

NOTTINGHAM CASTLE REDEVELOPMENT PROJECT

Archaeological Excavation and Monitoring in Advance of Interpretation Installation



For Nottingham City Council

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Summary

- As part of the Heritage Lottery funded 'Nottingham Castle Redevelopment Project', Nottingham City Council was required to carry out archaeological mitigation works in advance of proposed installation of interpretation signs at Nottingham Castle (centred on SK 56856 39480). The locations of the interpretation signs are shown on Figure 01-05.
- The work was carried out between the 14th of September and the 23rd of October, 2020, and comprised the excavation of nineteen foundations for interpretation boards spread throughout the castle. Fifteen of these foundations located outside of the Middle Bailey were subject to archaeological monitoring with excavation works being conducted by ground work contractors. The five foundations located within the Middle Bailey were subject to archaeological excavation with topsoil being removed by machine under archaeological supervision and the foundations being hand excavated to a maximum depth of 0.5m BGL.
- The intermittent preservation of medieval and post-medieval deposits beneath the modern stratigraphy has been identified from previous archaeological works. The potential of uncovering or impacting these features has been reduced prior to the beginning of excavation with many of the interpretation sign foundations being located within the backfilled footprint of previous archaeological excavations.
- A single medieval deposit was likely identified in the Middle Bailey with post-medieval, starting from the 17th century, and modern land/hardscaping deposits comprising the majority of deposits also identified during this excavation. A 17th century culvert was recorded and preserved in situ as well as a repair cut for Mortimer's Hole in the Upper Bailey and the cut of a post-medieval robber trench was located east of the Middle Bailey along the projected alignment of the curtain wall.
- The majority of deposits recorded consisted of modern and post-medieval land/hardscaping layers similar to those identified during previous programmes of archaeological investigation. As such, these contexts contribute little in the way of new data which would help further our understanding of the changing land use of Nottingham Castle.

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1. Introduction

- 1.1. As part of the Heritage Lottery funded 'Nottingham Castle Redevelopment Project' Nottingham City Council was required to carry out Archaeological mitigation works in advance of the proposed installation of interpretation signs at Nottingham Castle, centred on SK 56856 39480, with the location of the interpretation signs shown on Figures 01-05.
- 1.2. The site is a Scheduled Monument under the 1979 Ancient Monuments and Archaeological Areas Act (Scheduled Monument Number (SMN) 1006382). Trent & Peak Archaeology (TPA) was commissioned in 2016 by Nottingham City Council to liaise with Scott Lomax, City Archaeologist at Nottingham City Council (NCC) and Tim Allen, Inspector of Ancient Monuments (East Midlands) at Historic England, to determine a programme of Archaeological Mitigation Works during the redevelopment project. The Archaeological Mitigation Strategy (AMS) (Johnson, 2016) was further informed by a desk-based assessment of known archaeological information (Kinsley, 2016) and previous archaeologically-led enabling works within and around Nottingham Castle (Roushannafas, 2016). By complying with the Historic England Approved AMS, the work outlined herein also satisfied the existing conditions of Nottingham City Council's Scheduled Monument Consent (Reference No. S00148351).
- 1.3. The archaeological mitigation works comprised the archaeological monitoring, excavation and recording of twenty 1.5m x 2.2m x 0.4-0.5m foundations for new interpretation boards located throughout the castle grounds. Some of these trenches exceeded 0.5m, either due to the sloping of the ground, or because of the presence of features within the trench.
- 1.4. Fifteen of these foundations, located outside of the Middle Bailey, were subject to archaeological monitoring with the excavations being conducted by on site groundworkers under archaeological supervision. The four remaining foundations were archaeologically excavated by hand due to the very high archaeological potential of the Middle Bailey, with sub-surface archaeological remains of medieval and post-medieval date having previously been recorded between 0.3-0.5m BGL. The work was carried out between the 14th of September and the 23rd of October, 2020.
- 1.5. The overall study employed the methodology developed by TPA for use on similar projects in the region. This methodology conforms to the standard requirement of planning authorities where consent applications are made for development. These follow policies presented in the *Revised National Planning Policy Framework* (MHCLG, 2019) which supersedes the 2012 *NPPF*.

2. Site Location, Topography and Geology

2.1. Topography

- 2.1.1. Nottingham Castle is centred on NGR SK 56985 39485 and comprises an area totalling approximately 3.2ha located on the 'Castle Rock', overlooking Nottingham to the south-west of the modern city centre (Figure 01). The Middle Bailey is located on the north and west

side of the extant monument.

2.2. Geology

- 2.2.1. The underlying Geology of Nottingham Castle is characterised by deposits of Chester Sandstone Formation, a sedimentary bedrock formed approximately 246-251 million years ago in the Triassic Period by riverine deposition of detrital material forming river terrace deposits. No superficial deposits have been recorded within the confines of the castle grounds, however deposits of clays, silts, sands and gravels have been recorded to the south of Castle Rock which formed up to 3 million years ago in the Quaternary Period by downslope movements of material (British Geological Survey, 2020).
- 2.2.2. The overlying soils are characterised as freely draining, slightly acid, sandy soils (www.landis.org.uk/soilscapes, 2020).

3. Historical Background

3.1. A Brief History of Nottingham Castle

- 3.1.1. Nottingham was originally founded on the orders of William the Conqueror during the northern campaign of 1068. Due to the strategic position of the Castle Rock combined with its location (which played a central role in controlling movement to and from the North), Nottingham Castle gained prestige, eventually growing to become one of the most important royal castles outside of London by the 13th century. It remained a royal castle until its effective sale to Francis, Earl of Rutland in 1622 (Drage, 1989, 33-60).
- 3.1.2. The Castle originally comprised three main areas: the Upper Bailey (where the Ducal Palace, now the Castle Museum, stands), the Middle Bailey (known as the Green) and the Outer Enclosure which included the current Outer Bailey and land extending 120m further north over Standard Hill. This enclosure was divided into the Northern Bailey and the Outer Bailey (to the south) in the 13th century (ibid.).
- 3.1.3. The original earthwork castle was constructed in 1067-8 under the instruction of William the Conqueror. The earth and timber defences may have covered the entire extent of the later stone replacements, but this is uncertain (Drage, 1989). The earth and timber defences of the Upper Bailey were replaced by a stone curtain wall in 1171-3. A stone keep was in existence by 1188 and a great tower was constructed in 1373-7. The Middle Bailey earthwork defences were replaced by a stone curtain wall in 1171-89. A great hall and chapel are recorded from the 1230s, and major rebuilding occurred in 1476-80, with the construction of the State Apartments, and the completion of Richards Tower during the reign of Richard III (AD 1483-85)
- 3.1.4. The castle was the scene of many historically important events throughout the medieval period. The castle was the site of a siege between supporters of Prince John (the Earl of

Mortain) and Richard I, following the King's return from the Third Crusade in 1194, in which King Richard put down the rebellion of Prince John. In 1330 Queen Isabella, the wife of Edward II and at that time regent for her son Edward III, and her lover Roger de Mortimer were captured at the castle and their reign overthrown. Furthermore, the castle was the official seat of government for most of the reign of Richard III who set out from the castle with his army of 12,000 troops to challenge Henry Tudor and ultimately meet his death on Bosworth battlefield in 1485 (Ibid.).

- 3.1.5. In 1642, King Charles I raised his standard at Nottingham Castle as he sought to exert supreme authority of the crown over Parliament, effectively starting the English Civil War. The Castle was then held successfully throughout the war by a parliamentarian garrison under the command of Colonel Hutchinson (Drage, 1989, 71-2).
- 3.1.6. Following the downfall of the monarchy and the execution of King Charles I in 1649, the castle was still considered to be a formidable threat. Its potential seizure by a hostile force proved so problematic that a meeting was held at the castle in 1651 which sealed its fate; it was decreed that the castle should be completely destroyed (Ibid.).
- 3.1.7. Following the restoration of the monarchy in 1660, the site was sold to William Cavendish, 1st Duke of Newcastle, and exiled Royal Commander. Cavendish remodelled the site, demolishing the majority of the remaining medieval castle in order to begin the building of his palace. Sadly for the Duke, he did not survive to see its completion in 1679 and his subsequent heirs left the site empty for much of its remaining history (Drage, 1989, 74).
- 3.1.8. In 1831, the 4th Duke of Newcastle opposed the cries for parliamentary reform that were popular at the time. Following the Duke's reported opposition to the Reform Bill in the House of Lords, the castle was burned down by radicals during a night of riots. The first Great Reform Act came into being the following year, with the events at Nottingham being pivotal in persuading Parliament and the House of Lords of the strength of popular opinion.
- 3.1.9. The building lay in a neglected and ruinous state until the 1870s when the Director of Nottingham Art School, along with Henry Cole (the evangelical first Director of the Victoria & Albert Museum), supported the Corporation of Nottingham in their aim to restore the palace as a public Museum. On the 3rd of July 1878, the museum was formally opened by the Prince and Princess of Wales as the first municipal art gallery and museum outside of London.
- 3.1.10. The site owned by Nottingham City Council now comprises the former Upper and Middle Baileys and the reduced Outer Bailey.

4. Archaeological Background

4.1. Previous Archaeological Works within the castle.

- 4.1.1. The Nottingham Castle Redevelopment AMS provides a detailed historical and archaeological background for the site, and the following section should be read in conjunction with that document (Johnson, 2016). This section will briefly summarise the scope of previous archaeological investigations of Nottingham Castle prior to the 2016 Nottingham Castle Redevelopment Project.
- 4.1.2. Between 1976 and 1984 the “Nottingham Castle Project” led by Christopher Drage investigated the castle in a combined programme of documentary study and research coupled with survey and rescue excavation which culminated with the publication of *Nottingham Castle. A Place Full Royal* (Drage, 1989). Drages’ excavation identified 11th-15th century structural remains and medieval stratigraphy at 0.3m BGL during its investigation of the Middle Bailey (Northern defences, eastern defences and Medieval Bridge and excavation in the southwestern corner of The Green) in addition to the skull and upper torso of an adult burial, thought at the time to be of Civil War date. Drage (1989) also referred to works undertaken in the service courtyard, which were carried out by contractors and recorded by Gordon Young (Scott Lomax, pers comm.).
- 4.1.3. In 1996 a landslide revealed the foundations of the Ducal Palace as well as the Upper Bailey curtain wall south-west of the palace.
- 4.1.4. Between 1998-1999 TPA was commissioned by NCC to mitigate damages to the castles archaeological remains during the installation of new IT cables, gas and water mains throughout the castle grounds via watching brief and rescue excavation. During this programme of archaeological works Medieval features were identified in the Upper Bailey: probable curtain wall and Saxo-Norman pits, and beneath the service courtyard tunnel. Deposits related to post-medieval landscaping were identified infilling the medieval ditch. Features associated with landscaping were also observed truncating the western end of the Middle Bailey (Walker & Kinsley, 2004).
- 4.1.5. Subsequent archaeological works included the monitoring of repaving works on the western terrace and colonnade in the Upper Bailey which revealed medieval stratigraphy, pits and pre-Smythson plan castle masonry (Hurford & Kinsley, 2000), a series of community training excavations conducted by TPA in the Outer Bailey conducted between 2015 and 2018, and a 2014 programme of geophysical survey of the south-eastern part of the Outer Bailey (Johnson & Richley, 2014).

