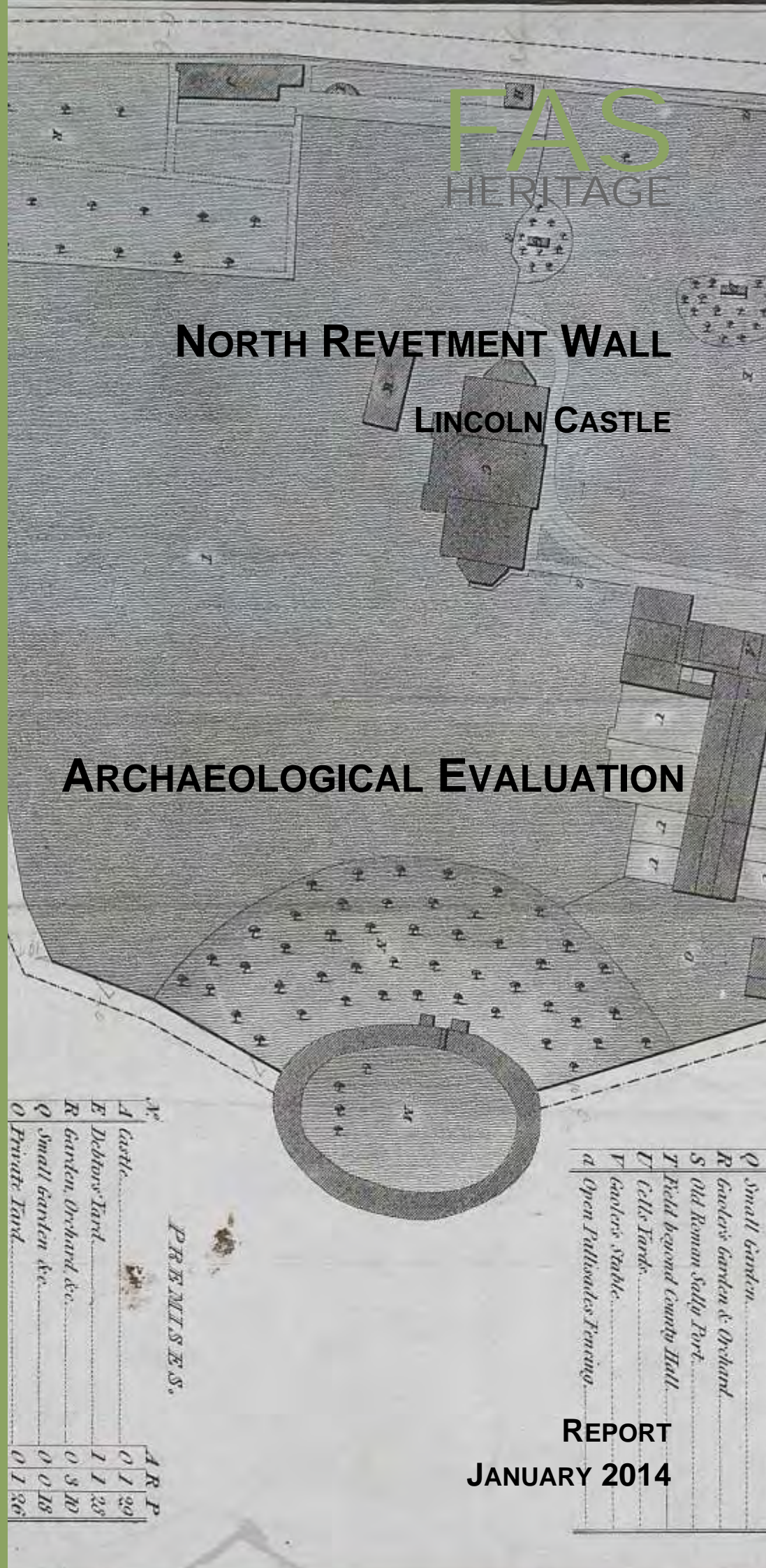
ARCHAEOLOGICAL EVALUATION

PREMISES.

	ARP
A Castle	0 1 29
E Debtors' Yard	1 1 28
R Garden, Orchard, &c.	0 8 10
Q Small Garden &c.	0 0 18
O Private Yard	0 1 26

- Q Small Garden
- R Garden's garden & Orchard
- S Old Roman Sally Port
- T Field beyond County Hall
- U Cells Yard
- V Caroler's Stable
- a Open Pathways Forming

**REPORT
JANUARY 2014**



ARCHAEOLOGICAL EVALUATION
NORTH REVETMENT WALL
LINCOLN CASTLE

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REPORT
January 2014

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Summary

This document presents the results of an archaeological evaluation of the northern revetment wall at Lincoln Castle. The evaluation was undertaken by FAS Heritage on behalf of Mouchel Business Services for Lincolnshire County Council. Fieldwork was undertaken between October 2013 and January 2014.

The programme of work was designed to assess the archaeological impact of proposals to replace the failing revetment wall. Fieldwork commenced with a pre-intervention photographic and measured survey. Subsequent evaluation excavation consisting of a single trench measuring 1.5m x 4.9m x up to 1.6m below ground level encountered deposits originating in the late 18th to early 19th century. Historic map regression suggests these deposits form part of terraced landscaping occupying the north side of the castle grounds adjacent to the castle bank. Subsequent landscaping during the late 20th-century obscured the earlier topography by heightening the terrace and constructing the current drystone revetment wall.

It is recommended that a return to the 18th to 19th century landscaping topography would enable the current wall to be safely dismantled without the need to replace it thereby minimising impact on archaeological deposits.

Acknowledgements

FAS Heritage are grateful to Derry Flanagan, Mouchel Business Services, for his support and patience during this project.

1.0 INTRODUCTION

This document presents the results of an archaeological evaluation of the northern revetment wall at Lincoln Castle. The evaluation was undertaken by FAS Heritage on behalf of Mouchel Business Services for Lincolnshire County Council. Fieldwork was undertaken between October 2013 and January 2014.

1.1 LOCATION AND LAND USE

Lincoln Castle, a Scheduled Monument (SM No. LINC 1)(NGR: SK 975 719), lies in the Upper City of Lincoln, which occupies an elevated position on the western scarp of the Lincoln Edge, where the River Witham flows through a glacial gap in the Jurassic limestone ridge.

The evaluation trench was positioned within the landscaped garden adjacent to the north curtain wall to the west of the bath-house at a point where the revetment wall had failed (Figure 1; Plate 1).



