

HAREWOOD CASTLE, HAREWOOD,
WEST YORKSHIRE

ARCHAEOLOGICAL AND ARCHITECTURAL
SURVEY AND RECORDING

VOLUME 1: TEXT



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Report no: 2003/212.R01
Version: Final
Date: November 2012
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HAREWOOD CASTLE, HAREWOOD, WEST YORKSHIRE
ARCHAEOLOGICAL AND ARCHITECTURAL SURVEY AND RECORDING

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EXECUTIVE SUMMARY

In September 2003, Ed Dennison Archaeological Services Ltd (EDAS) were commissioned by the Harewood Estate, through the project architect Mr Peter Gaze Pace, to undertake a programme of archaeological and architectural survey and recording during consolidation and repair works to Harewood Castle in West Yorkshire (NGR SE 32182 45633). These repairs were undertaken between March 2004 and July 2005 by Historic Property Restoration Ltd (HPR), and the work was funded by the Harewood Estate and English Heritage.

The architectural and archaeological recording involved the production of a full drawn and photographic survey of the castle, mainly achieved from scaffolding erected for the repair works. Existing drawings and records produced in 2001 as part of an archaeological and architectural condition survey were substantially enhanced, and further recording was carried out during the repair works to record items of interest that became more accessible. Additional ecological survey work was also undertaken to enhance that carried out previously. The previous condition survey provided a significant input into the architect's specification for the repair work, and the monitoring of these repairs also served to inform and augment this work. The results of this more detailed archaeological and architectural recording will help to inform any future conservation and management of the site.

The considerable body of new information gathered as a result of the 2004-05 conservation works has allowed a number of new interpretations of the castle to be made, and has also challenged some pre-existing theories. The medieval castle quite clearly did not exist in isolation, nor was it set down in a virgin landscape. Although the 2004-05 surveys have cast doubt on previous interpretations of the earthworks surrounding the castle, and in particular have advanced our understanding of the early 19th century landscape of Harewood House's Castle Pleasure Grounds, no further evidence has been found to support or refute the suggestion that the castle occupies the site of an earlier and substantial manorial complex. The fact that no convincing architectural evidence was uncovered to show that the castle incorporates part of an earlier structure suggests that, if an earlier complex was present, William de Aldeburgh made a conscious decision to completely replace it when he obtained his licence to crenellate in 1366. There are a number of anomalies in the design and construction of the castle which might be taken as evidence of the incorporation of an earlier structure, but they in fact appear to relate to one or more substantial modifications of design during an extended period of construction, perhaps as a result of de Aldeburgh changing the requirements for his residence. The combined structural evidence implies that the castle originally comprised a large three storey c.15m square tower house, represented by what is now the north block and the north-west tower, with the main block and the southern towers and turrets being later additions. One explanation for these changes might be the result of de Aldeburgh benefiting from the estate of Edward Balliol in or around 1364. This may have provided him with the funds from which to construct the castle, or perhaps more likely, significantly revise the scale of his residence once construction was well underway.

Harewood Castle is a well-preserved example of an elaborately designed, partially fortified, medieval house, which can only be termed a castle in the very broadest sense. Indeed, categorisation of the structure is difficult, but comparisons can be made with other near contemporary structures in the region, for example Langley Castle in County Durham. Numerous aspects of Harewood's design indicate a passing concern for defence, but other details favour aesthetics or convenience. Although a purely military interpretation of such a building would now be considered to be insufficiently nuanced, the degree to which such residences, particularly those erected during the later 14th century, were designed to provide security against for example local or regional insurrection is still debated - the 2004-05 surveys have gathered information that will make an important contribution to this debate. The archaeological recording has also allowed an earlier circulation plan to be refined and expanded, most especially in the highest parts of the building, and has provided a far greater understanding

of how the tightly controlled late 14th century circulation functioned and how it was compromised by later alterations. The organisation and accommodation of different elements of the household within the castle is also now better understood, in addition to aspects of the study of late medieval designed landscapes, particularly the manner in which they were viewed from a specific building. Finally, theories have been proposed as to the relative importance of models of social behaviour within the castle, such as the ritualised use of washing.

The close observation and recording of the castle structure during the 2004-05 conservation works has demonstrated that constructional techniques, architectural detailing and masons' marks were largely very similar throughout the building. For example, over 470 masons' marks have been identified and catalogued; some have a fairly even distribution throughout the castle, but others suggest that they represent individuals or groups of masons who worked in more discrete areas of the upper parts of the castle as it was nearing completion.

A possible series of alterations made by the Ryther and Redmayne families to the castle in the late 15th or 16th centuries have been identified, and the implications of these are assessed in relation to possible coparceny (dual occupancy) by the two families. The importance of trying to understand how a castle was dismantled, as well as erected, has again been stressed, as has the need to adequately record evidence associated with demolition. In addition, the 2004-05 survey work has shed further light on how the castle was incorporated into the early 19th century Castle Pleasure Grounds of Harewood House, and what effect this had on its structure. Finally, the recording of historic graffiti, especially at the upper levels, suggests that the castle was being more frequently visited by the public by the 1880s, both with and without the permission of the owners, the Lascelles family.

1 INTRODUCTION

Reasons and Circumstances for the Project

- 1.1 In September 2003, Ed Dennison Archaeological Services Ltd (EDAS) were commissioned by the Harewood Estate, through the project architect Mr Peter Gaze Pace, to undertake a programme of architectural and archaeological survey and recording during consolidation and repairs to Harewood Castle, Harewood, West Yorkshire (NGR SE 32182 45633). The repairs were undertaken between February 2004 and July 2005 by Historic Property Restoration Ltd (HPR), and the works were funded by the owners of the site, the Harewood Estate, and English Heritage.
- 1.2 The architectural and archaeological recording involved the production of a full drawn and photographic survey of the exterior and interior of the castle, primarily achieved utilising the scaffolding erected for the repair works. Existing drawings and records produced in 2001 as part of a previous Archaeological and Architectural Condition Survey (Dennison & Richardson 2008a) were substantially enhanced, and further recording was carried out during the repair works to record other items of interest that were revealed. Additional reports detailing the geology of the castle and the heraldic shields were also commissioned (Murphy 2005; Neave 2008, both subsequently incorporated into Dennison & Richardson 2008a, Appendices 4 and 5), and further ecological work, comprising flora, fauna and lichen surveys, was undertaken to enhance that carried out previously (Holloway 2011 & 2010; Gouldsborough 2009). The previous Condition Survey also provided a significant input into the architect's specification for the repair works (Pace 2003), and the monitoring of these repairs also served to inform and augment this work. In addition to providing a more comprehensive account of the castle's structure, the results of the 2004-05 archaeological and architectural recording will help to inform any future conservation, management and interpretation of the site.
- 1.3 The 2004-05 survey was not defined by a new project design or methods statement, but reference was made to the previous 1999 project design produced for the earlier Condition Survey (Dennison & Richardson 2008a, Appendix 7). This project design was amended as necessary during the course of the repair works following conversations and regular meetings between EDAS, the Harewood Estate, HPR, the project architect and English Heritage. Some sections of the following chapters repeat, update and amend the previous Condition Survey report, but all elements are included here so as to produce a new and complete stand-alone report.