4.2. Nottingham Castle Redevelopment Project: Results of the Archaeological Works for Enabling Groundworks 2016.

- 4.2.1. In 2016 NCC commissioned TPA to carry out archaeological evaluation for enabling groundworks throughout the castle grounds in preparation for the ‘Nottingham Castle Redevelopment Project’. This work involved the excavation of thirty-one archaeological test

pits within the castle grounds. The test-pitting programme revealed highly significant archaeological remains associated with the medieval castle and post-medieval ducal palace in the service courtyard, with the north-edge of the rock-cut ditch found in a number of the test pits projected to run the entire length of the service courtyard.

- 4.2.2. Evidence for the survival of the 17th century carriageway connecting the Outer and Middle Baileys were also identified during the 2016 test-pitting programme (Roushannafas & Smart, 2016) which prompted further investigations in 2019 to mitigate the damage to potential structural remains prior to a proposed regrading of the Middle Bailey bank. Three trenches were cut into the bank in close proximity to the 2016 test pits to ascertain the depths of significant deposits. No evidence of the original carriageway, or associated features, was encountered during this investigation and no features or materials pre-dating the post-medieval period were identified. The most intensive phase of site activity observed during the trenching related to the 18th century reforming of the carriageway and later 19th century landscaping works (Collins, 2019).
- 4.2.3. In 2017 three trenches (NCA11) were excavated on the approach, and the bridge, of the castle Gatehouse so as to aid in the structural engineering design of the gatehouse bridge consolidation works with the aim of identifying and preserving the historical fabric associated with the structure. Fabrics relating to the Medieval bridge, in addition to structural remains associated with its 16th century reconstruction and the blocking of its vaults' northern arches between the 18th and 19th centuries were identified beneath considerable deposits of modern materials during this program of trial trenching (Davies & Parker, 2017).
- 4.2.4. South of the Gatehouse, within the immediate environs of three interpretation signs located in the Outer Bailey, TPA excavated the footprint of the Castles' new visitors centre in 2018. Upon excavating the footprint to approximately 1.2m BGL a 10m x 5m area was shored up and excavated a further 6m so as to establish the possible presence of deep buried structural remains, previously identified in geoarchaeological boreholes, which would require modifications to the visitors centre design to ensure their preservation. Upon completion of the excavation no structural elements were encountered but five stratigraphic phases were identified. The earliest of these phases was associated with a series of deliberately backfilled and 'slumping' events across a wide D-shaped depression abutting the southern extent of the Outer Bailey curtain wall. This depression is depicted in a 1744 image by Badder and Peat, and could have been formed during the slighting or demolition of the castle curtain wall during the Civil War (Davies *et al*, 2019).
- 4.2.5. Subsequent phases were able to identify the beginning of the Outer Baileys' post-medieval redevelopment through the depositional build-up of a possible bank between the gatehouse and the Middle Bailey. The Ducal Palaces' 18th-19th century formal garden phase was likewise identified via the excavation of intersecting planting trenches and shrub root-boles overlain with soft gardening soils. The final two phases were characterised by the continued build-up of ground levels in the Outer Bailey, to form its current layout, which included 20th century planters, pits cut to renovate the curtain wall, a 19th century brick built gardening structure and a modern tarmac footpath constructed on an east to west alignment towards the curtain wall (Davies *et al*, 2019).

- 4.2.6. In October 2018 groundworks for the Nottingham Castle Redevelopment Project formally began. An ongoing programme of archaeological monitoring and recording (NCA18) was required for the duration of the development, until its completion in 2020, to mitigate all intrusive works which could impact the archaeological fabrics and contexts of this scheduled monument. The archaeological potential and construction impact was assessed prior to the commencement of groundworks and areas of moderate, high, and very high archaeological potential were identified on a map of the castle grounds. The Middle Bailey, in which five of the interpretation boards are located, was highlighted as an area of very high archaeological potential with TPA reviewing all groundworks proposed to take place within it. The aim of these reviews was to assess and determine whether the proposed excavations could be covered by the NCA18 archaeological monitoring programme or whether a separate programme of archaeological excavation was warranted. This resulted in three separate programmes of archaeological evaluation taking place over the proposed locations of a new substation and service trench along the western edge of the Middle Bailey in August 2018, January 2019, and May 2019. These evaluations have subsequently been labelled Location 1 (August 2018), Location 2 (January 2019) and Location 3 (May 2019). Reports have now been submitted for all three evaluations.
- 4.2.7. The evaluation in Location 1 revealed a complex stratigraphy which was interpreted as 'reworking and re-shaping of the grounds in this area in the later post-medieval to modern period' (Renner and Davies, 2019). Nottingham Castle was slighted following the English Civil War, in 1651. Extensive landscaping works were carried out in the 1660's and 1670s in advance of the construction of the extant Ducal Palace. Further widespread landscaping works were undertaken in the late 19th century, when the site became used as a museum and art gallery. The landscaping observed in substation location 1 likely relates to one of these events, although a medieval date for these could not be entirely ruled out. It was suggested that substation location 1 was located between the medieval curtain wall and a later boundary wall which was infilled with material in the late 17th or early 18th centuries (ibid.).
- 4.2.8. A number of features and deposits of archaeological interest were also encountered in Location 2. The earliest deposits remain undated but were tentatively interpreted as levelling layers facilitating the construction of the curtain wall. Truncating the early levelling deposits were two cut features, a pit of 13th century or earlier date and a later ditch that remains undated. Subsequent to these, two phases of landscaping events consistent with those revealed in Location 1 were observed (ibid.).
- 4.2.9. In Location 3 (reported in NCA18), located shortly to the southwest of Foundation Trench 2.1.15, a single east to west aligned grave was encountered in the area of the Middle Bailey, parallel with a section of east to west oriented faced stone wall of the longer extant chapel, during the excavation of a new service trench as part of the same drainage scheme (Collins, 2019b). The exposed skeletal remains were positioned supine within the steep to vertical grave cut and comprised the lower legs and feet of a single individual. A second section of faced stone wall was revealed a further 5m southeast within the same trench, sitting parallel to the first section of wall (Renner, forthcoming).
- 4.2.10. In July 2019 archaeological mitigation works were carried out further to the east of the current works (Collins, 2019a). A trench was hand excavated along the 57m length of a

proposed redirection of a Water Main Service and Fire Hydrant Supply; the trench was a maximum of 0.75m wide and between 0.75-1m deep. These excavations revealed a widespread levelling event dating to the 12th-13th century, this levelling material was overlain by a stone floor surface into which a stone-lined pit was built. It was not possible to fully investigate this feature, but it has been interpreted as either a well or a cess pit (ibid.). These mitigation works also revealed the upper vaults of two 18th-19th century stone arches belonging to the Service Courtyard. A number of 19th century layers thought to be associated with the re-landscaping of the Middle Bailey were also encountered (ibid.).

- 4.2.11. Between January 29th and February 14th, 2020, archaeological mitigation works were carried out east of Location 1. A 13m long trench aligned east-west from the Ducal Palace side of the Middle Bailey across the carriageway towards the location of the new substation was hand excavated prior to the installation of a new drainage service and development of a disabled car park area. After an initial 0.3m ground reduction for the disabled car park area a series of six test-pits, which were later joined to form a trench, were excavated to a depth of approximately 1m. The majority of the trench was excavated through the backfill of existing service trenches, but despite this a number of archaeological features of interest were encountered. The earliest of these features was 13th century in date and consisted of evidence of a widespread levelling event and the remains of a sandstone wall and rubble core materials believed to have belonged to the Chapel that once stood in the Middle Bailey. Features associated with the 17th century demolition of the castle and subsequent landscaping of the Middle Bailey were also identified, with one landscaping deposit found to contain a disturbed inhumation of a complete infant, the original date of which is uncertain. Context believed to be related to 18th-19th century formal planting areas were also encountered as were modern 20th-21st century services (Parker, 2020).

5. Relevant Legislation and Guidance

5.1. Planning Context

- 5.1.1. The archaeological programme outlined herein is underpinned by the national legislation and local policies described below. The programme has been designed in consultation with Scott Lomax, City Archaeologist at Nottingham City Council and Tim Allen, Inspector of Ancient Monuments (East Midlands) for Historic England.

- 5.1.2. The archaeological works are required in order to fulfil a planning condition as part of Nottingham City planning application 16/01707/NFUL3. This constitutes Planning Condition 2, which states:

2. No development involving the breaking of ground for... the north courtyard works... shall take place until an archaeological Written Scheme of Investigation, covering the area where it is proposed to excavate below existing ground or basement levels, has been first submitted to and approved in writing by the Local Planning Authority.

5.1.3. Nottingham Castle is a Scheduled Ancient Monument (Reference Number 1006382) under the Ancient Monuments and Archaeological Areas Act (1979). Any works undertaken within the boundary of the Scheduled Monument require Scheduled Monument Consent from the Secretary of State for the Department of Culture, Media and Sport, who is advised by Historic England. This was granted under Scheduled Monument Consent Reference Number S00146871.

5.2. National Planning Policy Framework (NPPF)

5.2.1. Developments of this nature, and their impact upon the historic environment, are addressed by the 2019 National Planning Policy Framework (NPPF), published by the Ministry of Housing, Communities and Local Government, and the NPPF Planning Practice Guide Conserving and Enhancing the Historic Environment (MHCLG, 2014). The Planning Condition is aligned to the principles outlined within these guidelines.

5.3. Nottingham City Local Plan

5.3.1. Nottingham City Council has policies regarding the historic environment incorporated within its Local Plan. These place emphasis on preservation of important archaeological remains *in situ*. Planning permission was granted under the superseded Local Plan, Policy BE16 of which states that where remains are able to be removed, they must be fully investigated, recorded and secured as part of the development.

5.3.2. This WSI document has been produced in accordance with the guidelines laid out in the Management of Research Projects in the Historic Environment: The MoRPHE Project Managers Guide (Historic England, 2015a) and the relevant ClfA *Standard and Guidance for an archaeological field evaluation* (ClfA, 2014b) and *Code of Conduct* (ClfA, 2014a).

6. Regional Research Objectives

6.1. East Midlands Historic Environment Research Framework

6.1.1. Any buried archaeological remains, depending on their nature, may have revealed evidence that allows research priorities highlighted by regional research frameworks.

6.1.2. The East Midlands Historic Environment Research Framework (EMHERF) Interactive Digital Resource <http://archaeologydataservice.ac.uk/researchframeworks/eastmidlands/wiki/> hosts a digitised version of Knight *et al's* (2012) East Midlands Heritage and Updated Research Agenda and Strategy for the Historic Environment of the East Midlands.

6.1.3. Any evidence uncovered by the investigations will be considered with the guidance provided by the framework in mind. If the evidence significantly contributes to a research question raised by the framework, this will be stated in the final report and information fed back via to the EMHERF digital resource via the interactive commenting facility. This will allow for the

research framework to develop over time and remain relevant.

6.1.4. The following research questions are of particular significance to this project:

High Medieval (1066-1485)
<i>7.4 Castles, Military Sites and Country Houses</i>
1. How can studies of the region's buildings contribute to an understanding of castle origins, and can we identify local typologies of castles and country houses?
4. Was there continuity of location between castles and country houses, and are earlier structures concealed in later buildings?
Post-Medieval (1485-1750)
<i>8.1 Urbanism: morphology, functions and buildings</i>
4. What can studies of environmental data, artefacts and structural remains tell us about variations in diet, living conditions and status?
6. How can we advance studies of building plans and standing remains, especially where hidden inside later buildings, and of caves and cellars?

6.1.5. The results of the archaeological evaluation may also contribute to the priorities specified in The Nottingham City Council Museums and Galleries Service Strategic Research Plan (2014-2018). Of particular note is:

Nottingham Castle
Develop Nottingham Castle as a site of major historic significance with a modern museum and art gallery, while respecting and bringing to life its historic environment.