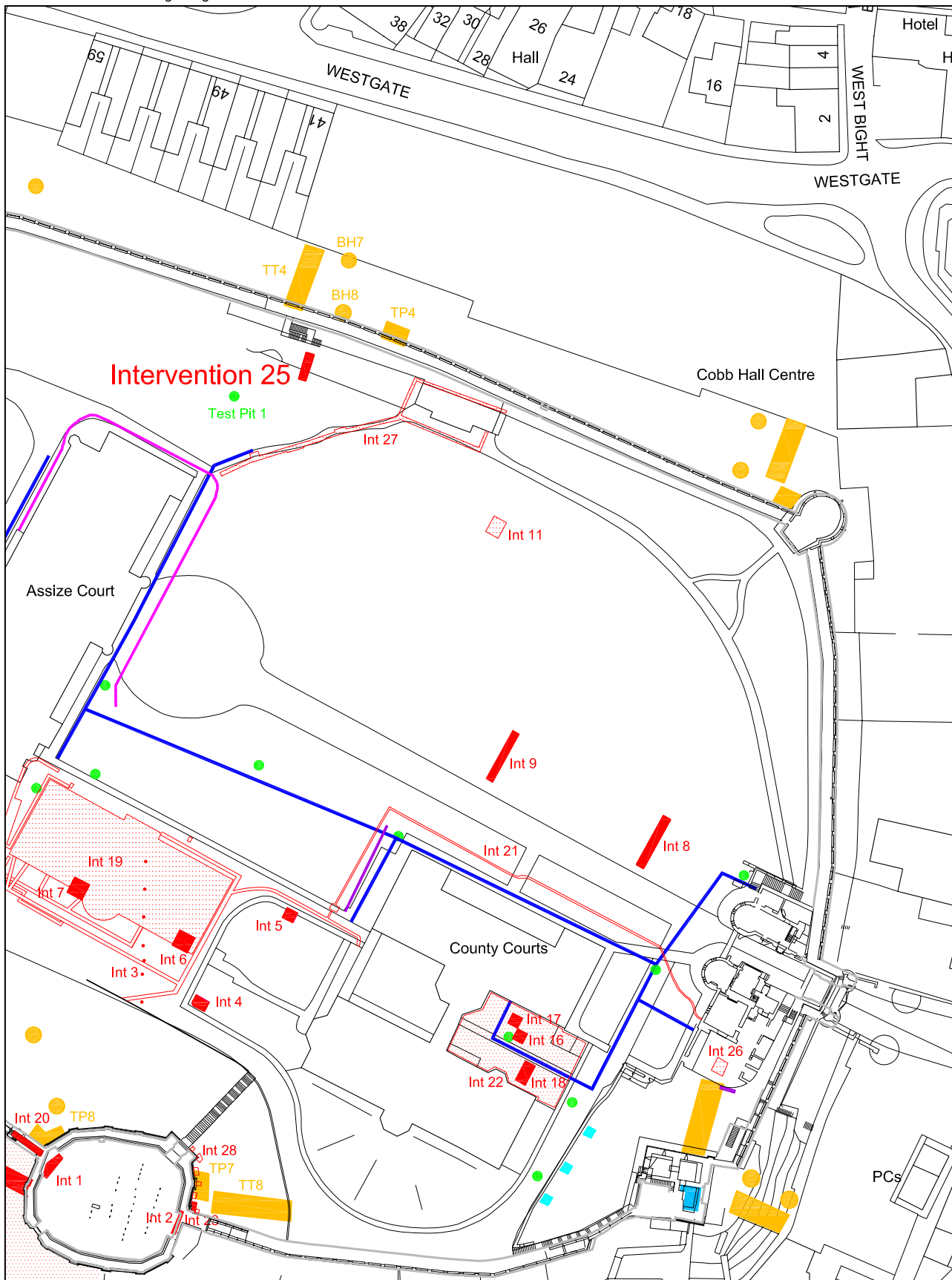
Plate 1 Location of intervention showing failed revetment wall looking east (scale 1.0m)

1.2 AIMS AND OBJECTIVES

The aim of the evaluation was to gather sufficient information to establish the structure and form of the partially collapsed revetment wall and characterise archaeological strata which lie behind and beneath the wall. Intrusive work was preceded by pre-intervention photographic and measured survey as well as inspection of an area of revetment walling considered likely to predate the current elevation of revetment wall. Information gained has allowed design proposals to be formulated for the revetment wall and garden area. It has also enhanced understanding of the working deposit model for this area of the castle which is known to be highly variable and for which there are few well-recorded data points. The evaluation was undertaken in accordance with a Project Design prepared by FAS Heritage and approved by Dr Ben Robinson, Principal Advisor Heritage at Risk, English Heritage and Dr Beryl Lott, Historic Environment Manager, Lincolnshire County Council (Appendix A).

1.3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Lincoln Castle was begun in the third quarter of the 11th century, shortly after the Norman Conquest. The motte, on which the Lucy Tower is built, is believed to have been erected within one corner of the existing Roman defences c.1068, while the Lucy Tower has been dated on architectural grounds to the early to mid-12th-century. The castle enceinte is thought to have been established certainly by the early 12th century with construction of stone curtain walls atop the earthen banks around the same time.



- Excavations
- 1992/6 stability survey
- 1992 evaluation
- 1993 watching brief
- 1993 watching briefs
- 1997 watching brief
- 2003 watching brief
- 2008-13 investigations by FAS Heritage

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Location map

Scale 1:1000



Figure 1

Pertinent to the current evaluation is the later history of the castle as a judicial and penal centre. The pedigree of Lincoln Castle being used as a prison finds its origins in the medieval period. Within the medieval stone wall enceinte a number of structures identified as gaols, county halls and courts have been erected, demolished and replaced. The wider land management of the castle grounds has shifted accordingly in the later post-medieval and early modern period. Map evidence from the late 18th century shows the north side of the castle and the area of evaluation to have been landscaped as pleasure gardens, tended by prisoners and enjoyed by the resident elite, by that time. Later surveys show that this formal landscaping persisted into the 19th century and the modern garden which now occupies the slopes of the northwest curtain wall continues this character. Both William Upton and Edward Willson's plans of the castle from 1812 and 1832 respectively show structures adjacent to the north curtain wall positioned in the upper level of the terraced area close to the evaluation area. It is possible that some of these features remain extant and/or superficially buried. At the bottom of the northern bank slope is a well thought to originate in the Roman period.

1.3.1 Recent archaeological intervention

Recent archaeological work relevant to the current evaluation includes a test pit excavated in 1992 (Donel 1992a) and a series of structural investigations monitored by archaeological watching brief around the exterior of the north castle wall and bank (Donel 1992b).

During 1992 a programme of evaluation based on the excavation of thirteen test pits across the castle grounds was undertaken to inform a scheme of service renewal. Test pit 1 was located c.16.0m to the southwest of the proposed evaluation trench (Donel 1992a). The test pit measured 1m² and was excavated to a depth of 1.2m from c.69.0mAOD. The sequence encountered consisted of a shallow cover of topsoil measuring up to 0.2m deep overlying a layer containing 'modern' bricks down to 1.2mBGL.

During the early 1990s a series of investigations were undertaken to inspect the structural stability of the earthworks of the castle by engineers Allot and Lomax. A trial trench, test pit and two boreholes were undertaken on the north side of the north curtain wall under archaeological watching brief (TT4, TP4, BH7 and BH8; see Figure 1). The reported results are brief (Donel 1992b).

TT4 was excavated down the gradient of the north bank from c.74.3mAOD to c.62.7mAOD in stepped profile. The trench encountered layers of soil containing limestone rubble forming the lower bank make-up overlain by possible surfaces at c.71.3mAOD buried in turn by further layered bank make-up overlain by a series of colluvial layers of tumbling erosion the latest of which comprised limestone rubble and may have been associated with 19th-century restoration of the castle walls.

TP4 was excavated from c.75.6mAOD down to c.73.4mAOD and encountered the base of the stepped foundation of the north curtain wall at c.74.1mAOD abutted by and supported on defined bands of soil and sand containing limestone fragments and limestone brash above a layer of stone.

BH8 was situated at the top of the north bank and thought to align with the main west-east street

within the Roman city leading from the west gate to the forum. The results reported included Roman deposits between 9.6m and 7.0mBGL overlain by 1.7m of 'post-Roman' strata, presumably beneath deposits which could be clearly identified as predating the bank make-up.

During the summer of 2013, groundworks associated with the refurbishment of the bath-house were monitored by FAS Heritage (Intervention 27)(FAS Heritage, forthcoming). The work involved the excavation of trenches around all sides of the building for the installation of grey water drainage and the excavation of a service trench running from the building's entrance in a southwesterly direction to the base of the northern bank. This provided insight into the make up of the upper levels of the northern slope which could be seen to be the result of early modern landscaping activity.

1.3.2 Historic map regression

Prior to intervention a historic map regression exercise was undertaken in order to identify any extant historic features adjacent to the modern revetment wall. The western end of the revetment wall forms a clear curve and is clearly different build to the main west-east elevation.