Site Location and Summary Description

- 1.4 Harewood Castle is located at NGR SE 32182 45633 (centred), some 700m north of Harewood village and c.12km to the north of Leeds city centre, in West Yorkshire (figure 1). The site is dramatically sited on a steep north-facing slope overlooking the Wharfe valley, at a height of c.86m AOD.
- 1.5 The castle lies within a sharp right-angled bend of the A61 Leeds-Harrogate road, in the north-east corner of the walled Harewood Estate (figure 2). The ruined structure is surrounded by conifer plantations to the north and west, and by uncultivated scrub and grass and the remnants of older plantations to the east and south. There are extensive earthworks of former quarries to the east and north-east, with smaller features representing the sites of buildings, ponds and gardens to the south, west and north; some of the latter extend beyond the walled estate

into fields on the south and east sides of the A61. The castle is aligned north-west/south-east but, for ease of description throughout the following report, it is considered to be aligned north-south.

- 1.6 Described in its most basic form, the ruined 14th century castle comprises a four storey entrance tower on the east side, leading to a screens passage which gave access to the lower hall within the castle's central block to the south and the service levels and domestic offices of the four storey block to the north. There is a further four-storey tower at the north-west angle of the lower hall, and five storey lodging towers at the south-west and south-east corners of the central block, which also incorporates the upper hall above the ground floor lower hall. The south-east and south-west angle towers are surmounted by small turrets, themselves subdivided into two levels internally. A newel stair at the south-east corner of the lower hall gave access to the upper hall, with a second newel stair opening off the screens passage at the north end and rising through the full height of the building here. From the upper hall, the castle chapel, located in the entrance tower, could be reached, as well as the upper chamber of the north block. There are also various access points from the upper parts of the castle to wall-walks, and to the highest level of the castle at its south end via an external staircase rising above the upper hall's south end.
- 1.7 As Emery (1996, 339-344) has remarked, some of the architectural detailing of the castle, such as the mullioned and transomed windows of the halls, was at the forefront of contemporary design. To judge by the surviving structure, the interior of the castle was once similarly lavish; a stone buffet or cupboard in the lower hall is sufficiently elaborate to have been mistaken for a tomb canopy by several antiquaries, while the castle chapel and upper hall both once featured displays of armorial bearings. Despite now being unroofed and with no internal floors remaining, the castle is well preserved and survives relatively complete. Comparison with 19th century illustrations suggests relatively little recent decay or alteration, apart from the collapse of the south-east upper turret, and the presence of iron-banding around the south-west turret provides some evidence of previous repair. At the commencement of the repair works in February 2004, some parts of the castle were overgrown with ivy, particularly at the north-west corner, and there were small trees and brambles growing in the interior and around the wall tops.

Site Designations

- 1.8 The castle and its immediate surroundings are of national importance, and the area has been protected as a Scheduled Monument (SM) by the Department for Culture, Media and Sport (National Heritage List for England - NHLE 1005801) since December 1987 (figure 2). The ruins were also listed as being of Special Architectural or Historic Interest, Grade I, in March 1966 (DOE 1986, 72-73; NHLE 1226242; see Appendix 9), although the SM designation will take precedence over this listing. The complex is also included in the National Archaeological Record (site SE34NW10) and the West Yorkshire Sites and Monuments Record (site 1429). Furthermore, the castle complex is included within the area designated by English Heritage as a Grade I registered historic park and garden (English Heritage 1984), and within the Harewood Conservation Area.
- 1.9 The previous condition of the monument meant that it was included as a Priority B site on English Heritage's 1999 Register of Buildings at Risk (English Heritage 1999, 54) but, as a result of the 2004-05 repair and conservation work, it was removed from subsequent lists (e.g. English Heritage 2009).

Aims and Objectives of the Project

- 1.10 The 2004-05 architectural and archaeological survey and recording project had four main aims:
- to enhance and expand the results of the 2001 Condition Survey, to include the standing masonry, foundations and all surrounding earthworks;
 - to record any architectural and/or archaeological information that might be revealed by the repair and conservation works,
 - to provide a historical context and a base line of information against which all future repairs and conservation work could be measured;
 - to provide an appropriate level of information to assist with the preparation of future long-term management, conservation and interpretation strategies for the castle complex.

Survey Methodologies

- 1.11 The archaeological and architectural survey and recording was carried out using a combination of photographic, and machine and hand-based measuring techniques, in accordance with the methodology outlined in the previous 1999 project design (Dennison & Richardson 2008a, Appendix 7). The on-site recording work took place between February 2004 and July 2005, utilising the scaffolding that was erected for the repair and consolidation works. A limited amount of new research was also undertaken on the existing documentary and historical material, and various consultations were held with other specialists working in relevant fields. The area of previous topographic survey around the castle was expanded in February 2008, and additional ecological and other surveys were also carried out during the period of repairs to augment those previously undertaken for the earlier Condition Survey. A detailed explanation of all the survey methodologies is contained in Appendix 10, while a full list of all sources consulted as part of the project is given in the bibliography (Chapter 9) below.