7. Site Specific Objectives and Methodology

7.1. Objectives

7.1.1. The detailed objectives of the fieldwork can be states as:

- To identify the presence of any archaeological remains to be affected by the interpretation installations.

- To ensure that any archaeological remains which significantly contribute towards an understanding of the Scheduled Ancient Monument are preserved *in situ*.
- To fully record and effectively preserve 'by record' all deposits of archaeological significance to be impacted upon by the groundworks.

7.1.2. Where practical (within the constraints of the archaeological mitigation and development), this will include an assessment of the overall extent, date and state of preservation of archaeological remains.

7.1.3. Where there is the potential for palaeoenvironmental data, an appropriate level of sampling will be undertaken. This is especially relevant if the basal fills or organic material is present.

7.2. General Methodology

7.2.1. All works were undertaken by suitably qualified archaeologists in accordance with the WSI produced by TPA (Lobb, 2020) as approved by the Nottingham City Archaeologist, the Historic England Regional Inspector, and to the standards defined by the ClfA guidelines for the recording of archaeological sites (2014).

7.2.2. The Nottingham City Archaeologist advised that the majority of the installations could be mitigated through archaeological monitoring, with the exception of those located within the Middle Bailey which were subject to archaeological excavation prior to the installation of the interpretation boards.

7.2.3. The sixteen interpretation panels located outside the Middle Bailey were subject to archaeological monitoring during excavation works.

7.2.4. The four interpretation installations located within the Middle Bailey were subject to archaeological excavation. Topsoil was removed under archaeological supervision and was then hand excavated and recorded to a maximum depth of 0.5m BGL. Any archaeological remains below this depth were preserved *in situ*.

7.2.5. Where significant structural remains were found to be present within the footprint of the interpretation installations further excavation was sometimes required in order to fully assess the extent, date and levels of the preservation of these remains.

7.2.6. Archaeological features present were hand-cleaned and planned. The features were then sufficiently excavated to determine their plan and form, their nature, their degree of survival, and to recover any datable artefacts. All features thus investigated were then recorded stratigraphically using a single-context system in plan and section, and all finds recovered were retained for analysis. Structural remains were exposed in plan and were fully recorded using the methodology detailed below.

7.2.7. All features and deposits identified during excavation were given individual context numbers and were recorded three dimensionally using a Leica CS15/GS15 GNSS.

- 7.2.8. In addition to the digital survey, noted above, plans and sections of all features were drawn on drafting film in pencil at a scale of 1:20/1:50 and showed at least context numbers, all colour and textural changes and principal slopes represented by hachures. Digital colour photographs of each context were taken using a DSLR at 7 megapixel minimum resolution. Written records were maintained as laid down in the TPA recording manual.

8. Results

8.1. Introduction

- 8.1.1. Nineteen foundation trenches for new interpretation boards were excavated throughout the grounds of Nottingham Castle. Ten of these foundations were situated within the Outer Bailey. One foundation was located on the approach to the castle Gatehouse outside of the castle grounds. Four foundations were located around the Ducal Palace in the Upper Bailey, and five foundations were excavated within the Middle Bailey (Figures 2-5). A further trench (Foundation 2.1.1) had been planned on the approach towards the Gatehouse, but upon inspection, it was determined that this was not necessary. The hardscaping works conducted on the approach, and bridge, of the castle Gatehouse in 2019, under archaeological supervision, had resurfaced the ground beneath 2.1.1 with a sufficiently thick concrete bedding that the proposed excavation for 2.1.1's concrete foundation would be counter-productive.
- 8.1.2. The majority of the features identified during these foundation excavations consisted of post-medieval landscaping deposits, with structural and structural related features being recorded in the Upper Bailey (2.1.11 & 2.1.12), and modern landscaping, surfacing, structural and services contexts located throughout the castle grounds.

8.2. Foundation 2.1.2 - Outer Bailey (Plate 01)

- 8.2.1. Foundation 2.1.2 measured 2.1m x 1.5m x 0.55m and comprised five modern landscaping contexts deposited atop a post-medieval sand layer, (27069) located southwest of the castle gatehouse (figure 03). No finds were recorded from any of the contexts recorded in this monitored excavation.

Context	Description	Dimensions
(27064)	Modern – loose brownish red silty clay made ground/topsoil	2.1x1.5x0.16m
(27065)	Modern – compact light grey gravel hardcore	>0.86x1.5x0.04m
(27066)	Modern – Friable Dark Greyish Black sand with charcoal	2.1x1.5x0.1m
(27067)	Modern – firm light greyish brown rubble layer	>1.3x1.5x0.18m
(27068)	Modern – soft light brown sand layer with debris.	2.1x1.5x0.26m
(27069)	Post-medieval firm yellow sand layer	>2.1x>1.5x>0.1m



Plate 01: Foundation Trench 2.1.2. Northeast facing section. Scale 1m

8.3. Foundation 2.1.3 - Outer Bailey (Plate 02)

8.3.1. Foundation 2.1.3 measured 2.8m x 1.5m x 0.57m and comprised entirely of modern contexts which included a northeast to southwest aligned service [27097] installed in 2020 as part of the Nottingham Castle Redevelopment Project. The Dark greyish brown layer that [27094] truncates, (27098), was likewise deposited as part of the castle redevelopment project during an earlier phase of works 2019. The foundation is located southwest of the castle Gatehouse (Figure 03) and no finds were recorded from any of the contexts observed during this monitored excavation.

Context	Description	Dimensions
(27093)	Modern – Dark Greyish Brown topsoil	>2.8x1.5x0.27m
(27094)	Modern – Very Dark Greyish Brown fill of [27097]	>2.8x>0.3x0.3m
(27095)	Modern – Concrete fill of [27097]	>2.8x>0.3x0.26m
(27096)	Modern – Light Brownish Grey fill of [27097]	>0.54x>0.3x>0.16m
[27097]	Modern – Northeast-southwest aligned service trench	>2.8x>0.3x>0.54m
(27098)	Modern – Dark Greyish Brown landscaping layer	>2.8x>1.5x>0.4m



Plate 02: Foundation Trench 2.1.3. Northwest facing section. Scale 1m

8.4. Foundation 2.1.4 - Outer Bailey (Plate 03)

- 8.4.1. Foundation 2.1.4 measured 2.2m long x 1m wide and 0.5m deep at its north-eastern end, but was slightly deeper at the south-western end due to the sloping ground. It was located northwest of the statue of Captain Albert Ball and northeast of the medieval bridge in the Outer Bailey (Figure 03). This was slightly deeper It comprised a single layer of modern topsoil with moderate inclusions of small to middling sized rounded stone. No finds were recovered from this monitored foundation excavation.

Context	Description	Dimensions
(27017)	Modern – Dark grey silty sand topsoil. Same as (27014)	>2.2x>1x>0.62m



Plate 03: Foundation Trench 2.1.4. Southeast Facing Section. Scale 2m

8.5. Foundation 2.1.5 - Outer Bailey (Plate 04)

8.5.1. Foundation 2.1.5 measured 3.4m x 1.5m x 0.5m and is located west of the Captain Albert Ball statue and northeast of the medieval bridge in the Outer Bailey (Figure 03). Three modern contexts were recorded during this monitored excavation and consisted of sandy topsoil and the cut and fill of an electrical service cable. No finds were recorded from this excavation.

Context	Description	Dimensions
(27014)	Modern – Dark grey silty sand topsoil.	>3.4x>1.5x>0.5m
[27015]	Modern – Cut of electrical service.	>1.5x0.58x0.46m
(27016)	Modern – Dark Grey Sandy fill of service cut [27015]	>1.5x0.58x0.46m



Plate 04: Foundation Trench 2.1.5. Northeast facing section. Scale 2m

8.6. Foundation 2.1.6 - Outer Bailey (Plate 05)

8.6.1. Foundation 2.1.6 measured 2.2m x 1.5m x 0.5m and is located East of the medieval bridge and west of the statue of Captain Albert Ball in the Outer Bailey (Figure 04). Three contexts consisting of a modern topsoil, a post-medieval subsoil and an undated sandy natural were recorded from this monitored excavation. No finds were recorded from any of the contexts.

Context	Description	Dimensions
(27011)	Modern – Dark greyish sand topsoil	>2.2x>1.5x0.48m
(27012)	Post-medieval – Brownish orange sandy subsoil/made ground	>2.2x1x0.22m
(27013)	Undated – Yellowish Orange natural sands.	>2.2x1x>0.04m



Plate 05: Foundation Trench 2.1.6. Northwest facing section. Scale 2m

8.7. Foundation 2.2.1 – Outer Bailey (Plate 06)

8.7.1. Foundation 2.2.1 measured 2.2m x 1.5m x 0.64m and was located adjacent to the Outer Bailey Curtain wall, northeast of the 1908 bandstand (Figure 4). This was slightly deeper than the 0.5m depth for most foundation trenches, due to the presence of pit [27070] at the south-eastern end of the trench. A total of ten contexts were recorded from this monitored foundation excavation, five post-medieval landscaping contexts and five modern surfacing and bioturbation related contexts. Finds of animal bone and glass were recorded from the modern tree-bole contexts, [27072] and (27073), but no features or deposits of note were identified during this excavation.

Context	Description	Dimensions
(27060)	Modern – Firm Black silty sand topsoil	>2.2x>1.5x0.25m
(27061)	Post-medieval – Firm light grey silty sand and rubble layer	>2.2x1.5x0.52m
(27062)	Post-medieval – Light brown sand and rubble layer	>2.2x>1.5x>0.1m
(27063)	Post-medieval – Loose rubble fill of [27070]	0.66x0.2x0.22m
[27070]	Post-medieval – Cut of rounded pit filled by (27063)	0.66x0.2x0.22m
(27071)	Post-medieval – friable light grey brown sandy silt layer	>0.7x>1.5x>0.06m
[27072]	Modern – Cut of tree bole	>2.2x1.4x>0.44m
(27073)	Modern – Black silty sand fill of [27072]	>2.2x1.4x>0.44m
(27074)	Modern – Tarmac surface	>2.2x>0.4x0.04m
(27075)	Modern – Grey gravel hardcore surfacing layer	>2.2x>0.4x0.03m



Plate 06: Foundation Trench 2.2.1 Northeast facing section, oblique. Scale 1m

8.8. Foundation 2.2.2 – Outer Bailey (Plate 07)

8.8.1. Foundation 2.2.2 measured 2m x 1.5m x 0.56m and was located adjacent to the 1908 bandstand in the Outer Bailey (Figure 04). Eight modern contexts were recorded during this monitored excavation including two low voltage electrical services, [27058] and [27059], installed in 2020 as part of the Castle Redevelopment Project and a deliberately formed silty sand layer with frequent charcoal inclusions, (27056), which could be associated with the construction of the bandstand in 1908.