The earliest map of the castle is included in John Speed's Map of Lincoln c.1610 which shows most of the castle grounds as open space and does little to enlighten land-use at that time. By contrast the detail of Johnson's plan of 1782 provides a great deal of information and the area of evaluation can be seen to have been landscaped (Plate 2). The plan is furnished with labels and the north side of the castle grounds appear to have been given over to well-organised gardens with both west and east sides being identified as 'The Garden', and adjacent areas identified as 'Paddock' and 'Bowling Green'. The plan is contemporary with the construction of the new Georgian gaol and the castle grounds are thought to have been tended by debtors to be enjoyed by the Governor and associates as pleasure gardens. This use of the castle is exemplified in a later etching by Bartlett Rogers of 1834 showing the County Hall and grounds of the castle as being enjoyed for pleasure and quasi-agricultural activity in the form of hay-making and gathering (Plate 3).

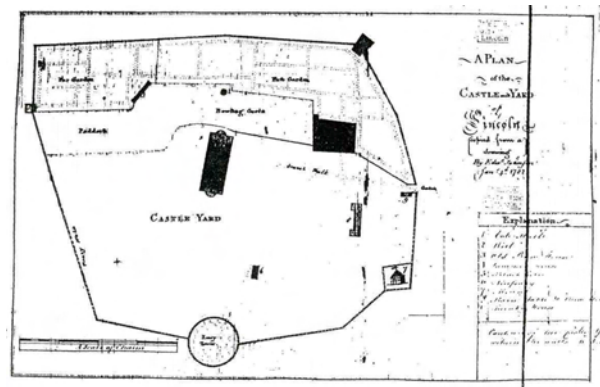


Plate 2 Johnson's plan of 1782

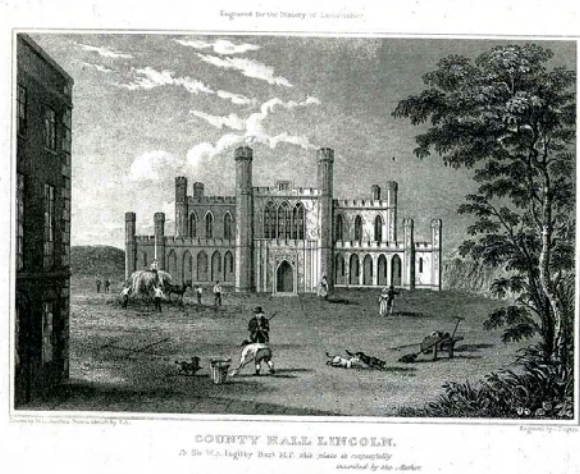


Plate 3 Engraving of County Hall, Bartlett Rogers, 1834

William Upton's plan of 1812 shows further detail of the ongoing development of the area (Plate 4). Again, the broad area of evaluation appears to be well-maintained in rectilinear plots extending along a large part of the north curtain wall. Several

structures can be noted which do not appear on Johnson's plan and so can be identified as relatively newly-built and part of the continuing gentrification of the castle grounds. Upton's plan labels various features of note. The cultivated plots are labelled 'R' denoted in the key as 'Gaoler's Garden and Orchard' while the adjacent structures labelled 'J', 'I' and 'H' are noted as 'Green and Hot House', 'Harbour' and 'Reservoir' respectively. The feature noted as 'Harbour' is of particular note since it corresponds with the location of the curving portion of revetment wall. Bower's plan of a year later is contrastingly poor and shows no clear landscaping, although he also shows the hothouse/greenhouse.

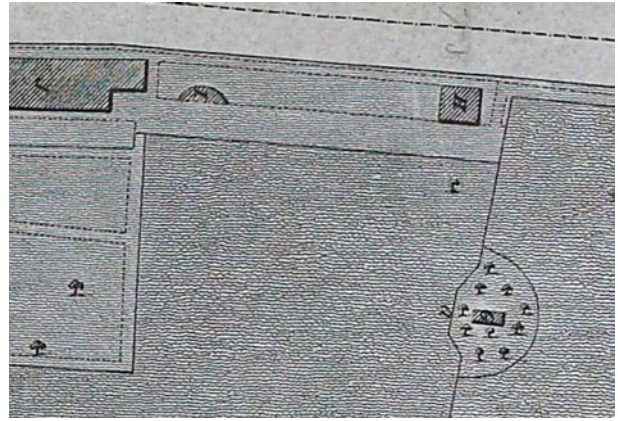


Plate 4 Detail from William Upton's plan of 1812

Twenty years later, Edward Willson's plan of the castle dated 1832 shows further detail of the area of evaluation (Plate 5). There is no sign of the allotments shown by Johnson and Upton and the Greenhouse and Hothouse, and the Reservoir have gone, the latter appears to have been swept away by, or perhaps incorporated into, the bath-house development. Willson shows more detail of the Harbour, which may have been subject to enhancement since Upton planned it. The feature is flanked by a short stair and possibly a wall on its western side and the simple curve shown by Upton has become more sinuous travelling further in an eastwards direction. The 'Harbour' may be understood as 'arbour' relating to a garden rest area or seat secluded by planting.

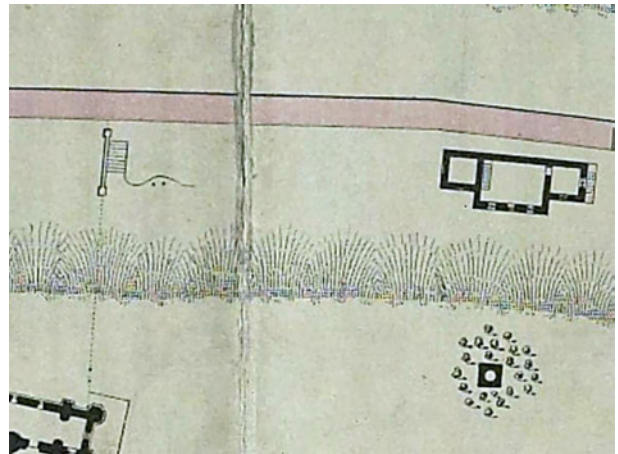


Plate 5 Detail from Edward Willson's plan of 1832

Ongoing Ordnance Surveys show the S-curving arbour wall which, despite remodelling of the revetment wall in the late 20th century, still appears on the modern data.

2.0 FIELDWORK PROCEDURE

2.1 PRE-INTERVENTION SURVEY

Prior to intervention a photographic survey of the fabric which forms the revetment wall was undertaken. The photography survey consists of 35mm general photographic record and detail photographs. Photographs contain a graduated photographic scale. Monochrome photographs were taken using conventional (not chromogenic) silver-based film to ensure archival stability.

2.1.1 Measured survey

In addition, a measured plan of the garden features in the area immediately adjacent to the area of evaluation was undertaken using a Total Station Theodolite. An existing survey grid based on Ordnance Survey National Grid and Ordnance Datum was used.

Following measured survey, a historic map regression exercise was undertaken based on Johnson's plan of 1782, Upton's plan of 1812 and Willson's plan of 1832. These historic plans have been digitised and overlain on modern mapping data to identify whether any extant features of the castle garden can be equated with features of late 18th and 19th century origin.

2.2 EVALUATION EXCAVATION

The evaluation consisted of a single trench oriented north-south and positioned at the point where a late 20th-century drystone revetment wall of the castle garden had failed and collapsed (Plate 6). The trench measured 1.5m wide x 4.9m long x up to 1.6m deep and was stepped in profile with edges within the northern bank battered back for safety reasons following archaeological recording (Figure 2).