Report and Archive

- 1.12 This report forms a detailed written description of the castle, prepared from the survey data gathered by the project, and cross-referenced to the drawn and photographic record. The report analyses the form, function, history, and sequence of development of the castle, and it is also placed within its historical, social, architectural and landscape contexts, where possible. This report also provides a record of the repair and consolidation works undertaken in 2004-05 and will form the basis for any subsequent consolidation, management and interpretation proposals.
- 1.13 The full archive, comprising paper, magnetic and plastic media, relating to both the 2004-05 recording project (EDAS site code HCH 04), and the earlier 2001 Condition Survey (EDAS site code HCH 00), will be ordered and indexed according to the standards set by English Heritage. The combined archive will be deposited with the Harewood Estate on completion of the project.

2 HISTORICAL SURVEY

Introduction

- 2.1 A substantial body of primary and secondary material exists relating to Harewood Castle, including detailed pedigrees of the families who owned or occupied the site and the feudal history of the manor. The following historical survey of the castle is principally concerned with the development of the building, including changes to its fabric, and the development of the surrounding area. Detailed genealogical and manorial information is therefore only included where it is relevant to these subjects. As has been previously noted, much of this chapter was written for the 2001 Condition Survey report (Dennison & Richardson 2008a, 11-19), although some parts have been augmented by further research and more recent published works.

Manorial History

The pre-Conquest Period

- 2.2 Place-name evidence indicates that settlements were established in the Harewood area between the 7th and 10th centuries. The name for Harewood can be interpreted as originating from the Old English *haer* meaning a rock or heap of stones, or possibly from 'Grey Stone Wood' or the 'Grey Stone' (from 'hara' meaning grey) or 'Hare Wood', after the animal (Smith 1961, 181; HET 1997, 12). The Grey Stone still survives on the Harewood Estate above Grey Stone Pasture, and is a large glacial erratic boulder of Millstone Grit; it is reputed to contain late Neolithic or Bronze Age markings (Maxon 2007, 2).
- 2.3 There is also physical evidence for early medieval settlement in the area. A late Anglo-Saxon coin hoard, comprising 30 coins and two half cut pennies of Edward I, was found in 1895 close to the gate leading to the west end of Harewood church, while a series of earthworks to the north-east of the church may represent the site of an Anglo-Saxon settlement (Faull 1981, 187 & 194). A cross fragment of 10th/11th century date was also found within the church (HET 1997, 82; CCT 2004, 2). Several early 19th century authors note that about half a mile to the west of the castle, within West End Wood, there was formerly an open space known as 'Chasne Plain', that had been kept cleared of trees for a very long time; the open space was alleged to mark the point where King Edgar murdered the Earl Aethelwold in 963 AD (Hargrove 1809, 187; Jewell 1819, 57). Subsequent research however suggests that this event took place in Whorwell in Hampshire rather than at Harewood (Maxon 2007, 6).
- 2.4 A combination of this and other documentary evidence has led to the suggestion that the wider parish of Harewood originated as an important Anglo-Saxon estate with a valuable ecclesiastical centre based on dairy farming. This estate appears to have been fragmented some time before 1066, possibly in the 10th century, resulting in the disparate and complex landholding arrangements recorded in the Domesday Book, when 12 different owners are listed (Faull 1981, 194-195).

The Post-Conquest and Later Medieval Period

- 2.5 Following the Norman conquest, the manor of Harewood was held by William the Conqueror; the 1086 Domesday Survey records that it had previously been held by three thanes, Tor, Sprot and Grim. By 1094 it had been granted to Robert de Rumilly of Skipton Castle, and it passed to William Meschin through his marriage

to Cecily de Rumilly, Robert's daughter. It then descended by marriage through the de Curcy and Fitzgerald families, and was held by Warren Fitzgerald, King John's chamberlain, in the early 13th century. Fitzgerald was granted the right of free warren (the right to preserve or kill small game) over the manor of Harewood in 1208-09, and it is possible that the area around the castle named as 'Castle Park' on later maps might have been enclosed at this date (HET 1997, 11-14; Parker 1913, 150-151); the park was licensed in 1205 and it is probable that Well (later West) End Wood, which was also within the park, is also medieval in origin (HET 1997, 82).

- 2.6 After Warren Fitzgerald's death, the manor passed through marriage to the de Redvers family, and eventually to Isabell de Fortebus (1237-1293). She became dowager Countess of Aumale following the death of her husband the Earl of Aumale in 1260, and from 1262 she was Countess of Devon and Lady of the Isle of Wight (Denholm-Young 1934, 389). When she died, her estates passed to the Crown and, after protracted proceedings between various claimants, the manor of Harewood was allotted to her cousin Robert de L'Isle (HET 1997, 14; Parker 1913, 150-151).
- 2.7 Several antiquarian sources have concluded that the site on which Harewood Castle stands had been occupied during the 12th and 13th centuries, thereby suggesting that the existing building, which is generally attributed a mid to late 14th century date (see below), may represent a remodelling of an existing site. Jones, writing in 1859, reproduced two crude and inaccurate illustrations of windows from King's *History of British Castles* (actually King 1782, 326) which had formerly existed at Harewood and which were said to be of 'Norman or Norman transition period' date i.e. 11th or 12th century, and he goes on to note that the 'peculiarities' in the walls of the castle appeared to be parts of an earlier structure (Jones 1859, 135-136); these assertions were repeated again by Jones slightly later in 1863 (*Gentleman's Magazine* 1863, 720) and others (e.g. Greenwood 1903, 142), and similar statements had in fact been made by Grainge (1855, 88) slightly earlier. As will be outlined below, documentary evidence indicates that a substantial manorial complex with stone buildings was located somewhere within Harewood township during the late 13th century, possibly on the site of the existing castle (Moorhouse 1989, 7). However, Jones' assertions about the earlier windows are a mistake and appear to stem from a misreading of the caption on one of the plates from King's original 1782 description. Plate 13 of King's article shows two doorways (F. LV and F.LVI) set over a plan of the castle (F. LVIII), which are captioned "*Gothic Door Ways; and Plan of Harewood Castle, in Yorkshire*" - the semi-colon is the vital element as elsewhere within the accompanying text King notes that the drawings represent a doorway at Ancaster church and a depiction of the Golden Gate at Jerusalem (King 1782, 323 & 324). These two doorways therefore have nothing to do with Harewood Castle.
- 2.8 An extensive series of surviving manorial accounts, covering the period 1260 to 1293, and relating to the lands of the aforementioned Isabell de Fortebus, contain much information relating to the administration of her Yorkshire holdings, including Harewood. Harewood was an important manor, worth a clear £100 per annum, with its own bailiff. There was also a considerable residence at Harewood, including a *camera militum* (a knight's chamber) (Denholm-Young 1934, 389-390 & 399) and Moorhouse places it within the township of Harewood (as opposed to elsewhere within the manor) suggesting that the area of the castle 'seems the most likely site' (Moorhouse 1989, 7). It is not certain how often Isabell herself actually visited Harewood; she was resident at her castle at Burstwick in East Yorkshire between 1259 to 1263, and after that tended to spend more and more time in the

south. However, her second son, Thomas de Fortibus, was present at Harewood with a considerable retinue in 1268 (Denholm-Young 1934, 390-392).