Context	Description	Dimensions
(27052)	Modern – Shallow silty sand layer overlaying service cut	>2x1.5x0.04m
(27053)	Modern – redeposited fill of service cut [27058]	0.98x1x>0.5m
(27054)	Modern – Soft black sandy silt topsoil	>2x>1.5x0.54m
(27055)	Modern – Loose orange brick and rubble layer	>2x1.5x0.14m
(27056)	Modern – Firm brown silty sand made ground layer	>2x>1.5>0.1m
(27057)	Modern – redeposited topsoil fill of [27059]	>1.5x0.3x0.5m
[27058]	Modern – Cut of N-S low voltage service cable	>1.5x1x0.5m
[27059]	Modern –Cut of Service cable to bandstand.	>2x0.3x>0.5m



Plate 07: Foundation trench 2.2.2 Northwest facing section, oblique. Scale 2m

8.9. Foundation 2.2.3 – Outer Bailey (Plate 08)

8.9.1. Foundation 2.2.3 measured 1.6m x 0.9 x 0.56m and was located adjacent to the statue of Captain Albert Ball in the Outer Bailey (Figure 04). Nine contexts were recorded from this monitored excavation, seven modern surfacing and service contexts and two post-medieval landscaping contexts. No finds were recorded from this excavation.

Context	Description	Dimensions
(27027)	Modern – Middling Grey Brown Topsoil	>1.6x>0.9x0.1m
(27028)	Post-medieval – Brownish Grey clayey silt made ground layer	>1.6x>0.9x>0.5m
[27029]	Modern – Concrete walkway slab	0.84x0.5x0.07m
[27030]	Modern – construction cut for walkway	0.84x0.5x0.15m
(27031)	Modern – mixed orangish grey fill of [27030]	0.84x0.5x0.08m
(27032)	Post-medieval – Firm mixed silt landscaping layer	>0.46x>0.9x>0.1m
[27033]	Modern – construction cut for pipe	>1.6x>0.15x0.32m
(27034)	Modern – Middling brownish grey silty fill of [27033]	>1.6x>0.15x0.32m
[27035]	Modern – sandstone border for walkway	>1.52x>0.1x0.24m



Plate 08: Foundation Trench 2.2.3. Northeast facing section. Scale 1m

8.10. Foundation 2.2.4 – Outer Bailey (Plate 09)

8.10.1. Foundation 2.2.4 measured 2.2m x 1.5m x 0.9m (deeper than stated in the WSI, due to the sloping ground surface) and was located west of the castle Gatehouse and east of the Afghan war memorial in the Outer Bailey (Figure 03). Six modern landscaping layers were identified in this monitored excavation and no finds were recorded.

Context	Description	Dimensions
(27087)	Modern – Dark Greyish brown topsoil with large angular stones	>2.2x>1.5x0.46m
(27088)	Modern – Friable layer of crushed stone and charcoal	>0.8x>1.5x>0.28m
(27089)	Modern – Dark Greyish brown landscaping layer containing CBM	>1.65x>1.5x>0.37m
(27090)	Modern – light orangish pink silty sand landscaping layer	>1.6x>1.5x>0.34m
(27091)	Modern – Brownish yellow silty sand landscaping layer	>1.06x>1.5x>0.22m
(27092)	Modern – Light yellowish-brown silty sand landscaping layer	>0.94mx>1.5m>0.24m



Plate 09: Foundation Trench 2.2.4. Southeast facing section, Oblique. Scale 1m

8.11. Foundation 2.2.5 – Outer Bailey (Plate 10)

8.11.1. Foundation 2.2.5 measured 2.04m x 0.84m x 0.68m and was located adjacent to the Afghan war memoria, which was unveiled in 1884, and south of the bothy in the Outer Bailey (Figure 02). Three landscaping layers of modern and late 19th century date were recorded during this monitored excavation. No finds were recovered.

Context	Description	Dimensions
(27036)	Modern – Dark Greyish Brown topsoil	>2.04x>0.84x0.32m
(27037)	19 th c. – Light Brownish yellow landscaping layer	>2.04x>0.84x>0.56m
(27038)	19 th c. – Brownish yellow landscaping layer	>0.24x>0.84x>0.15m



Plate 10: Foundation Trench 2.2.5. East facing Section. Scale 2m

8.12. Foundation 2.1.7 – Middle Bailey (Plates 11-12)

8.12.1. Foundation 2.1.7 was located in the southeast corner of the Middle Bailey, southeast of the stairway leading up towards the Upper Baileys' east terrace and west of the cobblestone linier which projects the outline and alignment of the Middle Baileys eastern medieval wall (figure 02). Due to the very high probability of encountering subsurface archaeological features in the middle bailey and the foundations proximity to the known projection of the medieval wall foundation 2.1.7 was archaeologically excavated by hand, with 0.2m of topsoil being removed by groundworkers and the remainder being excavated by the monitoring archaeologist. Foundation 2.1.7 measured 2.8m x 1.5m x 0.8m upon completion, with the foundations' depth exceeding 0.5m BGL due to the presence of subsurface features which required further investigation to be identified (Figures 06 & 10).

8.12.2. A total of thirteen contexts, ten modern and three post-medieval, were recorded from foundation 2.1.7. Despite 2.1.7's proximity to the projected outline of the medieval castle wall no medieval features were uncovered during the excavation. The three post-medieval contexts were deliberately deposited landscaping layers, formed sometime between the late 17th and 19th centuries following the conversion of the demolished castle grounds of the Middle Bailey into the Ducal Palaces Castle Green. Of these three contexts only one, the very light sandy with mortar inclusions (27043), yielded any finds which included sherds of blue and white transfer printed wares and red ceramic tiles which could indicate a 18th to 19th century date. (27044) stratigraphically pre-dates (27043) and as such could represent the original late 17th century phase of landscaping, although it could likewise be contemporary with (27043). (27042) post-dates (27043) and could possibly represent the 19th century landscaping works to the Castle Green relating to the conversion of the castle grounds into a museum and art gallery.

8.12.3. The ten modern contexts recorded in 2.1.7 consists of two service trenches, with [27050] having been installed as part of the Castle Redevelopment Project, and modern landscaping layers with (27041), which is stratigraphically located above (27042), comprising of black sandy silt and modern mortar. [27050] is a northeast-southwest aligned high pressure water service trench which had been installed under archaeological supervision in 2019, with the backfill (27051) consisting of a mixture of landscaping contexts removed and backfilled during the initial excavation. [27045] was the cut of a north to south aligned ceramic water service, which has since fallen out of use, which was deliberately and carefully backfilled with gravels (27046), concrete (27047), and redeposited excavated materials (27048).

Context	Description	Dimensions
(27039)	Modern – soft brown silty sand topsoil.	>2.8x>1.5x0.06m
(27040)	Modern – Firm black silty sand landscaping layer	>2.8x>1.5x0.2m
(27041)	Modern – Firm Black landscaping layer. Crushed mortar and sandy silt.	>2.8x>1.5x0.1m
(27042)	Post-medieval – Dark greyish brown silty sand landscaping layer	>2.8x>1.5x0.2m
(27043)	Post-medieval – Firm white/yellow sandy mortar and degraded sandstone.	>2.8x>1.5x0.24m
(27044)	Post-medieval – Soft reddish orange landscaping layer	>2.8x>1.5x>0.3m

[27045]	Modern – Cut of N-S aligned service trench	>2.8x0.7x0.5m
(27046)	Modern – loose gravel base fill of [27045]	>2.8x0.7x0.19m
(27047)	Modern – Grey concrete fill of [27045]	>2.8x0.7x0.04m
(27048)	Modern – Dark Grey black redeposited sandy silt fill of [27045]	>2.8x0.7x0.22m
(27049)	Modern – Firm brownish grey fill of [27045]	>1x>0.34x0.25m
[27050]	Modern – Cut of northeast-southwest service.	>1.5x0.6x>0.92m
(27051)	Modern – Firm mottled rubbly silty sand fill of [27050]	>1.5x0.6x>0.92m



Plate 11: Foundation Trench 2.1.7. Planning Shot looking North. Scale 2x1m



Plate 12: Foundation Trench 2.1.7. East Facing Section. Scale 2m

8.13. Foundation 2.1.8 – Middle Bailey (Plates 13-15)

- 8.13.1. Foundation 2.1.8 was located in the northeast corner of the Middle Bailey, abutting the cobblestone line which outlines the medieval castle wall (Figure 02). As with 2.1.7 foundation 2.1.8 was archaeologically excavated due to the very high potential for encountering subsurface features in the Middle Bailey, with the foundation trench itself abutting the cobblestones which mark out the projected alignment of the medieval castle wall, [27076]. The foundation excavation for 2.1.8 measured 2.4m x 1.5m x 0.5-0.9m, with the maximum depth of excavation exceeding 0.5m due to the presence of subsurface features which required further investigation to be identified (Figures 08 & 10).
- 8.13.2. As with the excavation of foundation 2.1.7 only post-medieval and modern contexts were identified during the excavation of foundation 2.1.8, although no finds were recovered from this excavation. The modern cobble stone linear [27076], and its foundational deposits (27077), were abutted by this foundation trench and as such have been recorded in 2.1.8's southwest facing section. Despite [27076] marking out the projected alignment of the medieval castle wall excavations conducted at the base of 2.1.8, directly beneath [27076] revealed no structural features which could be associated with the medieval castle wall. Where the castle wall should be located two post-medieval cut features were instead identified. One of these was a linear ditch located towards the northern rampart of the Middle Bailey, [27023], and the other was a sub-square shaped pit, [27025], truncated by the prior. Both of these features were interpreted as being Post-medieval features either associated with the 17th-19th century carriageway or some other expressions of the Middle Bailey bank. Despite this minor uncertainty the shared alignment between [27023] and the projected outline of the Middle Bailey's Medieval wall could indicate a more extensive impact of 17th century landscaping following the castle's slighting, with the excavation of [27023] exceeding 0.5m BGL.
- 8.13.3. With [27023] and [27025] representing the oldest features identified within 2.1.8 the contexts that were observed overlaying them represented a series of Post-medieval, (27024) and (27082) landscaping deposits which were themselves overlain by a series of modern landscaping layers forming the current ground level. After the formation of the current ground level, represented by [27076] and the topsoil (27018), a north-south aligned service trench, [27021], was excavated to a depth of 0.78m BGL truncating many of the modern and Post-medieval deposits recorded in 2.1.8.