Plate 6 Intervention 25 looking south (scale 1.0m)

2.2.1 Excavation Procedure

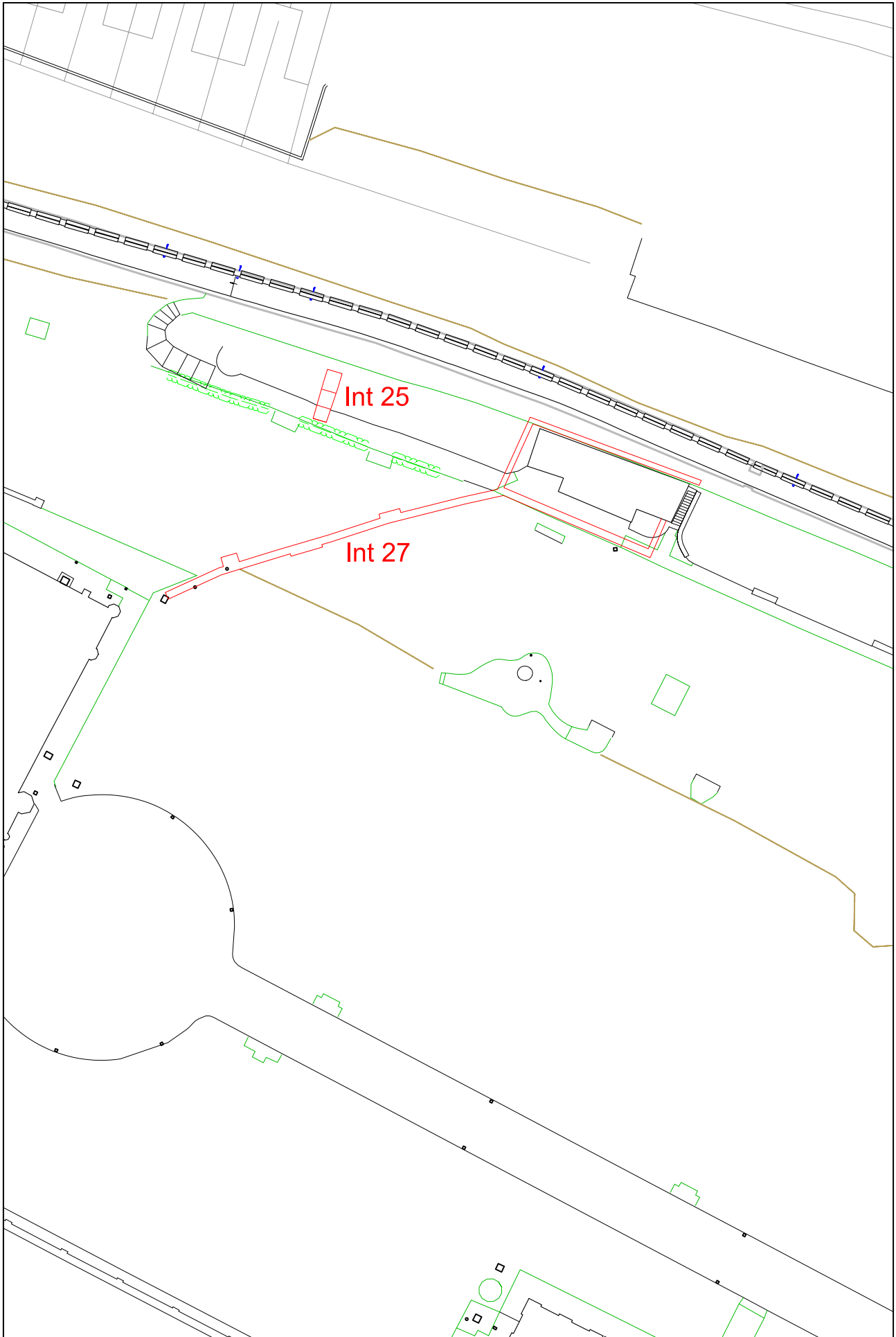
The evaluation involved excavation of deposits sufficient to expose the strata behind the revetment wall and strata which predated its foundations. Excavated material was stockpiled a 1.0m stand-off from the trench on the adjacent path. Excavation was undertaken by hand in a controlled and stratigraphic manner.

2.2.2 Recording Procedure

An existing site grid based on the Ordnance Survey National Grid and Ordnance Survey Datum was used for recording purposes. A full written, drawn and photographic record was made of all strata encountered during evaluation. Archaeological deposits and features were recorded using a standard system of context and other record forms. A series of indexes, capable of interrogation, were maintained for all site records. The photographic record consists of 35mm colour and monochrome photography. Monochrome photography using silver-based film was used to ensure archival stability.

2.2.3 Archive preparation

It has been agreed with The Collection that all archaeological works required at Lincoln Castle under the auspices of the Lincoln Castle Revealed Project will be archived under the site code LCRP;



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Location of Intervention

Scale 1:500



Figure 2

LCNCC:2012.157 with individual interventions clearly structured within the archive. The north revetment wall evaluation was recorded under the site code LCRP13-14 and allocated Intervention 25.

3.0 FIELDWORK RESULTS

The earliest deposit encountered within Intervention 25 was assigned C1004 which consisted of a coarse, well-compacted silty clay with frequent limestone chippings dispersed throughout (Figure 3; Plate 7; Table 1). Only a small part of the upper interface of C1004 was exposed within Intervention 25 at 73.0mAOD (or 0.80mBGL at the northern end of the trench), and so only a small sample could be excavated. Fragments of clay tobacco pipe were recovered and as a group are dateable to the late 18th to 19th century (Appendix B). Earlier residual material was also present in the form of clay tobacco pipe which may date to the 17th to 18th century, two sherds of Lincoln Glazed Ware of the 13th to 14th century (Appendix C) and a sherd of 1st to early 2nd-century Roman pottery (Appendix D). C1004 may be the same as a layer encountered within the deepest part of Intervention 25 at the south end of the trench. This layer was assigned C1005 and consisted of a plastic silty clay with frequent limestone rubble throughout encountered at 71.50mAOD (or 0.10m BGL beneath the path flanking the revetment wall)(Plate 8). C1005 may have been reworked during the insertion of the path which flanks the base of the revetment wall as its upper interface appeared to have been levelled and sealed by geotextile. While the descriptions and heights of C1004 and C1005 appear to contrast with one another, observations of adjacent strata made during Intervention 27, a watching brief maintained on the refurbishment of the bath-house, suggests that they may nevertheless represent different parts of an extensive and variable deposit which form the uppermost levels of the northern castle bank.