- 2.9 When excavated in 1986, some of the earthworks to the north of the castle revealed possible evidence for settlement during the 12th and 13th centuries, and so might possibly be associated with the de Fortibus manorial complex (Moorhouse 1989, 7; see Chapter 3 below), had it been sited here. If this were to be the case, then it would appear that the administrative centre of the manor had moved from its earlier location at Rougemont Castle on the north side of the river Wharfe to the site of Harewood Castle by the late 13th century (Moorhouse 1989, 7), although the reasons for such a move are as yet unclear. Rougemont Castle is located within the township of Dunkeswick, on the edge of the steep, cliff-like bank of the Wharfe. It survives as an extensive area of substantial but thickly wooded earthworks, principally a very large outer D-shaped enclosure covering some 7.5 hectares, with what has been described as smaller D-shaped ringwork in the south-east corner (NHLE 1010026). Building platforms are visible within the area of the ringwork, while the eastern parts of the outer enclosure are overlain by ridge and furrow cultivation. To the west, there are the remains of one or more fishponds, together with further scarps and platforms which may be associated. As yet, Rougemont has been subject to little detailed study and, while evidently a multi-phase site, it remains poorly understood. It has been suggested that the castle re-used a prehistoric earthwork, and that the ringwork was created in the early medieval period; given the possible origins of Harewood parish as an important Anglo-Saxon estate as noted above, one might speculate that Rougemont formed the estate centre. The township of Dunkeswick appears to be referred to as 'Rougemont' in an extent of 1263 (Michelmores 1981, 360) but it is not exactly clear when the castle ceased to be occupied, even if it had been replaced as the manorial administrative centre by the late 13th century.
- 2.10 Robert de L'Isle (1289/90-1343/44), who had gained the manor of Harewood in the late 13th/early 14th century, was a distinguished soldier and was summoned to parliament as Baron de L'Isle of Rougemont between 1311 and 1342. In 1336 the manor of Harewood was worth 40 marks per annum, and in 1337 he granted it to his son John 'to better serve the king', prior to taking religious orders (www.linleyfh.com/oursecondsite-p/p250.htm). John de L'Isle, 2nd Baron (d.1355), was also a distinguished soldier, fighting predominantly in France, and was created a Knight of the Garter after fighting at the battle of Crecy. From 1350 until 1354 he was also summoned to parliament as Baron de L'Isle of Rougemont, and from 1351 he was described as Lord of Harewood. His Inquisition *post mortem* taken in 1356 notes that his Harewood possessions included a 'small park with deer', possibly that which later became known as the 'Castle Park' (www.linleyfh.com/oursecondsite-p/p249.htm). His widow Maude was assigned dower (the part of an estate a widow had a right to claim) at Harewood in the same year (Michelmores 1981, 387). Coulson has reproduced part of Maud's dower document, which includes the following:
- "Within the chief messuage of the said manor, a chamber with a cellar called Benal Chaumbre; a chamber with a cellar called Risshton Chaumbre; a small chamber by le Garner towards the east; a small stable by the gate of the manor; a chapel, and an old kitchen thereby for a grange of the said dower .."* (Coulson 2003, 357).
- 2.11 If the administrative centre of the manor had been located on the site of the existing castle by the late 13th century, then the buildings forming Maude's dower (and indeed the others which did not) must also have stood somewhere within the

vicinity; they may survive as earthworks identified to the north of the castle (see Chapter 4 below). On current evidence however, it is not thought convincing that the castle incorporates part of a significantly earlier predecessor, although there are some structural features which suggest that it might originally have been designed to a more limited form (see Chapter 8 below).

- 2.12 Following John de Lisle's death in 1355, he was succeeded by his son Robert, 3rd Baron (1336-1399) (Parker 1913, 151). In 1363, Robert granted the keeping of the park, wood and warren of the manor of Harewood to William Gascoigne of Gawthorpe Hall (HET 1997, 14). In 1377-78 it was confirmed that Robert held some 90 manors, of which one was Harewood.
- 2.13 The construction of Harewood Castle is generally attributed to Sir William de Aldeburgh (d.1388), who obtained a licence to crenellate his "*mansum manerii*" at "*Harwode*" in 1366 (Black 1968, 339; Emery 1996, 339). De Aldeburgh had held the manor of Harewood from Robert de L'Isle from 1364, when Robert paid £70 to Edward III for a licence to enfeoff (to put in a tenant legally in possession, or to surrender a holding) de Aldeburgh and his descendants to two parts of the manor and of the reversion of the third part held in dower by Robert de L'Isle's mother; de Aldeburgh paid Robert £1000 for the manor. William de Aldeburgh had married Elizabeth, the daughter of John de L'Isle, in c.1356 (www.linleyfh.com/oursecondsite-p/p27.htm; Jones 1859, 136; Clay 1913, 2-3), although Reddyhoff (1985, 20) disputes this - but it is difficult to see how de Aldeburgh would have gained the manor without this family connection.
- 2.14 De Aldeburgh was an officer in the court of Edward Balliol, King of Scotland, during the mid 14th century, and is variously termed an envoy, diplomat, messenger or valet (Reddyhoff 1985, 21). Balliol (c.1282-1364) was Edward III's puppet king of Scotland intermittently between 1332 and 1336, and was involved in Scottish skirmishes on behalf of Edward III after that, but on 20th January 1356 he surrendered his claim on the Scottish throne to Edward in return for an annual pension of £2,000; he retired to, and died at, Wheatley near Doncaster in 1364 (Webster 2004). William de Aldeburgh had lands and property in Scotland, including the baronies of Kells and Crossmichael, which had been given to him by Balliol 'for his good service' in the 1340s (Wood 1904), and he also had some property in England, for example in Lincolnshire and a small manor at Kelfield near Ricall (North Yorkshire) where it is believed he had a residence later known as Auburn Hall (Purdy 1976, 105). He was also accused of hunting illegally in deer parks at Beverley, Haverah (near Richmond) and Knaresborough, probably in conjunction with Balliol during his periods of exile from Scotland, and he was pardoned in 1358 (Reddyhoff 1985, 21-22). Although some property was held jointly with Balliol, William was a powerful knight in his own right, and in 1368 he negotiated a treaty with Pope Urban V and was a Member of Parliament between 1370/1 and 1386 (Reddyhoff 1985, 24; Greenwood 1903, 134). He and his son, also called William, paid the Poll Tax at Harewood in 1379 (www.linleyfh.com/oursecondsite-p/p27.htm).
- 2.15 Balliol's coat of arms survive in several places within the castle in conjunction with the de Aldeburgh arms, and they also appeared on several of the items listed in the 1391 will of Margaret de Aldeburgh (see below) (Jones 1859, 136-137; Reddyhoff 1985, 21). Some authors have suggested that Balliol was entertained at or took refuge in Harewood after he had been driven out of Scotland (e.g. Whitaker 1816, 165; Parsons 1834, 258), partly on the strength of coins relating to him having been discovered as part of a larger 14th century hoard at Wyke near Harewood (Sharpe & Haigh 1840, 74). But Balliol died in 1364, just two years