Context	Description	Dimensions
(27018)	Modern – Loose dark grey sandy silt Topsoil	>2.4x>1.5x0.32m
(27019)	Modern – Friable Light Grey sandy silt and crushed stone made ground.	>2.2x>1.5x0.22m
(27020)	Undated – Brownish orange friable natural sands	>2.2x>1.5x>0.44m
[27021]	Modern – Cut of north-south water service	>1.7x0.45x0.78m
(27022)	Modern – Dark Grey Friable silt backfill of [27021]	>1.7x0.45x0.78m
[27023]	Post-medieval – Cut of linear ditch towards north rampart. Related to Carriageway or early expressions of the Middle Bailey ramp.	>1.72x>1.04x>0.4m
(27024)	Post-medieval – greyish brown friable silty sand backfill of [27023]	>1.72x>1.04x>0.4m

[27025]	Post-medieval – Cut of sub-squared pit possibly associated with post-medieval carriageway.	0.8x0.5x0.44m
(27026)	Post-medieval – Friable greyish brown silty backfill of [27025]	0.8x0.5x0.44m
[27076]	Modern – Cobblestone outline of Medieval castle wall	>0.92x0.16x0.08m
(27077)	Modern – Light grey concrete foundation of [27076]	>0.92x0.2x0.16m
(27078)	Modern – same as (27018)	>2.4x>1.5x0.32m
(27079)	Modern – Compact orange and brown mottled landscaping layer of very silty sand and CBM	>1.18x>1.5x0.26m
(27080)	Modern – same as (27019)	>2.2x>1.5x0.22m
(27081)	Post-medieval – same as (27024)	>1.72x>1.04x>0.4m
(27082)	Post-medieval – light orange compacted sandy silt fill of [27023]	>0.4x>1.5x>0.1m
(27083)	Modern – Lose dark grey brown silty sand layer	>0.84x>0.62x0.18m
(27084)	Same as (27020)	>2.2x>1.5x>0.44m
[27085]	Modern – same as [27021]	>1.7x0.45x0.78m
(27086)	Modern – same as (27022)	>1.7x0.45x0.78m



Plate 13: Foundation Trench 2.1.8. Northwest facing Section. Post-excavation. Scale 2m



Plate 14: [27023] & [27025] mid-excavation southeast facing section. 2.1.8. Scale 1m



Plate 15: Foundation Trench 2.1.8. Post-excavation oblique planing shot, looking North. Scale 2x1m

8.14. Foundation 2.1.9 – Middle Bailey (Plates 16-17)

- 8.14.1. Foundation 2.1.9 was located towards the west of the Middle Bailey, northeast of the new substation and disabled carpark, and southwest of the Middle Baileys oak framed shelter adjacent to the modern carriageway road (Figure 02). As with foundations 2.1.7 and 2.1.8 this foundation was archaeologically excavated by hand due to the very high probability of encountering subsurface archaeological features within the Middle Bailey. Notably this would include the structural remains of the medieval curtain wall which should be roughly aligned with the alignment of the current carriageway road and the structural remains of Edward IV's state apartments which had been uncovered during the ongoing archaeological monitoring of the Nottingham Castle Redevelopment Project. The foundation was hand excavated 2.3m x 1.5m x 0.52m and although no structural remains were encountered a possible horizon for medieval archaeology, (27105), was identified at the base of the excavation (Figures 08 & 11).
- 8.14.2. Six contexts in total were identified in this foundation excavation, comprising three modern layers, two post-medieval layers and one probable post-medieval layer. In a similar manner to the other foundations excavated in the Middle bailey the modern layers recorded in 2.1.9 were deliberately deposited during modern phases of landscaping and maintenance, with (27100)'s gravel layer having been deposited in 2018 as part of the castle redevelopment project. The post-medieval contexts of (27103) and (27104) were likewise deliberately deposited for landscaping purposes but unlike the modern deposits these contexts yielded finds. A mixed assemblage of disarticulated animal bone was recovered from both (27103) and (27104) with a mixed assemblage of pottery sherds (see below), corroded metal and a clay pipe bowl being recovered from (27104) denoting its post-medieval date.
- 8.14.3. A smaller assemblage of animal bone, a single sherd of green glazed pottery and a clay pipe stem (17th-18th century) as recovered from the dark greenish brown silty layer of (27105). This context was distinctly different in colouration when compared with other contexts recorded in the Middle Bailey foundation excavations. Although it contained a sherd of medieval pottery, the presence of clay pipe may suggest that this layer was instead deposited in the post-medieval period. However, upon encountering (27105) foundation 2.1.9 had been excavated to its maximum depth and with no visible feature truncating or protruding through (27105) no further excavation to investigate (27105) could be permitted.

Context	Description	Dimensions
(27100)	Modern – Dark Blueish grey gravel layer	>2.3x>1.5x0.1m
(27101)	Modern – Dark Greyish brown silty sand layer	>2.3x>1.5x0.3m
(27102)	Modern – Dark Greyish brown silty sand and CBM layer	>2.3x>1.5x0.13m
(27103)	Post-medieval – Dark greyish brown silty sand layer	>2.3x>1.5x0.18m
(27104)	Post-medieval – Light orangish yellow silty sand layer	>2.3x>1.5x0.3m
(27105)	Possible Post-medieval – Dark Greenish brown silty sand layer	>2.3x>1.5x>0.2m



Plate 16: Foundation Trench 2.1.9 Planning shot looking North. Scale 1m



Plate 17: Foundation Trench 2.1.9. Oblique Planning Shot looking Northeast. Scale 1m

8.15. Foundation 2.1.15 – Middle Bailey (Plates 18-20)

- 8.15.1. Foundation 2.1.15 was located towards the southwest of the Middle Bailey, adjacent to the disabled car park and south east of the new substation in an area of the middle bailey which has been subject to multiple archaeological investigations and mitigation works prior to and during the Nottingham Castle Redevelopment Project (Figure 02). Three human burials have been found in this area (two of which were found during the redevelopment works), comprising two adult males and one baby. All of these burials and the remains of the sandstone wall of the chapel wall were located within the vicinity of foundation 2.1.15. The adult burial uncovered by Drage was just over 0.4m BGL, increasing the probability of encountering subsurface features whilst excavating 2.1.15 to its maximum depth. Due to this very high probability of encountering subsurface archaeological features which could also include further human remains 2.1.15 was archaeologically excavated 2.2m x 1.5m x 0.5m by hand.
- 8.15.2. Although there was a very high possibility of encountering medieval or post-medieval features during its excavation only three modern contexts were identified during the excavation of 2.1.15. (27009) comprised a dark brown friable layer of slightly silty sand deliberately deposited atop [27010] and (27099) during the castle redevelopment works. A Roughly hewn sandstone east-west aligned linear, [27010], was encountered directly beneath (27009). Speculation as to whether this sandstone alignment could be associated with the aforementioned medieval chapel were dismissed upon further investigation which showed [27010] to be a single coursed feature, one skin thick with no bonding materials or rubble core matrixes between its sandstone elements. [27010] was instead identified as part of the Middle Baileys modern gardening rockery and after initial recording and approval was removed from the excavation revealing (27099). (27099) was a dark greyish brown silty sand layer which yielded a mixed assemblage of post-medieval pottery, modern glass, a Victorian coin, animal bone, slag and modern plastic wrappings. Upon reaching 0.5m BGL no other contexts were identified in 2.1.15 (Figures 09 & 11).

Context	Description	Dimensions
(27009)	Modern – Dark Brown friable topsoil	>2.2x>1.5x0.5m
[27010]	Modern – Sandstone gardening rockery. East-west aligned	>1.5x0.5x0.26m
(27099)	Modern – Dark grey brown silty sand layer.	>2.2x>1.5x>0.1m



Plate 18: Foundation Trench 2.1.15. Mid-excavation oblique planning shot looking East. Scale 2x1m



Plate 19: Modern Stone line [27010] in Foundation Trench 2.1.15. Scale 2x1m



Plate 20: Foundation Trench 2.1.15 post-excavation planning shot looking Northeast. [27010] removed. Scale 1m

8.16. Foundation 2.1.17 – Middle Bailey (Plates 21-23)

8.16.1. Foundation 2.1.17 measured 2.3m x 1.5m x 0.52m and was located in the very northeast corner of the Middle Bailey (Figure 02), abutting a retaining wall constructed in the mid to late 19th century to facilitate the construction of the current carriageway access to the Middle Bailey which replaced the earlier carriageway situated beneath the Middle Bailey bank. This foundation was also located outside of the projected outline of the medieval castles Middle Bailey and was therefore likely situated in an area of the Middle Bailey which had been expanded during the post-medieval landscaping and transformation of the castle grounds. Due to the decreased risk of encountering subsurface medieval materials foundation 2.1.17 was archaeologically monitored with the excavation being conducted by groundworkers.

8.16.2. Nine contexts were recorded from this foundation excavation, four modern and five post-medieval with finds consisting of pottery, glass, metal, clay pipe and animal bone were recovered from both modern and post-medieval contexts. A hedgerow cut, [27004], truncating the internal mortared surface of the retaining wall, [27001], and a northeast-southwest terminus of unknown purpose, [27007], were observed truncating the late post-medieval landscaping layers of the Middle Bailey bank during this excavation.

Context	Description	Dimensions
(27000)	Modern – Soft brownish grey sandy silt topsoil	>2.3x>1.5x0.26
[27001]	Post-medieval Internal mortared surface of Middle Bailey retaining wall	>1x>0.6x>0.4m
(27002)	Post-medieval – Soft greyish brown sandy silt landscaping layer	>1mx>1mx>0.3m
(27003)	Post-medieval – soft greyish yellow silty sand landscaping layer	>1x>1x>0.1m
[27004]	Modern – Cut of hedgerow running parallel to retaining wall	>1x>1x0.24m
(27005)	Modern – light greyish pink primary fill of [27004]	>1x>1x0.05m
(27006)	Modern – Brownish grey heavily rooted fill of [27004]	>1x>1x0.18m
[27007]	Post-medieval – Cut of Northeast-southwest terminus	>1x0.42x0.18m
(27008)	Post-medieval – Mottled sandy silt backfill of [27007]	>1x0.42x0.18m



Plate 21: Foundation Trench 2.1.17. Oblique Planning Shot Looking Southwest. Scale 2x1m



Plate 22: Middle Bailey Retaining Wall Mortar [27001], Foundation Trench 2.1.17, Looking North. Scale 0.5m



Plate 23: [27007] East Facing Section. Mid-excavation Planning Shot, looking southeast. Scale 0.5m

8.17. Foundation 2.1.10 – Upper Bailey (Plate 24)

8.17.1. Foundation 2.1.10 measured 2m x 1.2m x 0.5m and was located at the centre of the Upper Baileys east terrace, adjacent to the footpath towards the Ducal Palaces' east entrance (Figure 05). Five Contexts were observed during this monitored excavation consisting of one late post-medieval reddish orange landscaping layer, (27109), a modern southeast-northwest service cut that was archaeologically monitored in 1998-1999, [27108], modern topsoil, (27106) and a modern tarmac pathway surface (27110). No finds were recovered from this foundation excavation.

Context	Description	Dimensions
(27106)	Modern – Dark greyish Brown silty sand topsoil	>2x>1.2x0.4m
(27107)	Modern – greyish brown clayey sand fill of [27008]	>2x0.87x>0.34m
[27108]	Modern – Cut of southeast-northwest service	>2x0.87x>0.34m
(27109)	Post-medieval – light reddish orange silty sand landscaping layer	>2x>1.2x>0.3m
(27110)	Modern – Tarmac surface	>2x>1x0.08m



Plate 24: Foundation Trench 2.1.10. Northeast Facing Section. Scale 1m

8.18. Foundation 2.1.11 – Upper Bailey (Plates 25-27)

8.18.1. Foundation 2.1.11 measured 2.4m x 1.4m x 0.55m and was located at the southern end of the Upper Bailey's east terrace, northeast of Mortimer's Hole (figure 05). The tarmac surface (27110) recorded in 2.1.10 overlaid 2.1.11 and its stratigraphic deposit of modern and late 19th century deposits of hardcore concrete, (27111), silty sand surface bedding (27112), crushed and broken brick (27113), and yellowish-brown silty sand (27114). These contexts were deliberately deposited for hardscaping purposes.

8.18.2. Beneath these hardscaping deposits the tops of two northeast-southwest aligned post-medieval culvert walls, [27115] and [27116], were identified at the bottom of the excavation (Figure 11). This culvert was originally constructed as part of the post-medieval ducal Palace and was subsequently backfilled by (27114) and (27113) when later renovations in the Upper Bailey improved the Ducal Palaces sewage and drainage systems. No further investigation of the culvert was conducted within 2.1.11 as a detailed investigation had already been conducted earlier in 2020 as part of the ongoing archaeological monitoring works (NCA18) of Nottingham Castle approximately 1.5m southwest of 2.1.11. The culvert was also investigated as part of the archaeologically monitored 1998-1999 service installations works (Walker & Kinsley, 2004). As the top of the culvert was identified below 0.5m it was possible to preserve the structure in situ without the need of further excavation or alterations to the designs of foundation 2.1.11.