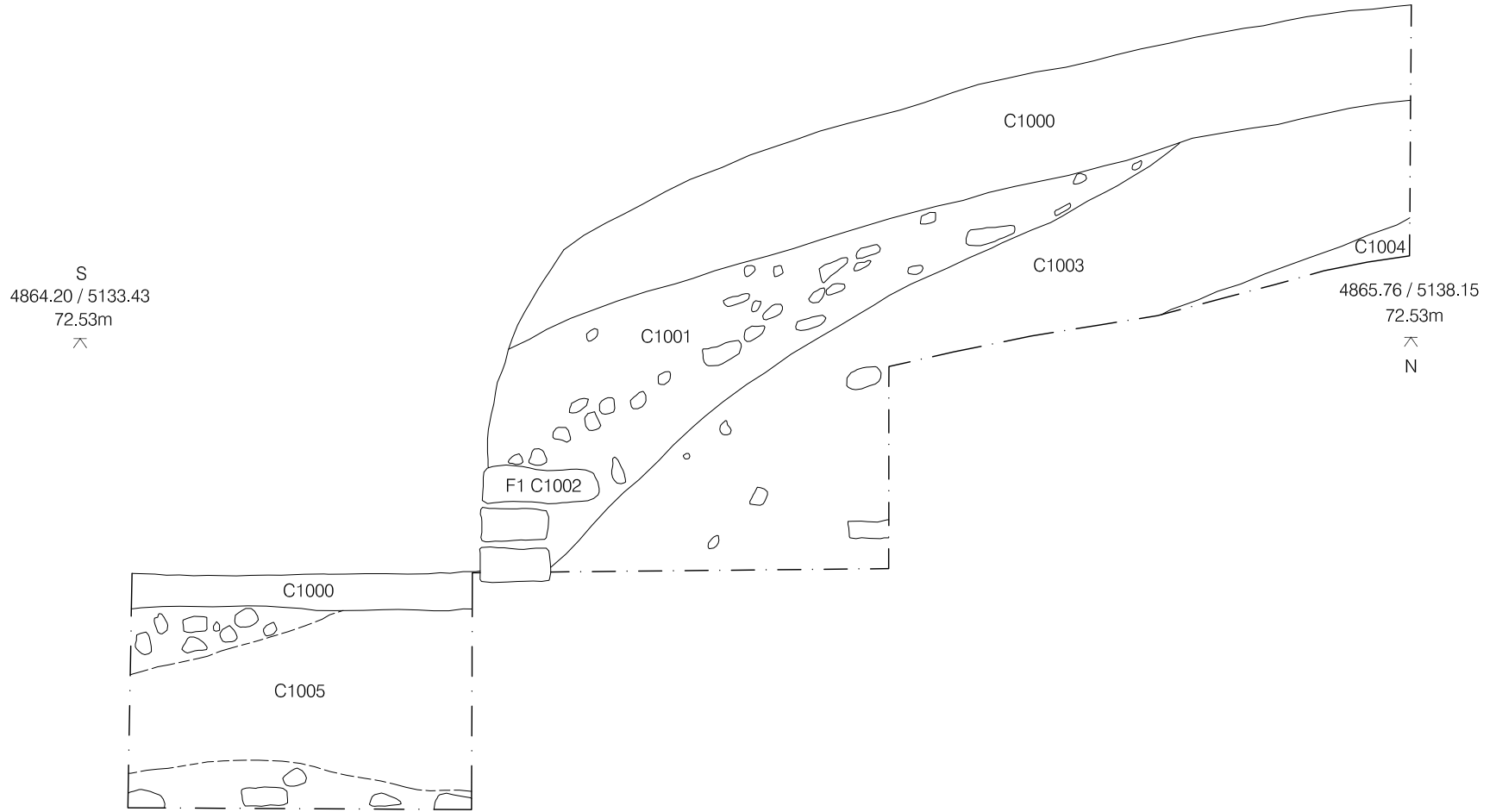
C1004 was seen to be overlain in the northern part of the trench by C1003 a distinctive layer of humic silty clay containing occasional limestone fragments. C1003 measured 0.50m deep and had a pronounced profile dipping significantly from north to south; the upper level was encountered at 73.40mAOD (or 0.35mBGL north) dipping to 71.60mAOD (or equivalent to ground level where it meets



Plate 7 Intervention 25 (north), east-facing section showing buried soil C1003 (scale 2.0m)



Plate 8 Intervention 25 (south), east-facing section showing C1005 (scale 2.0m)



Intervention 25 - east-facing section

Scale 1:25



Figure 3

the revetment wall). The interface between C1004 and C1003 was marked heavily by root and worm action. Material recovered from C1003 reflected that recovered from C1004 and consisted of clay tobacco pipe of the late 18th to 19th century including a pipe likely to have been made by James Naylor, an 18th-century Lincoln pipe maker, sometime between c.1751 and 1787. Contemporary ceramic was also recovered including a sherd from a Staffordshire-type slipware dish of late 17th- to 18th-century date and the base of a small earthenware flowerpot of late 18th- to 20th-century type.

C1003 was overlain by a deep, variable deposit of dark grey clayey silt and limestone rubble which was loosely compacted and unstable during excavation (C1001). A variety of modern detritus was noted within C1001, but not retained, including a fragmentary Coca-Cola bottle, silver foil, a glass marble and pantile and slate roof tile fragments. C1001 had apparently been deposited behind the revetment wall assigned F1 C1002, which is known to have been constructed c.25 years ago (Table 2). C1001 was overlain by the current north garden topsoil which is currently cultivated (C1000).

Table 1 Summary of contexts

Context	Identity	Feature	Description	Munsell
1000	Topsoil	-	Assigned to modern topsoil cover, consisted of a humic, black clayey silt upper with a buff, gritty lower interface	10YR4/1 10YR5/2
1001	Made ground	-	Assigned to a large tip of clayey silt and limestone rubble against the rear of F1, contained modern detritus	10YR4/1
1002	Make-up	1	Assigned to make-up of revetment wall F1, consisting of dry-bonded limestone with substantial regular blocks at the base with diminishing courses of less regular material over	-
1003	Buried soil	-	Assigned to an homogenous, clean humic clayey-silt appearing as a cultivated soil, produced ceramic and clay tobacco pipe fragments	10YR2/2
1004	Made ground	-	Assigned to a partially defined layer of well-compacted, coarse silty-clay with frequent limestone chippings throughout	10YR4/6
1005	Made ground	-	Assigned to a relatively deep deposit of plastic silty-clay with frequent limestone rubble throughout visible as tip lines	10YR5/6

Table 2 Summary of features

Feature	Identity	Context	Description	Profile
1	Wall	1002	Assigned to modern revetment wall which runs for c.40m east-west, of 20th-century construction	Irregular

3.1 REVETMENT WALL

During fieldwork the construction of the revetment wall was also inspected. The linear portion of the

wall extending from the bath-house at the east to the western termination is clearly contemporary and no changes in construction were visible. The walling is drystone and formed in irregular coursing in limestone blocks of variable dimensions. In contrast to this the curving terminus of the western end of the revetment wall is regularly coursed and built in flat slab-like limestone blocks by an accomplished stonemason. The junction of the two portions of walling shows that somewhat unexpectedly the later revetment wall passes behind the earlier fabric. Since the curving terminus can be identified as the remains of the historic harbour it may be that the modern revetment wall cut into the historic fabric slightly.

4.0 DISCUSSION

The sequence encountered did not make contact with deposits earlier than the late 18th century, although earlier material was present residually. C1004, C1005 and C1003, in conjunction with historic map regression, appear to provide evidence for gardens established within the northern part of the castle grounds in the late 18th to 19th century. Archaeological evidence, coupled with the map regression show that from at least 1782 the area was under cultivation (Figure 4).