before de Aldeburgh's licence to crenellate and, given that the current evidence suggests that the existing castle is thought to relate entirely to that licence, it would seem that it was not possible for Balliol to visit. However, it is not known whether the licence was granted prior to, during or after the building of the castle, which must have taken several decades to complete. Nevertheless, the fact that de Aldeburgh chose to commemorate his relationship to Balliol in both stone and on furnishings is extremely interesting, and suggests further avenues of research. For example, the closeness of Balliol's death and de Aldeburgh's licence may be significant; perhaps de Aldeburgh benefited materially from Balliol's estate, thus providing him with the funds from which to construct or alter the castle (Emery 1996, 339) (see Chapter 8 below).

- 2.16 William de Aldeburgh died in 1388, still holding the manor, and was succeeded by his son, William 2nd Baron Aldeburgh, who died shortly afterwards in 1391 at Harewood; he was buried alongside his father and mother in the church of the Dominican Friars in York. The latter's Inquisition *post mortem* of 1392 notes that the manor comprised seven carucates and 18 bovates of land in Harewood and elsewhere at this time, and it is his wife's Margaret's will of 1391 that provides some details of the internal economy of the castle (see below) (www.linleyfh.com/oursecondsite-p/p27.htm).
- 2.17 William died without a male heir, and so his two sisters, Sybil (c.1367-1439) and Elizabeth (1364-1417), then inherited the manor. It was through their marriages, Sybil to Sir William Ryther of Ryther Castle near Selby in c.1379 and Elizabeth to Sir Richard Redmayne (or Redman) of Levens Hall in Westmorland in c.1394 (actually her second marriage - she had previously married Sir Bryan Stapleton who had died in 1391), that Harewood Castle and the manor passed to these families; the impressive chest tombs and alabaster effigies of both couples can be seen in Harewood church (CCT 2004, 5-6). Both were powerful and influential families - Sir Richard Redmayne (d.1426) for example had been a soldier, was Sheriff of Cumberland six times, was Richard II's Master of Horse, remained loyal to Henry IV throughout the early rebellions, and sat for Yorkshire in five parliaments between 1406 and 1421 (Summerson 2004; Greenwood 1903). The manor continued to be held jointly and apparently amicably by the two families for some 300 years, and no physical division was made of the estate (Reddyhoff 1985, 21-26; Michelmores 1981, 387). Who actually occupied the castle during the later medieval period is unclear - some sources suggesting a joint occupancy but at least one source alleges that it formed the principal residence of the Redmayne family (Grainge 1855, 88). In 1529-32 Richard Redmayne was in possession of, and in residence at, the castle (www.linleyfh.com/oursecondsite-p/p605.htm), and in 1550 it may have been occupied by Matthew Redmayne (Reddyhoff 1985, 50).

The Post-medieval Period

- 2.18 In 1563, James Ryther (c.1535/6-1595) came to live at Harewood and in 1574 he, along with a partner, William Plumpton, bought out the Redmayne family interests (www.linleyfh.com/oursecondsite-p/p686.htm). He was also living at the castle between 1588 and 1591 as he wrote a series of nine letters to William Cecil, Lord Burghley, from there during this time (Craig 1984 & 1985). However, his financial position became steadily worse and he was imprisoned in London's Fleet and Newgate Prisons from 1591-92, and he died still in prison in 1595 (www.linleyfh.com/oursecondsite-p/p677.htm). There are also accounts of a small skirmish at the castle in April 1593, when a defence against 30 or 40 of Hare's men (possibly one of Ryther's creditors) was mounted by James' son Robert, when bows and arrows, guns and stones, armour, shot and munitions were called into

use (www.linleyfh.com/oursecondsite-p/p677.htm). Robert Ryther and his two sisters then sold the castle and the manor of Harewood in 1601 to clear their father's debts. This sale probably marks the point at which the castle ceased to be a main residence (Craig 1984, 96; Craig 1985, 125), although Jones (1859, 149) states that Robert Ryther was resident until around 1630, after which he retired to Belton in Lincolnshire with his new wife, where he died in 1637.