Context	Description	Dimensions
(27110)	Modern – Tarmac surface	>2x>1x0.08m
(27111)	Modern – Light pinkish grey concrete hardcore	>2.4x>1.4x0.06m
(27112)	Modern – loose yellowish-brown silty sand surfacing layer	>2.4x>1.4x0.06m
(27113)	Post-medieval – Hard deposit of broken 2.25” bricks	>2.4x>1.4x>0.43m
(27114)	Post-medieval – yellowish brown very silty sand layer	>2.4x1.4x>0.33m
[27115]	Post-medieval – South sandstone Culvert Wall.	>1.23x0.4x>0.1m
[27116]	Post-medieval – North sandstone Culvert Wall	>1.82x>0.1x>0.1m



Plate 25: Foundation Trench 2.1.11. Southeast Facing Section with culvert walls [27115] & [27116].
Scale 1m

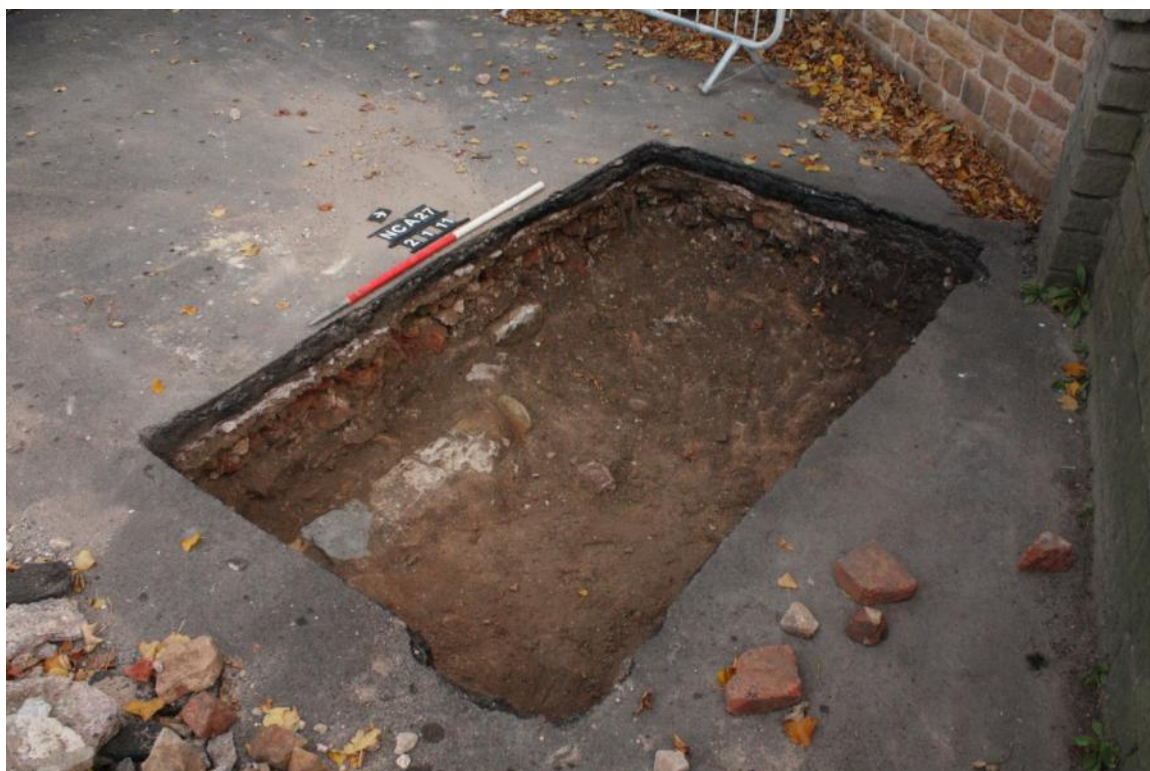


Plate 26: Foundation Trench 2.1.11 Oblique Planning Shot Looking North. Visible Culvert. Scale 1m



Plate 27: Foundation Trench 2.1.11. Location Shot in Relation to the Ducal Place. Scale 1m

8.19. Foundation 2.1.12 – Upper Bailey (Plates 28-29)

8.19.1. Foundation 2.1.12 measured 2.4m x 1.5m x 0.5m and was located on the southern terrace overlooking Mortimer’s Hole in the Upper Bailey (Figure 05). A late post-medieval structural cut, [27123], associated with repair works to Mortimer’s Hole and the cut of a northeast-southwest ceramic service pipe, [27120], were observed truncating the post-medieval light brownish yellow sand landscaping layer (27124) (Figure 11). Fragments of animal bone and a single piece of redeposited green glazed pottery were recovered from context (27124) in this excavation.

Context	Description	Dimensions
[27117]	Modern – Yorkstone floor	>2.4x>1.5x0.04m

(27118)	Modern – Light grey concrete bedding	>2.4x>1.5x0.04m
(27119)	Modern – Loose greyish brown silty fill of [27120]	>1.5mx0.46x>0.38m
[27120]	Modern – Cut of Northeast-Southwest ceramic service pipe	>1.5mx0.46x>0.38m
(27121)	Post-medieval – loose pinkish grey sand bedding layer	>1.94x>1.5x0.17m
(27122)	Post-medieval – Compact pinkish red silty fill of [27123]	>1.52x>0.1x>0.38m
[27123]	Post-medieval – Structural cut for Mortimer's Hole repairs	>1.52x>0.1x>0.38m
(27124)	Post-medieval – Light Brownish yellow sand landscaping layer.	>2.4x>1.5x>0.38m



Plate 28: Foundation Trench 2.1.12 Southeast Facing Section with Repair Cut [27123] and Service cut [27120]. Scale 1m



Plate 29: Foundation Trench 2.1.12 Oblique Planning Shot, Looking West. Adjacent to Mortimer’s Hole. Scale 1m

8.20. Foundation 2.1.13 – Upper Bailey (Plates 30-31)

8.20.1. Foundation 2.1.13 measured 2.4m x 1.5m x 0.4m and was located on the west terrace of the Upper Bailey, southwest of the Ducal Palace colonnade (Figure 05). This foundation was located approximately 1-1.5m east of the known location of the Upper Bailey Medieval curtain wall, and was also situated within the footprint of the excavation works conducted in the Upper Bailey in 2000. The seven contexts recorded in this foundation consisted of modern backfilled deposits and hardscaping layers from hardscaping works conducted in 2000 as well as those conducted during the Nottingham Castle Redevelopment Project. As this foundation was located close to the curtain wall the large sandstone, brick and slate rubble layer (27130) was examined in greater detail to determine whether or not it associated with the medieval wall. The stone elements of (27130), although substantial, instead proved to be a layer of formless building materials 0.2m thick deliberately deposited following the 2000 groundworks. Metal and elements of broken worked stone were recovered from this monitored foundation excavation.

Context	Description	Dimensions
[27125]	Modern – Yorkstone floor	>2.4x>1.5x0.04m
(27126)	Modern – Concrete bedding for [27125]	>2.4x>1.5x0.06m
(27127)	Modern – Light Greyish Pink concrete layer	>2.4x1.5x0.3m
(27128)	Modern – Hard Blueish Green concrete layer	>2.4x>1.5x0.33m

(27129)	Modern – Black Friable layer of silt and tarmac	>2.4x1.5x0.17m
(27130)	Modern – Layer of Sandstone, brick and slate demolition.	>2.4x>1.5x0.2m
(27131)	Undated – Light Pinkish red natural sands	>2.4x>1.5x>0.1m



Plate 30: Foundation Trench 2.1.13. Planning Shot Looking Southeast. Scale 1m



Plate 31: Foundation Trench 2.1.13. Oblique Planning Shot Looking East. Scale 1m

9. The Finds

9.1. **The Pottery**

by *Chris Cumberpatch*

9.1.1. *Introduction*

The pottery from the groundworks associated with the installation of information boards comprised 49 sherds of pottery weighing 517 grams representing a maximum of 35 vessels. The data are summarised in Table 1.

9.1.2. *The Pottery*

Overall the range of wares from the various trenches was unremarkable and included material ranging in date from the medieval period to the late 19th and early 20th centuries.

Earlier reports on the pottery assemblages from excavations within Nottingham Castle (Cumberpatch 2019, 2020a, 2020b, 2020c) have included details of the wide range of wares and types recovered and these will not be repeated here. The medieval pottery was classified with reference to the draft type series (Nailor and Young, 2001) and the Lincoln corpus (Young, Vince & Nailor, 2005) as no comprehensive type series or corpus currently exists for Nottingham despite its importance during the medieval period.

In general terms the quantity of medieval pottery was small and was recovered from a limited number of contexts (27124, 27099, 27022, 27024, 27104 and 27105) with a small concentration in contexts 27024 and 27104.

Material post-dating the medieval period was less well represented, with two sherds of possible Blackware (17th century) from (27099) and (27062) and eleven sherds of wares dating from the 18th century onwards. This included mottled ware, which was present with sherds from three vessels in context 27024 and a sherd of probable 18th century Yellow ware was noted in context 27022, although a later 17th century date cannot be entirely ruled out. The more recent pottery included a range of typical tableware types including whiteware and bone china.

9.1.3. *Discussion*

As might be expected, the contents of the various trenches varied considerably both in the quantity of pottery recovered in the date range represented.

Trench 2.1.9 was notable for containing exclusively medieval pottery, the majority of it of types dating to the earlier medieval period (late 11th to early/mid 13th century). Notable items were the spout from a pitcher and three sherds of Shell Tempered ware of Lincolnshire type. Further examination would probably allow these sherds, and particularly the rim, to be dated more accurately.

Pit 2.1.8 also contained a medieval assemblage but this was accompanied by sherds of 18th

century date, including Mottled ware, Yellow ware and Brown Glazed Stoneware.

Pits 2.1.12 and 2.1.15 both contained sherds of Nottingham Splashed ware although in the latter case this was mixed with a sherd of possible Blackware type and a small number of sherds of recent date, notably Bone China.

Pit 2.2.1 contained a sherd of 17th century Blackware alongside two sherds of Stoneware, both of a much later date.

Pit 2.1.7 was notable for the exclusively recent date of the pottery. Of the three transfer printed Whiteware plates present, two bore maker's marks. Unfortunately neither were definitely attributable to a source; one consisted of the initials RCA inside a decorative border while the other, which survived only partially, included the words 'SEMI CHINA' and the initials 'A &Co'. The closest parallel for these initials is the firm of Edward Asbury & Co of Longton, Staffordshire, dating to the period between 1875 and 1925 (Godden, 1991, 37). The term Semi China is one that was often applied to refined earthenwares in an effort to distinguish them from competitors by implied connection with Bone China or Porcelain.

9.1.4. *Curating & Archiving*

The assemblages discussed in this report form part of the much larger assemblage of pottery from the site as a whole. As such they constitute an important part of the history of the site and are particularly informative regarding the taphonomic and other processes that resulted in the appearance of the site today. In general terms there is a great deal of work to do on the medieval pottery industry of Nottingham and its environs as well as on the production and supply of pottery to the city in later periods. This assemblage, and those from the castle more generally, may make a valuable contribution to this work and as such should be deposited in the appropriate local museum or finds depository where they will be available to researchers in the future.