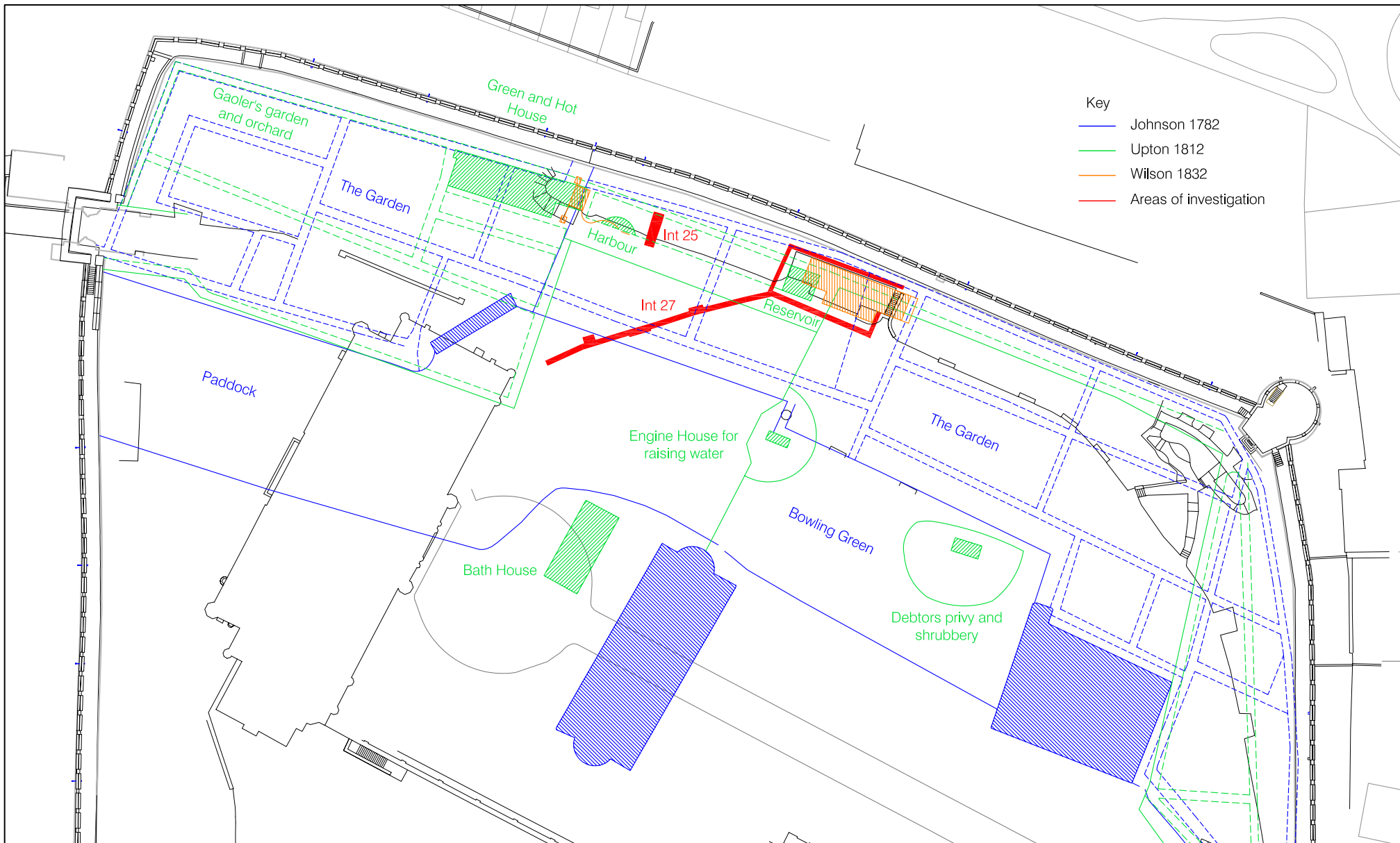
The make-up of the upper levels of the northern bank to the west of the bath-house have been previewed recently in two interventions. Within Intervention 27 (bath-house watching brief; FAS Heritage forthcoming), a profile through the northern bank from behind the bath-house to the base of the bank slope, showed it to be made of a variable and extensive deposit of clayey-silt and clayey-sand containing early modern ceramic along with earlier residual material. Within Intervention 25 it is considered likely that C1005 and C1004 represent the same bank make-up deposit. The origin of the material is not clear, but the latest material present is dateable consistently to the 18th to 19th century. C1003 appears to represent a buried, formerly cultivated soil and seems likely to have originated in the gardens shown on the historic maps. The presence of 18th to 19th century material particularly a fragment of flowerpot strengthen this interpretation.

The construction of F1 and the deposition of C1001 behind it created the harder terracing which characterises the northwest garden. This episode of landscaping was not extended to the northeast portion of the north garden and its topography may reflect more closely that established in the 18th to 19th-century.

The map regression exercise also demonstrates that the western terminus of the revetment wall belongs to a Georgian garden feature which may be more extensive in plan, but is currently masked by the modern revetment wall.

5.0 ASSESSMENT

The evaluation has demonstrated that the remains of late 18th to 19th-century castle gardens lie at relatively shallow depth beneath a modern overburden. The contours of C1003 reflect the form of the



North revetment wall area showing results of historic map regression

Scale 1:750



Figure 4

northwestern bank prior to recent intervention and is clearly stratified and identifiable. The remains of the Georgian harbour are now better understood and are likely to be more extensive beneath modern work.

While the impact of the construction of a new revetment wall to match the existing wall would appear to only impact these late garden landscaping deposits an alternative approach would negate the need for further below-ground intervention. Reversal of the 20th-century intervention in the form of revetment wall and bank heightening would remove the need for its rebuilding on a deep foundation system and concomitant below-ground impact on archaeological deposits. It would be possible to reinstate the more gentle contours of the historic garden landscaping across the northwestern bank, reflected by buried soil C1003, by removing the revetment wall and the soil loading behind it under archaeological supervision. By doing so the northwestern bank would reflect former historic land-use as closely as its northeastern counterpart.

6.0 ARCHIVE

The paper and digital archive for the evaluation, with the material archive, will be deposited at The Collection under Intervention 25 (Site Code LTLC'13-14, Accession no LCNCC:2012.157). All material recovered has been the subject of specialist identification and reporting. The early modern sherd and undiagnostic clay pipe stems will be discarded in accordance with disposal agreements with The Collection, all remaining ceramic and clay tobacco pipe will be retained and deposited for future study.

Paper and electronic copies of this report will also be deposited with the Lincolnshire Historic Environment Record and sent to English Heritage. A digital version will be made available online *via* the OASIS grey literature library.

References

Cartographic sources

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Donel, L. 1992a. 'Lincoln Castle Stability Survey: Archaeological recording' CLAU (unpublished report)

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FAS Heritage forthcoming. The Bath-house, Lincoln Castle, Archaeological Watching Brief, (unpublished report)

APPENDIX A PROJECT DESIGN

1.0 INTRODUCTION

This document presents a Project Design (PD) for an archaeological evaluation within the landscaped garden adjacent to the north curtain wall, Lincoln Castle and has been prepared by FAS Heritage for Derry Flanagan, Mouchel Business Services. The evaluation has been designed in response to the need to repair a revetment wall within the landscaped garden, to establish the make-up and foundation of the wall and the character and date of archaeological strata which predate the wall. The PD has been prepared in support of an application for Scheduled Monument Consent and with reference to the Lincolnshire Archaeological Handbook (2012) and the Institute for Archaeologists Standard and Guidance for Archaeological Evaluation (2008).

1.1 LOCATION AND LAND USE

Lincoln Castle, a Scheduled Monument (SM No. LINC 1)(NGR: SK 975 719), lies in the Upper City of Lincoln, which occupies an elevated position on the western scarp of the Lincoln Edge, where the River Witham flows through a glacial gap in the Jurassic limestone ridge.

The evaluation trench will be positioned within the landscaped garden adjacent to the north curtain wall (Figure 1; Plate 1).

1.2 AIMS AND OBJECTIVES

The aim of the evaluation is to gather sufficient information to establish the structure and form of the partially collapsed revetment wall and characterise archaeological strata which lie behind the wall and those which lie beneath it. The evaluation will consist of the excavation of a single archaeological trench at this location. Information gained will contribute to design proposals for repair and ongoing maintenance to the revetment wall and garden area. It will also enhance understanding of the working deposit model for this area of the castle which can be anticipated to be highly variable and for which there are few well recorded data points.

1.3 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Lincoln Castle was begun in the third quarter of the 11th century, shortly after the Norman Conquest. The motte, on which the Lucy Tower is built, is believed to have been erected within one corner of the existing Roman defences c.1068, while the Lucy Tower has been dated on architectural grounds to the early to mid-12th-century. The castle enceinte is thought to have been established certainly by the early 12th century with construction of stone curtain walls atop the earthen banks around the same time.