- 2.19 Sir William Wentworth of Gawthorpe Hall purchased the castle and manor for the sum of £11,000, although the payment was not actually made until 1616. The Wentworth family had acquired the manor of Gawthorpe through marriage in the late 16th century, it having previously been held by the Gascoyne family from the mid 12th century. William Gascoyne had obtained a licence to enclose two parks in the area, the first containing 240 acres of land in Gawthorpe, Wardley and Harewood and the second containing 1700 acres in Henhouse, Lofthouse, Wardley, Harewood and Wyke (Grainge 1855, 89). It is probable that the Wentworth family continued to reside at Gawthorpe after the purchase of Harewood, and that the administrative centre of the combined manors was centred on their residence (Craig 1984, 24; Goodchild 2000, 5-7). The condition of Harewood Castle during this period is unclear, and Jones suggests that it might have been slighted during the Civil War (Jones 1859, 149).
- 2.20 In 1656, the Wentworths sold Harewood and Gawthorpe to Sir John Cutler for £28,000; the Bill of Sale for the castle (see below) suggests that it was already partly ruinous or even dismantled by this date (Whitaker 1816, 167). Cutler (1607/08-1693) was a merchant and financier, who specialised in lending money to impoverished landowners on the security of their estates, and the Wentworths were one of his largest creditors (Hayton 2004). Cutler may well have carried out further dismantling work at the castle, re-using the materials on site to build a number of dwellings elsewhere. He held the manor until his death in 1693 (Jones 1859, 149-50; Kitson 1913, 179). After Cutler's death, the estate passed to his daughter and then to another relative, John Boulter. Boulter died in 1738 and his lands were sold to settle his debts. Harewood was then purchased by Henry Lascelles and the estate has remained with the Lascelles family until the present day (Goodchild 2000, 7).
- 2.21 When Henry Lascelles died in 1753, the estate passed to his son Edwin (1712-1795), who was created Baron, or Lord, Harewood in 1790. Edwin established the present Harewood House and was also responsible for transforming the landscape setting of the new house, providing the basis of the present layout. His cousin, Edward Lascelles (1740-1820), 1st Earl of Harewood, and his son Edward, Viscount Lascelles (1764-1814), made major additions to the landscape, including incorporating the ruins of the castle into an extension of the Northern Pleasure Grounds (Goodchild 2000, 7-8) (see below). Edward 1st Earl of Harewood died in 1820 and, because his son died before him, he was succeeded by his second son Henry, who was in turn succeeded by his son in 1841 (Grainge 1855, 90).

The Landscape Setting of the Castle

Medieval and Early Post-medieval Landscapes

- 2.22 It is known that the castle lies within a wider medieval landscape, the full extent of which has not been examined and considered as part of this project. Indeed, the elements and features of the medieval landscape around Harewood have yet to be fully researched and understood, but it is known, for example, that documentary evidence, specifically the accounts of Isabell de Fortebus, points to a late 13th

century substantial manorial complex with stone buildings somewhere within Harewood township, and the area later called 'Castle Park' was enclosed in the early 13th century (see above). Other features of the medieval landscape would have included a nunnery at Arthington, founded c.1150, and Harewood Bridge which is recorded from the early 13th century (HET 1997, 11-14).

- 2.23 The large medieval manor and ecclesiastical parish of Harewood shared the same boundaries, and previous studies have shown that it comprised seven townships as well as a small part of the township of Wyke. The townships to the south of the river Wharfe were Weardley, Harewood, East Keswick, Alwoodley and Wigton, while those to the north were Weeton and Dunkeswick (Moorhouse 1985, 10-11; Goodchild 2000, 5). At least seven separate medieval settlements or vills have been identified within Harewood township itself, and one of these is a possible precursor to the present Harewood village. The others include Newhall (or Newall) to the east of the castle, Stockton to the east of Newhall, Gawthorpe to the south of the present Harewood House, Towhouses by the Gawthorpe Beck to the south of Gawthorpe, Lofthouses to the east-north-east of Towhouses and around the present Lofthouse Gate into the park, and Hollin Hall to the east-north-east of Lofthouse. Gawthorpe was a separate estate, and perhaps a separate manor, within the township of Harewood, although the history of the two land units is closely linked (Moorhouse 1985, 10-11; Goodchild 2000, 5). During the 13th century, the administrative centre of the manor of Harewood was located at Rougemont Castle in the township of Dunkeswick, on the north bank of the river about one mile west of Harewood Bridge (Michelmores 1981, 360 & 387) (see above).
- 2.24 Harewood Castle itself is built into the considerable north-facing slope of a projecting spur on the south side of the glaciated valley of Wharfedale; from the south to the north, the slope drops c.10m in height along the length of the castle alone. The decision to terrace the castle into the slope must have been a deliberate one, as there is flatter land to the immediate south that might have accommodated the structure, while to the north the ground again slopes far more gently downwards towards the early 19th century ha-ha. The choice of site was probably determined by several factors, including a stable bedrock and the local topography. The siting, form and organisation of the internal spaces of the castle strongly suggest that the creation of extensive views both from and to the building was an important consideration in its original design and also its contemporary landscape setting (plates 100 and 101). Such consideration is now recognised at a number of late medieval castles both nationally and regionally (Creighton 2002, 36-45; Liddiard 2005, 97-121), and North Yorkshire examples include Ravensworth Castle (Dennison, Holloway & Richardson 2006) and Sheriff Hutton Castle (Wright & Richardson 2005).
- 2.25 Some of the earthworks surrounding the castle have been suggested to form a series of, potentially medieval, garden terraces to the west with ponds and other features to the north. To the south of the castle is a large rectangular terraced area, traditionally known as the 'Bowling Green', and previously suggested to have been created in the early 19th century (Moorhouse 1989, 6) as part of the Castle Pleasure Grounds (see below). However, it seems that this is also an earlier feature, although of what precise period remains uncertain; Parsons, writing in 1834, repeats a significantly earlier description of the terraced area by Gough, which states that "*the castle ... stands on the north side of a triple square entrenchment on the hill sloping down to the river. The innermost vallum on the south and west side is entire and high*" (Gough 1789, vol 3, 7 quoted in Parsons

1834, 257). The earthworks and possible gardens are discussed further in Chapter 4 below.

- 2.26 There is little published information relating to the castle landscape of the early post-medieval period, i.e. in the later 17th and early 18th centuries when the Harewood estate was owned by the Cutler and Boulter families. As already noted above, the Wentworth family sold the estate to Sir John Culter in 1656, when the castle was already described as being 'decaied'. It is also possible that both families carried out further dismantling work at the castle, and it is assumed that the castle and its immediate environs were allowed to decay; their efforts were concentrated around their main house at Gawthorpe (HET 1997, 16-17).