9.1.5. Table 1: Pottery Assemblage Catalogue

Pit	Feature	Context	Type	No	Wt	ENV	Part	Form	Decoration	Date Range	Notes
2.1.12		27124	Nottingham Splashed ware – Fine	1	4	1	BS	Hollow ware	Patchy green splashed glaze ext	E – MC12 th	Raised ridge ext
2.1.15		27099	Blackware?	1	4	1	BS	Hollow ware	Black glaze ext only; shallow groove	C17 th ?	Could be part of a bottle or costrel
2.1.15		27099	Bone China	1	7	1	BS	Hollow ware	U/Dec	C19 th	
2.1.15		27099	Brown Glazed Coarseware	1	6	1	BS	Dish/bowl	Dark brown glaze int	C19 th	Fine dark red fabric
2.1.15		27099	Nottingham Splashed ware – Fine	1	3	1	BS	Hollow ware	Green splashed glaze ext	E – MC12 th	Grey sandy fabric w/ an orange ext margin
2.1.15		27099	TP Bone China	1	1	1	Rim	Cup?	Pale blue geometric Chinese style border int	C19 th	
2.1.7		27043	TP Whiteware	1	1	1	Base	Flatware	U/ID TP design int	M – LC19 th	
2.1.7	27045	27048	TP Whiteware	8	223	1	Profile	Plate	Willow int	MC19 th – EC20 th	Unidentified maker's mark on underside; 'RCA' inside a decorative border
2.1.7	27045	27048	TP Whiteware	4	19	1	Footring base	Plate	Scene w/ a river, trees & village int	1875 – 1925	Maker's mark on underside; 'A & Co / Semi China'; probably Edward Asbury & Co
2.1.8		27022	Nottingham Early Green Glazed ware	1	2	1	BS	Hollow ware	Pale green glaze ext	E – MC13 th	A dense buff to pale grey fabric w/ common quartz & sparse red grit
2.1.8		27022	Yellow ware	1	32	1	Base	Dish/bowl	Yellow glaze int & partially ext (heavily chipped surfaces)	C17 th – C18 th	A white sandy fabric; probably C18 th rather than earlier

2.1.8		27024	Brown Salt Glazed Stoneware	1	1	1	BS	Hollow ware	Thin brown salt glaze int & ext	C18 th	
2.1.8		27024	Buff Sandy ware?	1	8	1	BS	Hollow ware	U/Dec	C18 th ?	Could be unglazed Mottled ware; fine buff sandy fabric w/ fine white rock frags
2.1.8		27024	Mottled ware	1	15	1	Footed base	Mug/tankard	Mottled brown glaze int & partially ext	C18 th	Fine buff fabric
2.1.8		27024	Mottled ware	1	2	1	BS	Mug/tankard	Dark mottled glaze int & ext w/ ridge ext	C18 th	Thin-walled vessel; fine buff fabric
2.1.8		27024	Mottled ware	1	1	1	BS	Hollow ware	Mottled glaze ext only	C18 th	
2.1.8		27024	Nottingham Coarse Sandy ware type	1	2	1	BS	Hollow ware	U/Dec	LC12 th – C15 th	Even orange sandy fabric w/ abundant rounded quartz up to 0.5mm
2.1.8		27024	Nottingham Green Glazed ware type	5	8	4	BS	Hollow ware	U/Dec; evenly sooted ext	C13 th – C14 th	A fine orange body w/ a thin grey core; common quartz & sparse red grit <0.5mm
2.1.9		27104	Nottingham Coarse Sandy ware type	1	6	1	Base	Hollow ware	U/Dec	LC12 th – C15 th	Burnt ext
2.1.9		27104	Nottingham Early Splashed ware	5	26	1	Rim & spout	Spouted pitcher	Patchy clear splashed glaze ext	LC11 th – E/MC12 th	A fine sandy fabric; orange w/ a grey core
2.1.9		27104	Nottingham Early Splashed ware	1	9	1	Rim	Hollow ware	Spots of clear splashed glaze ext	LC11 th – E/MC12 th	Clubbed, slightly everted rim; orange body w/a grey core where thick
2.1.9		27104	Nottingham Green Glazed ware type	1	2	1	BS	Hollow ware	U/Dec	C13 th – C14 th	Grey core w/ dull orange int & ext margins; hard, even sandy fabric w/ moderate quartz & red grit
2.1.9		27104	Nottingham Splashed ware – Fine	2	17	2	BS	Hollow ware	Spots & patches of pale green splashed	E – MC12 th	

									glaze ext		
2.1.9		27104	Nottingham Splashed ware – Sandy	1	1	1	BS	Hollow ware	Thin patchy clear splashed glaze ext	MC12 th – E/MC13 th	
2.1.9		27104	Shell Tempered ware	1	22	1	Rim	Jar	Smoothed surfaces	MC11 th – C14 th	Distinctive wedge-shaped rim w/ a dished int surface; closer dating possible
2.1.9		27104	Shell Tempered ware	1	15	2	BS	Hollow ware	U/Dec	MC11 th – C14 th	Coarse shell temper; closer dating possible
2.1.9		27105	Nottingham Splashed ware – Fine	1	5	1	BS	Hollow ware	Dull green glaze ext	E – MC12 th	The fabric is as NSP-Fine but the glaze is thicker than expected
2.2.1		27062	Blackware	1	11	1	BS	Hollow ware	Black glaze int & ext	C17 th	Hard, fine reduced fabric
2.2.1	27072	27073	Brown Salt Glazed Stoneware	1	16	1	Base	Hollow ware	Brown salt glaze int & ext	C18 th – EC19 th	Thin base
2.2.1	27072	27073	Stoneware	1	48	1	Base	Bottle/flagon	Green glaze int & ext	C19 th	

9.2. The Ceramic Building Material

by *Phil Mills*

9.2.1. Introduction

There were 31 fragments weighing 5291g presented for study. This comprise seven fragments (13g) of mortar and 24 fragments (5275g) of ceramic building material (CBM).

The material was recorded by context, with fabrics coded according to a fabric series used for other sites in Nottingham (Mills, 2018). Metrics recorded were number of fragments (No), weight in grams (Wt), number of corners (Cnr), with dimensions recorded in millimetres (mm).

9.2.2. The Catalogue

Table 3 shows the complete catalogue of CBM

Context	Fabric Code	Function	NoSh	Wt	corner	Length	Width	Thickness	Mortaring	Reuse	Soot	Period	Comments
27018	TZ21	Tile	1	82	0	0	0	22			1	(L) c17+	
27022	TZ21	Tile	1	156	0	0	0	15	1			(L) C17+	
27022	TZ21	Tile	1	72	0	0	0	21	1	1		(L) C17+	
27022	TZ21	Tile	1	42	0	0	0	14				(L) C17+	
27022	tz32	Tile	1	24	0	0	0	16	1			C17+	
27024	M13	Bonding Mortar	7	13	0	0	0	0				Post Medieval	
27024	TZ21	Brick	1	666	2	0	0	59				LC17 - C18	
27024	TZ21	Brick	4	405	1	0	0	57				LC17 - C18	
27024	TZ42	Tile	1	52	0	0	0	16				C17+, perhaps to C18	
27043	tz32	Nib Tile	1	148	0	0	0	18	1	1		C17+	
27043	tz32	Tile	5	286	0	0	0	18	1	1		C17+	
27043	tz32	Tile	3	87	0	0	0	18	1			C17+	

27099	TZ101	Tile	1	7	0	0	0	8				C19+	fragment of horse design
27113	tz09	Brick	1	1254	4	0	115	60	1			c18+	wiped surfaces rounded regular arrises
27113	tz32	Brick	2	1997	4	0	115	75	1			C18+	wiped surfaces rounded regular arrises

9.2.3. Fabrics

Mo13

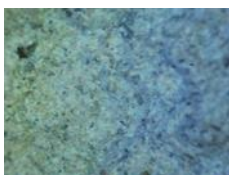


Plate 32: 6mm wide cross section of fresh break of Mo13

This is a pale grey medium grained mortar with inclusions of quartzST11.

TZ09



Plate 33: 6mm wide cross section of fresh break on TZ09

This is a red fabric which is hard with an irregular fracture and a sandy feel. It has inclusions of common quartz at 0.2mm with common lime at 0.2mm and moderate black iron stone at 0.4mm.

TZ21



Plate 34: 6mm Cross section of a fresh break on TZ21

This is a pale reddish yellow fabric which is hard with a fine sandy feel and irregular fractures. It has inclusions of moderate lime up to 0.8mm and moderate quartz at 0.3mm and occasional black iron stone at 0.4mm.

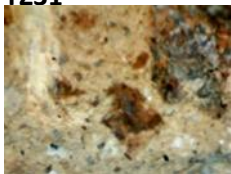
TZ31

Plate 35: 6mm wide cross section of fresh break of TZ31

This is a pale yellowish tan fabric which is hard with a harsh feel and an irregular fracture. It has inclusions of common ill sorted sub angular red iron stone at up to 2mm and moderate black iron stone at 0.3mm and moderate quartz at 0.2mm.

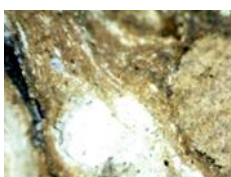
TZ42

Plate 36: 6mm wide cross section of fresh break of TZ42

This is a brown friable fabric with common to abundant poorly sorted yellow clay pellets and moderate quartz.

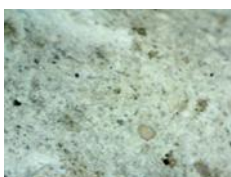
TZ101

Plate 37: 6mm wide cross section of fresh break TZ101

This is a white china clay fabric.



Plate 38: Wall tile fragment from (27099)

9.2.4. Discussion

This is a small group of CBM from Nottingham Castle. All the material is in the range of fabrics used from 17th century landscaping onwards. The brick fragments with thickness only noted were probably late 17th to 18th century date, with the bricks from (27113) more recent of probable 18th century or later date. A number of tiles had mortaring over breaks, suggesting reuse. The latest piece was the fragment of wall tile (Plate 38).

9.3. Clay Tobacco Pipe

by Alison Wilson

- 9.3.1. 14 fragments of clay tobacco pipe stem were recovered in Middle Bailey context (27018), (27026) and (27105), and 1 in Outer Bailey context (27016). A single Complete bowl was recovered in Middle Bailey context (27104).

in the absence of any identification features such as makers stamps or decoration, the stems were dated using bore hole diameter of 3mm, decreasing over time until stems by the middle of the 18th century had a bore of less than 2mm). With the exception of one fragment in context (27062), the fragments recovered all had a bore hole diameter of 3mm placing the date of manufacture in the 17th-18th century. The bowl was largely upright with no spur of base and is likely to have been manufactured in the late 19th century (Oswald, 1975, p.39). Discard is recommended.

Table 4: Clay Tobacco Pipe Catalogue

Area	Context	Pipe stem diameter	Description	Date range
Middle Bailey	27002	3mm	10 x unmarked partial stem	17 th -19 th century
Middle Bailey	27018	3mm	1 x unmarked partial stem	17 th -18 th century
Middle Bailey	27026	3mm	1 x unmarked partial stem	17 th -18 th century
Outer Bailey	27062	2-3mm	2 x unmarked partial stem	17 th -19 th century
Middle Bailey	27104	2mm	1 x complete bowl	19 th century
Middle Bailey	27105	3mm	1 x unmarked partial stem	17 th -18 th century

9.4. Glass

by Alison Wilson

- 9.4.1. 3 fragments of glass were recovered from the Middle Bailey. The largest fragment was a badly degraded fragment of green bottle glass in (27024), the backfill of ditch [27023]. Fragments of a clear modern tankard were found in Middle Bailey context (27000) while 2 small fragments of pale green apothecary bottle were found in contexts (27000), (27024) and (27073). Layer (27099) contained 4 fragments of modern window Glass. Discard is recommended.