Pertinent to this PD is the later history of the castle as a judicial and penal centre. The pedigree of Lincoln Castle being used as a prison finds its origins in the medieval period. Within the medieval stone wall enceinte a number of structures identified as gaols, county halls and courts have been erected, demolished and replaced. The wider land management of the castle grounds has shifted accordingly in the later post-medieval and early modern period. Map evidence from the late 18th century shows the north side of the castle and the area of evaluation to have been landscaped as pleasure gardens, tended by prisoners and enjoyed by the resident elite, by that time (Plate 2). Later surveys show that this formal landscaping persisted into the 19th century and the modern garden which now occupies the slopes of the north curtain wall continue this character. Both William Upton and Edward Willson's plans of the castle from 1812 and 1832 respectively show structures adjacent to the north curtain wall positioned in the upper level of the terraced area close to the proposed evaluation area. It is possible that some

of these features remain extant and/or superficially buried. At the bottom of the northern bank slope is a well thought to originate in the Roman period.

1.3.1 Recent archaeological intervention

Recent archaeological work relevant to this PD includes a test pit excavated in 1992 (Donel 1992a) and a series of structural investigations monitored by archaeological watching brief around the exterior of the north castle wall and bank (Donel 1992b).

During 1992 a programme of evaluation based on the excavation of thirteen test pits across the castle grounds was undertaken to inform a scheme of service renewal. Test pit 1 was located c.16.0m to the southwest of the proposed evaluation trench (Donel 1992a). The test pit measured 1m² and was excavated to a depth of 1.2m from c.69.0mAOD. The sequence encountered consisted of a shallow cover of topsoil measuring up to 0.2m deep overlying a layer containing 'modern' bricks down to 1.2mBGL.

During the early 1990s a series of investigations were undertaken to inspect the structural stability of the earthworks of the castle by engineers Allot and Lomax. A trial trench, test pit and two boreholes were undertaken on the north side of the north curtain wall under archaeological watching brief (TT4, TP4, BH7 and BH8; see Figure 1). The reported results are brief (Donel 1992b).

TT4 was excavated down the gradient of the north bank from c.74.3mAOD to c.62.7mAOD in stepped profile. The trench encountered layers of soil containing limestone rubble forming the lower bank make-up overlain by possible surfaces at c.71.3mAOD buried in turn by further layered bank make-up overlain by a series of colluvial layers of tumbling erosion the latest of which comprised limestone rubble and may have been associated with 19th-century restoration of the castle walls.

TP4 was excavated from c.75.6mAOD down to c.73.4mAOD and encountered the base of the stepped foundation of the north curtain wall at c.74.1mAOD abutted by and supported on defined bands of soil and sand containing limestone fragments and limestone brush above a layer of stone.

BH8 was situated at the top of the north bank and thought to align with the main west-east street within the Roman city leading from the west gate to the forum. The results reported included Roman deposits between 9.6m and 7.0mBGL overlain by 1.7m of 'post-Roman' strata, presumably beneath deposits which could be clearly identified as predating the bank make-up.

2.0 METHODOLOGY

2.1 FIELDWORK PROCEDURE

2.1.1 Pre-intervention survey

Prior to intervention a photographic survey of the fabric which forms the revetment wall will be undertaken.

Photographic recording

A 35mm photographic record will be made of all the revetment wall in the area of collapse from vantage points as nearly parallel to the elevation being photographed as is possible within the constraints of the site. A general photographic record will also be made which includes a number of oblique general views of the wall from all sides, showing it and the landscaped area as a whole in its setting.

Detail photographs

In addition, detailed record shots will be made of any features of archaeological and architectural interest identified during recording. Typically, items of interest would include:

- any significant changes in construction material;
- evidence for phasing.

General and detail photographs will be taken with a 35mm camera, using a tripod or flashgun as appropriate. Detail photographs will contain a graduated photographic scale of appropriate dimensions. A 2-metre ranging-rod, will be included in a selection of general shots, sufficient to independently establish the scale of all elements of the structure. All monochrome record photographs will be taken using conventional (not chromogenic) silver-based film to ensure archival stability.

Measured survey

In addition, a measured plan of the garden features in the area immediately adjacent to the area of evaluation will be undertaken using a Total Station Theodolite. An existing survey grid based on Ordnance Survey National Grid and Ordnance Datum will be used.

Following measured survey, a historic map regression exercise will be undertaken based on Johnson's plan of 1782, Upton's plan of 1812 and Willson's plan of 1832. These historic plans will be digitised and draped over modern mapping data to identify whether any extant features of the castle garden can be equated with features of late 18th and 19th century origin.

2.1.2 Evaluation trench

The evaluation will consist of a single trench which will be undertaken in a single phase of fieldwork. The trench will be oriented north-south and positioned at the point where a late 20th-century drystone revetment wall of the castle garden has failed and collapsed (Plate 3). The trench will formalise this area of collapse and will accordingly measure c.1.5m wide x c.6m long x no greater than 1.0m deep and will be of stepped profile with battered edges as appropriate (see Figure 1).

Excavation Procedure

The evaluation will involve excavation of deposits sufficient to expose the strata behind the revetment wall and strata which predate its foundations. Excavated material will be stockpiled at regular intervals at a 1m stand-off from the trench; where necessary these stockpiles will be supported by sand-bag revetments to prevent excavated material sliding downslope. Excavation down to the latest archaeological horizon through garden soils will be undertaken by micro-digger operated by an archaeologist with excavation below this level undertaken by hand in a controlled and stratigraphic manner. All structural remains will be left *in situ*.

If human burials are encountered, the remains will be recorded and where possible left *in situ*. The provisions of Section 25 of the Burial Act (1857) will be complied with.

Recording Procedure

An existing site grid based on the Ordnance Survey National Grid and Ordnance Survey Datum will be used for recording purposes.

A full written, drawn and photographic record will be made of all strata encountered during the course of the evaluation. Archaeological deposits, features and structures will be recorded using a standard system of context

and other record forms. A series of indexes, capable of interrogation, will be maintained for all site records. The planning of features will be at scales of 1:10 or 1:20; a long trench section will be recorded at a scale of 1:10. The photographic record will consist of 35mm colour and monochrome photography. Monochrome photography will be undertaken using silver-based film to ensure archival stability.

2.2 ARCHIVE PREPARATION

It has been agreed with The Collection that all archaeological works required at Lincoln Castle under the auspices of the Lincoln Castle Revealed project will be archived under the site code LCRP12; LCNCC:2012. 157 with individual interventions clearly structured within the archive. After completion of the field investigation all records and material will be curated in accordance with the Lincolnshire Archaeological Handbook (2012) and will be indexed, ordered, quantified and checked for consistency. Context, finds, sample and other paper-based records will be transferred to an integrated computer based system. The drawn record will be digitised in an appropriate format that will permit the output of standard AutoCAD type DXF files.

The archival record will include all material relating to the site and its excavation including correspondence, written, drawn and computerised records. As part of the preparation for the post-excavation programme, the material archive will be quantified and described.

The digital archive will be provided in a non-magnetic storage medium using generic file formats including PDF.

Preliminary conservation and stabilisation of objects will be undertaken prior to an assessment of long-term conservation and storage needs.

2.3 POST-EXCAVATION AND REPORTING PROCEDURES

Upon completion of the fieldwork, an Evaluation Report will be prepared and will include the archaeological background, fieldwork procedure, the results of the evaluation, interpretation and phasing, illustrations (photographs, plans and sections) and assessment, conclusions and recommendations.

3.0 PUBLICATION AND DISSEMINATION

A note will be prepared on the results of the recording work for publication in an appropriate local journal. An *Online Access to Index of Archaeological Investigations* (OASIS) form will be submitted for the project.

4.0 PROJECT TEAM

Excavation Director, Justin Garner-Lahire BA
Project Officer, Richard Jackson BA

Project Specialists

Jane Young, Ian Rowlandson and Jenny Mann (pottery, ceramic building material and clay pipe)
Karen Barker (Conservation)
Cecily Spall (Small Finds)
Hugh Willmott (Glass)
Craig Barclay (Coins)

5.0 MONITORING ARRANGEMENTS

The work will be monitored by Dr Ben Robinson, Team Leader, English Heritage and Dr Beryl Lott, Team Leader, Lincolnshire County Council Historic Environment Team, who will be notified prior to the commencement of fieldwork.