Later Post-medieval Landscapes

- 2.27 The relationship between the ruined castle and the surrounding landscape is better understood from 1738, when the estate was purchased by Henry Lascelles, largely because of the greater availability of documentary material (summarised by Lynch 2004) and the work undertaken by Goodchild (1994 & 2000).
- 2.28 Edwin Lascelles, Lord Harewood (1712-1795) had established the present Harewood House by 1771 and he was also responsible for transforming the landscape setting of the new house. It is clear from contemporary accounts that the isolated castle was seen as an attraction in the area and that the views to and from the castle were part of that experience; Hargrove for example conjured up a romantic interpretation of the castle which includes an extract from Ossian (Hargrove 1789, 160-161), and the place of the castle within the wider Wharfedale landscape was also strongly emphasised (Maude 1782). This romantic and antiquarian mood is maintained in later editions (e.g. Hargrove 1809, 185-193), and Jewell (1819, 36) draws attention to two views, probably straight vistas created through plantations, "*one for a view of Alms-Cliff, and the other for a view of the Castle*" from the rotunda built to the west of the church in 1785 for Lady Fleming, Edwin Lascelles' second wife. Goodchild (2000, 9) also raises the interesting possibility that the potential conversion of the castle to a malting house, as evidenced by plans dating to the 1770s (see below), might imply a desire to protect it from further decay.
- 2.29 Major additions were made to the landscape on the east side of the park by Edwin's cousin, Edward Lascelles, 1st Lord Harewood (1740-1820), and it is he who is traditionally associated with incorporating the ruined castle into an extension of the Northern Pleasure Grounds in the early 19th century, named by Goodchild as the 'Castle Pleasure Grounds' (Goodchild 2000, 8 & 10). It seems that Edward Lascelles had plans for this work as early as 1796, when the Duke of Rutland noted that "*as yet there is no park at Harewood, but the present owner is in the intention of forming a considerable one, in which he means to include the old ruinous castle ... the vale down to the river, and the ground two miles beyond the Wharfe*" (Manners 1813, 260, quoted in Lynch 2004). The Duke had visited the castle on the previous day and appreciated its 'ivy-crowned walls' that 'presented a most picturesque appearance'; some of this ivy may have been planted in c.1782 (Maude 1782, quoted in Lynch 2004; see below).
- 2.30 However, the medieval Castle Park was partly occupied by several farms in the late 18th century, and Turner's painting of 1798 (plate 8) depicts arable land extending almost to the foot of the castle. In the early 1800s the area was cleared and returned to parkland, as part of the reorganisation of this part of the estate, and the Otley to Tadcaster Road was realigned between 1796-1800 to run around

the east side of the castle ruins (Goodchild 2000, 12). This allowed the pleasure grounds to be extended to reach the castle, which had hitherto been an isolated and solitary structure on the hillside. One possible explanation for the work beginning at this time was the death of Samuel Popplewell junior in July 1811. He was Lord Harewood's steward or land agent who lived at Castle Park Farm, but his successor, Robert Menzies, was provided with a new purpose-built house in the estate village, meaning there was no impediment to clearing the agricultural land around the castle (Lynch 2004).

2.31 The Castle Pleasure Grounds were laid out and planted in the period c.1810 to c.1816, probably under the direction of James Webb, and the work included the construction of the Rock Arch in 1814 and its associated rocky valley, a former quarry (Jewell 1819, 31 & 51). The new pleasure ground formed an area on the north side of Church Lane, extending from a point opposite the turning to All Saint's Church off Church Lane in the west to the newly aligned main road to the east. Paths, including one passing beneath the rock arch, were laid out to link the newly created gardens to the older parts of the parkland and estate (HET 1997, 20). The ha-ha running along the north side of the castle may also have been constructed during the same period, as a linear feature is marked in this position on an anonymous c.1810 survey of the Harewood estate. Jewell notes that the castle was actually incorporated into the pleasure grounds in 1813, when some ash trees were planted in the centre of the ruin (Jewell 1822, 66 & 70).

2.32 One of the most useful accounts concerning the castle in its role as a landscape feature within the new pleasure ground occurs in the travel diary of William Grey of York. He toured Wharfedale in 1816, and his entry for Harewood notes:

"saw only the newly laid out ground inclosing the castle ... a prodigious improvement, & in my idea far more interesting than any other part of Harewood, the sloping richly verdant descent, the expanse of the vale, the winding of the river, the different hills ... These form a charming combination, especially with the addition of the castellated ruins at the close, most luxuriantly clothed with ivy ... some neat remains of the pointed stile appear in the way of ornament; particularly a beautiful shrine with the cusped arch but without any figure or inscription" (Grays Court Papers, York Archives, quoted by Lynch 2004).

2.33 Gray notes that the castle was the culmination of the scheme, the *piece de resistance* at the close of a walk from the house. The walk, or ride, would have passed through the earlier northern pleasure ground to the church, and then into the newly landscaped area via the Rock Arch. The remains of a yew walk close to the castle (see Chapter 4 below) suggest that an element of surprise was incorporated into the approach. Visitors would pass through the dark narrow walk and emerge to see the great panorama of Wharfedale with the castle in the foreground. Although some documents relating to the construction of this approach survive, the majority appear to have been lost. In 1813, when the work appears to have been drawing to a close, the estate mason John Muschamp submitted a bill for building a *"dry sunk fence walling round the new pleasure ground taking in the Castle"*, presumably the ha-ha to the north of the castle (WYL HAR/ACC/495 quoted in Lynch 2004).

2.34 Slightly earlier, Lord Harewood's daughter, Mary Ann, mentions various 'improvements' undertaken in the north park in her diary for 1801, and in 1810 there is mention of a walk 'by the Castle'. In the summer of 1815 she also records that she *"spent the morning with the children at their gardens at the castle"*, and it is possible that this refers to the flattened area on the south side of the castle

which is marked as a 'bowling green' on later maps (Lynch 2004). Jewell also records that soon after 1813 "*the castle-garden, where the cross walks were very plain to be seen, were planted, likewise the high bank that goes around it*" (Jewell 1819, 57).