Table 5: Glass Catalogue

Area	Context	Description	Date range
Middle Bailey	27000	1 x medicine bottle fragment	18 th -19 th century
Middle Bailey	27002	8 x modern tankard fragments 1 x medicine bottle fragment	18 th -20 th century
Middle Bailey	27024	1 x Green bottle fragment 1 x medicine bottle fragment	18 th -19 th century
Outer Bailey	27072	1 x medicine bottle fragment	18 th -19 th century
Middle Bailey	27099	4 x window glass	19 th - 20 th century

9.5. Metal

by *Alison Wilson*

- 9.5.1. 7 metal items were recovered in the Middle Bailey. These consisted of 2 iron brackets and an iron bolt from context (27000), a small strip of lead window came from context (27002), a length of iron wire and a Victorian copper penny dated to 1863 found in layer (27099) and an iron nail found in layer (27104). A further unidentifiable fragment of iron was recovered in the Upper Bailey demolition layer (27130). With the exception of the coin, which is very worn, all fragments are heavily corroded, discard is recommended.

Table 6: Metal Catalogue

Area	Context	Description
Middle Bailey	27000	2 x iron bracket 1 x iron bolt
Middle Bailey	27002	1 x lead window came
Middle Bailey	27099	1 x length of iron wire 1 x Victorian copper alloy penny
Middle Bailey	27104	1 x iron nail
Upper Bailey	27130	1 x indet. iron fragment

9.6. Slag

by *Gerry McDonnell*

- 9.6.1 Two small pieces of slag were recovered from modern context (27099). They comprised one small hearth bottom (weight 93g, major diameter around 81mm, Minor diameter around 55mm, depth of 37mm) and a fragment of smithing slag. These pieces should be retained until all the excavations are completed.

9.7. Animal Bone

by *Kris Poole*

9.7.1. Introduction

A total of 57 fragments of animal bone that were recovered during the NCA27 excavations were recorded for this report (Table 2). These were recorded in line with the recording protocol adopted for the other NCA excavations. The majority of bone came from post-medieval/modern landscaping layers (27024), (27062), (27103), (27124) and (27104), with the latter containing the largest amount of material of any context. The finds recovered from contexts which also contained bone indicate that the majority of contexts incorporated material covering a wide date range, indicating at least some level of reworking of material from earlier deposits. Given this, it is likely that much of the bone from these contexts was also of mixed date.

9.7.2. Taphonomy

Regardless of context, the overwhelming majority of the bones were in good condition, with a small number of bones either in very good or fair condition. A number of bones showed signs of gnawing and none had traces of burning. Only three bones had signs of butchery, of which two instances of saw marks are notable, as saws only became commonly used for butchery from the late 18th century onwards. One example was from (27104), which contained almost completely medieval material, but also a 19th century clay pipe, supporting the probable mixing of earlier and later material in this context.

9.7.3. Species Represented

Domestic mammals predominated within the assemblage, with cattle and pigs the most common. Sheep/goat, sheep, horses and cat were the other domestic mammals present (the latter being a skeleton within modern context (27073)). A small number of bones from domestic birds were also recovered, belonging to chicken (although there is a small chance that some bones might be from pheasant or guineafowl) and goose, along with one wild species, a bone of teal/garganey.

9.7.4. Ageing

All cattle bones which could be assessed for epiphyseal fusion had fused. By contrast, a number of the pig bones had unfused epiphyses, which is unsurprising, given the pig's lack of secondary production (except for manure), meaning that in many periods it was slaughtered before cattle and sheep. Two sheep/goat calcanei had fusion data, one being fused and the other unfused; this bone generally fuses at around 3 years. A horse distal humerus from (27124) had fused, but this is one of the earliest fusing long bones in the horse skeleton, at around one year.

The chicken remains contained a mix of adults and one partial skeleton of a neonatal chicken from (27104), indicating that chickens may have been kept and bred on site.

9.7.5. *Body-part Patterns*

Given the small nature of the assemblage, with low amounts of bone in each context, and the mixing of earlier and later material, all that can be said is that a mixture of body-parts were present for each species across the assemblage.

9.7.6. *Discussion*

The species present in the NCA27 material are consistent with those found during other archaeological work within the castle. However, the mixed nature of this material, including pottery from a range of periods, often within the same context, impact upon the usefulness of the assemblage for understanding the site. Accordingly, animal bone from this phase of works does not merit further study and can be discarded.

Table 2: *Number of specimens (NISP) by context from NCA27*

Species	Context									TOTAL
	27022	27024	27062	27073	27099	27103	27104	27105	27124	
Cattle		2			2	6	5			15
Pig		1				1	11	1	1	15
Sheep/Goat	1	1		1			2			5
Sheep							2			2
Horse									1	1
Cat				1						1
Chicken/ Guineafowl							1			1
Chicken/ Pheasant/ Guineafowl							1			1
Goose			1				1			2
Teal/Garganey							1			1
Large mammal		2					4	1		7
Medium mammal		1				1	4			6
TOTAL	1	7	1	2	2	8	32	2	2	57

9.8. **Shell**

by *Alison Wilson*

9.8.1. A total of 4 fragments of marine shell were collected in the Middle Bailey. These were oyster, with a single fragment of mussel shell found in context (27024). These would have formed part of the castle diet and are likely to represent kitchen waste. Discard is recommended

Table 7: Shell Catalogue

Area	Context	Description
Middle Bailey	27018	1 x oyster shell
Middle Bailey	27024	1 x oyster shell 1 x mussel shell
Middle Bailey	27099	1 x oyster shell

10. Discussion & Conclusion

10.1. Discussion

- 10.1.1. The excavations of nineteen foundations throughout the castle grounds in advance of the installation of new interpretation boards was one of the final intrusive developments of the Nottingham Castle Redevelopment project which required archaeological monitoring and excavation. The previous works directly informed the approach to mitigation adopted for the installation of each interpretation board, with fifteen trenches excavated by groundworkers under archaeological supervision. For the four trenches in the Middle Bailey, archaeological excavation was required, due to the very high potential for archaeology, particularly at shallow depths in this area.
- 10.1.2. The Outer Bailey of Nottingham Castle was identified as being an area of moderate archaeological risk with regards to excavation, with the horizon of archaeological significance being estimated at a depth of 0.8-1.0m BGL, a depth greater than the 0.5m BGL that the foundations in the Outer Bailey were excavated to. The majority of the contexts identified in the Outer Bailey foundations consisted of modern landscaping deposits and modern service cuts with foundations such as 2.1.3 and 2.2.2 consisting entirely of landscaped contexts deposited between 2018 and 2020. The post-medieval contexts and finds identified in the Outer Bailey remained consistent with the previously documented landscaping phases which occurred between the 17th and 19th centuries and in the 20th century, contributing little to the furthering of our current understanding of the Outer Baileys post-medieval land utilisation.
- 10.1.3. Excavations in the Upper Bailey yielded more information regarding the post-medieval use of the castle landscape through the identification of a truncation around Mortimer's Hole and the walls of a Culvert beneath the southern extent of the east terrace. The Culvert, [27115] and [27116], was likely constructed as part of the original Ducal palace in the late 17th century to facilitate the buildings drainage, with waste/foul waters flowing down a southwest to northeast gradient away from the Ducal Palace towards the inner ditch. Following the leasing of the Ducal Palace to the Nottingham Corporation in 1875 (Wood & Reese, 2016) the Culvert was deliberately backfilled as the repair works undertaken by TC Hine to convert the Palace building into a Museum and Art Gallery would also have included the installation of new plumbing and sewerage systems, rendering the culverts obsolete. It is also likely that the truncation observed around Mortimer's hole in foundation 2.1.12 was cut during these repair works as [27123] truncates the earlier post-medieval landscaping layers, (27124), observed within the Upper Bailey. With the Ducal Palace being converted into a museum and art gallery [27123] was likely cut to repair and reconstruction sections of Mortimer's Hole for public viewing, with the Upper Bailey access appearing on subsequent Ordnance Survey maps stating in in 1901.
- 10.1.4. With the exception of the two post-medieval features discussed above the foundation excavations within the Upper Bailey were similar to those of the Outer Bailey with two of the foundations being located and excavated in the footprint of previous excavations, thereby only yielding modern ground formation contexts.

10.1.5. With a horizon of archaeological significance estimated at less than 0.3m BGL the excavations within the Middle Bailey had a very high potential of unearthing subsurface features associated with the medieval castle, as has been recorded during previous excavations (see above). Despite this no such features were uncovered during this programme of archaeological works although the horizon of Medieval archaeology, a single deposit (27105), was likely encountered at the base of 2.1.9 at approximately 0.5m BGL. In isolation, when compared with the post-medieval and modern contexts identified during this programme of archaeological works, (27105) tells us little of the Medieval Castle. When examined alongside the finds' assemblage doubt is even cast on (27105)'s interpretation as a Medieval horizon with a partial 17th-18th century clay pipe stem, a possible contaminant from later post-medieval landscaping, being recovered from the upper horizon of this context alongside a sherd of 12th century Nottingham Splashed ware. Despite this, its identification at 0.5m BGL does suggest that the 0.3m archaeological horizon estimation based on Drage's excavation in the southwest is not consistent throughout the Middle Bailey. This could either be due to an uneven 17th century clearing, and/or 17th-19th landscaping, as well as 20th century activity, including the installation and demolition of an anti-aircraft gun in the southwest corner during the Second World War.

10.1.6. The modern and post-medieval landscaping deposits identified in the Middle Bailey aligns with what has already been recorded regarding the post-17th century usage of the Middle Bailey. The truncations, [27023] and [27025], observed in foundation 2.1.8 which are aligned with the Smythson plans projection of the castles eastern curtain wall could likewise represent the same 17th century sequence of stone robbing, associated with the landscaping and castle clearing, as described by Drage in his excavation further to the south. Parallels and relationships can be drawn between the post-medieval and modern contexts uncovered in this excavation of the Middle Bailey and earlier archaeological programmes. Through these shared associations a better understanding of the post-medieval landscaping can be ascertained, notably how the 17th century landscaping has impacted the remains of the medieval castle and how subsequent phases of landscaping, hardscaping and service installations have altered the estimated horizons of archaeological impact.

10.2. Conclusions

10.2.1. With the intrusive groundworks of the Nottingham Castle Redevelopment Project coming to an end it was possible to limit the impact of the information board foundation excavations onto the castles' subsurface archaeological deposits prior to the commencement of groundworks.

10.2.2. Archaeological features and deposits encountered during the phase of works described here were largely limited to post-medieval and modern landscaping layers, as well as modern service cuts and surfaces. However, in many cases, these layers contained residual medieval material, as has been the case for many of the archaeological layers encountered during the Nottingham Castle Redevelopment Project.

10.2.3. The works detailed in this report have also shown that there is variability in the depths of archaeological deposits across the Middle Bailey. This supports the findings of earlier works, particularly from 2016 onwards and is valuable information, particularly for any future works that were to occur in the Middle Bailey.

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12. Index of Archive and Arrangements for Deposition

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<i>Documents</i>	<i>Description</i>	<i>Number</i>
Written Scheme of Investigation	Statement of the aims, objectives and methodology for the project	1
Health & Safety	Safe working statement and risk assessment.	1
Report to Client	Report of findings of the excavation and watching brief	1

The site archive is currently held at the offices of Trent & Peak Archaeology, Unit 1, Holly Lane, Chilwell, Nottingham. NG9 4AB. It will be deposited with the relevant repository upon completion of the project

13. Figures