6.0 HEALTH & SAFETY

FAS Heritage will operate with due regard for Health and Safety regulations, and will ensure that all relevant requirements are met with regard both to site personnel and to members of the public. A Risk Assessment will be prepared, in accordance with the Health and Safety at Work Regulations prior to the start of the site investigation.

7.0 INSURANCE

FAS Heritage carry appropriate levels of Public Liability, Employers Liability and Professional Indemnity insurances.

29/10/2012

APPENDIX B CLAY TOBACCO PIPE REPORT

Jenny E Mann

1.0 INTRODUCTION

A small assemblage of clay tobacco pipe fragments were submitted for assessment and cataloguing.

2.0 DESCRIPTION

The clay tobacco pipes comprise nine small stem fragments, one of which is decorated, and part of a marked and decorated bowl, from two contexts. Both groups are likely to date to the late 18th or 19th century, but contain chronologically mixed material. The earliest pieces (SB6, SB7) could be of 17th-century date.

Only a portion of the right side and back of the bowl survives. The rim bears moulded lettering: LINCOL[N], while the moulded decoration comprises broad fluting interspersed with raised dots, and what appears to be foliage running from the base of the bowl up the front seam (now broken away). Complete bowls with this type of decoration, marked with the maker's name: IAMES/NAYLOR, have been recovered from the West Gate of the castle (Wragg and Mann 2003, 70). If from the same maker, this bowl is likely to date to c.1751-87 (although Naylor was enfranchised in 1734). Similar decoration was used by another local maker, Robinson, known to have been working in the late 18th century (*cf.* Mann 1977, 23; Wells 1979, 153).

The stem fragments are not closely datable, although the decorated piece is likely to belong to the 18th century. It is broken across one end of a crudely incised, irregularly spaced spiral. Simple decorative spirals are found on pipes from the 17th century onwards, but are often more neatly executed by milling (*cf.* Mann 1977, fig. 31, 219).

3.0 RECOMMENDATIONS

No further work is required; only the bowl fragment and the marked stem merit retention.

Context	Bowl	Stems	Comments
1003	1		M-L 18C. Fragment, rt side, moulded decoration. Marked: LINCOL[N]. SB4.
		1	18C. Broken across one end of crudely incised spiral. SB5.
		2	SB x 1 (burnished); SB4 x1. Discarded
1004	-	6	SB7 x1; SB6 x2; SB5 x2; SB4 x1. Discarded

SB = stem bore, measured in 64ths of an inch

References

Mann, J. E., 1977 *Clay Tobacco Pipes from Excavations in Lincoln 1970-74*, The Archaeology of Lincoln, XV-1

Wells, P. K., 1979. The Pipemakers of Lincolnshire, in Davey, P (ed), *The Archaeology of the Clay Tobacco Pipe*, BAR Brit Ser 63:123-69

Wragg, K. and Mann, J., 2003. *Lincoln Castle West Gate, Archive Completion, Stage 2*, Unpublished report, City of Lincoln Archaeology Unit, 493

APPENDIX C CERAMIC REPORT

Jane Young

1.0 INTRODUCTION

Four sherds of post-Roman pottery, each representing a single vessel, were recovered from the site. The pottery ranges in date from the medieval to the early modern periods and includes local and regionally imported fabrics. Dating given for this report follows that given in Young, Vince and Nailor 2005 with a few minor adjustments.

The pottery has been fully archived to the standards for acceptance to the Collection in Lincoln in accordance with Lincolnshire County Council's *Archaeological Handbook* (Section 13.4 and 13.5) and with the guidelines laid out in Slowikowski, *et al.* (2001). The assemblage was quantified by three measures: number of sherds, weight and vessel count within each context. The pottery data was entered on an access database using fabric codenames (see Table 1) developed for the Lincoln Ceramic Type Series (Young, Vince and Nailor 2005).

2.0 CONDITION

The pottery is mainly in a slightly abraded condition to fairly fresh with sherd falling into the small to medium range (below 40grams). All of the material is in a stable condition.

3.0 THE POTTERY

Four vessels in three identifiable ware types were recovered from two deposits on the site (Table 1; Appendix A).

Table 1 Pottery types with total quantities by sherd and vessel count

Codename	Full name	Earliest date	Latest date	Total sherds
LERTH	Late earthenwares	1750	2000	1
LSW2	13th to 14th century Lincoln glazed ware	1200	1320	2
STSL	Staffordshire/Bristol slipware	1680	1800	1

Buried topsoil deposit C1003 produced two sherds of post-Roman pottery. The earlier of the two sherds comes from a Staffordshire-type Slipware dish (STSL) of late 17th- to 18th-century date. The dish is of the press-moulded type and has dark brown in-filled decoration on a yellow glaze background. The second sherd is the base of a small earthenware (LERTH) flowerpot of late 18th- to 20th-century type.

Two medieval sherds were recovered from the made-ground of the northern bank (C1004). Both sherds are from jugs in 13th to early/mid-14th century Lincoln Glazed ware (LSW2). The handle sherd is of the strap-handle type and comes from a jug of early to mid-13th-century date. The smaller body sherd has the edge of a decorative applied vertical strip and is from a 13th-century jug.

4.0 DISCUSSION

The post-Roman pottery recovered from this site includes material of medieval to early modern date. The medieval pottery has either been disturbed by later landscaping, or has been brought onto the site during this process. The early modern sherd has been discarded in agreement with the Collection; otherwise the remaining

pottery should be kept for future study.

Bibliography

- Lincolnshire Archaeological Handbook 2009 edition [Internet]. Available from
<http://www.lincolnshire.gov.uk/upload/public/attachments/1073/Archaeological_Handbook.pdf
- Slowikowski, A., Nenck, B. and Pearce, J. 2001. *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics*. Medieval Pottery Research Group, Occasional Paper 2
- Young, J., Vince A. and Nailor V. 2005. *A Corpus of Anglo-Saxon and Medieval Pottery from Lincoln*. Lincoln Archaeological Studies 7

Appendix A

cname	sub fabric	form type	sherds	wgt	decoration	part	action	description	date
LERTH	fine orange-red	small flower pot	1	18		base	discarded		late 18th to 20th
LSW2		jug	1	3	applied vertical slip	BS		reduced glaze	13th
LSW2		jug	1	39		handle		strap handle; pocked reduced glaze	early to mid-13th
STSL	cream	press moulded dish	1	11	moulded dec. with dark brown infill on yellow background	BS			late 17th to 18th

APPENDIX D ROMAN CERAMIC REPORT
Ian Rowlandson

The pottery has been archived using count and weight as measures according to the guidelines laid down for the minimum archive by *The Study Group for Roman Pottery* (Darling 2004) using the codes developed by the City of Lincoln Archaeological Unit- CLAU (see Darling and Precious *forthcoming*). Rim equivalents (RE) have been recorded and an attempt at a 'maximum' vessel estimate has been made following Orton (1975, 31). The archive record is an integral part of this report and will be curated in an Access database available from the author in a digital format.

A single Roman sherd was presented for study from C1004 (17g , rim diameter 18cm, RE 0.04). The sherd has a native tradition IAGR fabric, the vessel has an everted rim and a high shoulder (Darling and Precious *forthcoming* No. 805). The sherd can be dated to the mid- to late 1st century to early 2nd century AD.

Bibliography

Darling, M.J., 2004. Guidelines for the archiving of Roman Pottery. *Journal of Roman Pottery Studies* 11:67-74
Darling, M.J. and Precious, B.J., *forthcoming*. Corpus of Roman Pottery from Lincoln, *Lincoln Archaeological Studies* No. 6, Oxbow Books, Oxford

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