- 2.35 One of the most illustrious visitors to the new park was Grand Duke Nicholas of Russia. When he toured Harewood in December 1816 the route included the church and the castle, at which 'his Imperial Highness expressed his most unqualified approbation and delight' (Jones 1859, 188-190). A visitor some years later appreciated the castle as a prospect tower and described the view from 'the top of this ruined monument' (Grainge 1855, 94).
- 2.36 Jewell's 1822 description of the new pleasure grounds remains antiquarian and romantic, but there seems to be a greater emphasis on the picturesque and scenic elements. Jewell repeats Hargrove's description of the ground around the castle as containing "*half-buried walls and fragments of ruins*" (Jewell 1822, 64; Hargrove 1789, 160-161), and this is exactly in line with a taste for the rustic picturesque. Turner's paintings of 1797 and 1798 depict the castle before the pleasure grounds were laid out, while Varley's painting of 1803 shows the fore and middle ground as being quite park-like in character (Hill 1995, 25-26 & 48). All three paintings show the ruins shrouded in ivy, and it appears from other accounts that this was deliberately planted against the ruins from c.1782 for dramatic effect (see Chapter 3 below). The castle continued to feature in both poetry and novels into the mid 19th century. John Nicholson's poem "Lyre of Ebor" described an epic boar hunt encompassing many of the late medieval monuments of Yorkshire, including a description of L'Isle hunting foxes from Harewood (Nicholson 1859, 48-53), while *The Welsh Mountaineer*, perhaps not the most obvious source of information for a castle in West Yorkshire, draws heavily on earlier tourist guides but also imagines a visit to Harewood as if it were still occupied (Hutton 1817, 149-152).
- 2.37 The 1851 Ordnance Survey map (figure 6) depicts the layout of the Castle Pleasure Grounds. The western section extends from the west end, opposite the turning to the church off Church Lane, as far as a former quarry which runs across the full width of the pleasure ground as a rocky dell. At the south end of this dell is the Rock Arch. The central section runs from the dell to the sunken path that leads from Bondgate to Castle Well; this lane has a footbridge over it that allows unhindered access through the pleasure grounds. The eastern section, which includes the castle, runs from this sunken path as far as the Leeds-Harrogate road. It contains an upper, middle and lower path, the middle path appearing to head directly to the inserted doorway in the west elevation of the castle.

3 REVIEW OF PREVIOUS WORK AND INVESTIGATIONS

Introduction

- 3.1 The following chapter deals with the way Harewood Castle has been covered in historical material, antiquarian accounts, and illustrations, maps and surveys from the late 14th century to the present day. It should be noted that many of the antiquarian descriptions are either repetitive or rather verbose, and so only those details that add to or differ from the existing interpretation of the castle structure are included here. This chapter also covers previous archaeological investigations and recent interventions to the castle itself.

Antiquarian Descriptions, Illustrations and Surveys

The Medieval Period

- 3.2 With the exception of the licence to crenellate, granted in 1366, the earliest known documentary reference to the castle which gives some idea as to its structure or appearance is the will of Margaret de Aldeburgh (c.1355-1391), wife of the second William de Aldeburgh, written and proved at Harewood in 1391. An approximate translation of this document has been given by Jones (1859, 142-145) and Greenwood (1903, 148-49), and this provides some information about the furnishing of the castle during the late 14th century. The will lists at least seven beds, some with elaborate bed clothes, as well as tapestries and cushions, several of which were emblazoned with the arms of Aldeburgh and Balliol. Items of other furniture, plate, armour and clothing are also listed in the will.

The 16th to 18th centuries

- 3.3 The antiquary Camden, writing in 1582, stated that the castle was 'of good strength' and he was of the opinion that there had been a castle on the site since 'very early times', giving a list of holders dating back to the 12th century (quoted in Jones 1859, 134); a subsequent author corrected Camden's history of ownership (Brooke 1723, 65-66). A survey of the coats of arms in the castle, some of which were painted on wood, glass or metal as well as being carved in stone, was made in 1584 by Glover and this is reproduced in several later sources (e.g. King 1782, 335-336; Whitaker 1816, 167; Jones 1859, 156-161; Foster 1875, 466-467; Greenwood 1903, 147); some authors also make reference to these coats of arms in relation to those surviving elsewhere within Yorkshire (e.g. Norwood 1860, 75). As noted above, a collection of letters written by James Ryther of Harewood Castle to William Cecil, Lord Burghley, around 1587, have been the subject of several publications (Jones 1859, 147-149; Craig 1984; Craig 1985), but unfortunately these do not appear to contain any details relating to the fabric of the building.
- 3.4 The information contained within the 1656 Bill of Sale for the manors of Gawthorpe and Harewood gives some idea as to the state of the castle at that date, showing that Culter was not solely responsible for its desecration:

"The Castle of Harwood decayd, yet the Stones thereof being much Ashler and the Timber that is left fit for building an hansom new house &c may save a deale of charges in the stone work, or els (if allowed to tenants of Harwood towne for repayers and building) would be very usefull & necessary & serviceable for that purpose considering it is a Market Towne therefore the Castle may be adjudged to bee well worth £30. There is belonging to the same a very large Barne"(quoted in Whitaker 1816, 167 and Greenwood 1903, 139-140).

- 3.5 The earliest known depiction of the castle forms part of an estate survey of c.1698-99 (WYL250/3/Map 33). The plan of the castle included in the survey is at a small scale but it does show the building to be located within a large irregularly shaped enclosure marked as 'The Castle Parke'. However, a sketch of the east elevation of the castle in the top right-hand corner of the map provides more useful detail (plate 4). A mass of ruinous masonry incorporating a doorway and window is shown above and to the rear of the entrance tower. It may be significant that the artist chose to show ashlar masonry only in the upper part of the central area of the elevation and at the base of the north end, although no other evidence exists to suggest that the external elevations were rendered or otherwise covered.
- 3.6 In c.1720, the architectural draughtsman Samuel Buck sketched the south elevation of the castle as part of a northern tour undertaken on behalf of John Warbuton, Somerset Herald and antiquarian (Wakefield Historical Publications 1979, 285). The sketch, entitled 'The Ruins of Harwood Castle' is very small and schematic, but it appears to show a building abutting the east elevation.
- 3.7 The earliest known detailed plans and section of the castle may be those relating to a proposed conversion of the building to a malting house with living accommodation (WYL250/4/1/3) (figure 3). The provenance of these drawings is unknown, but it has been suggested that they were produced in the office of the York architect John Carr, possibly in the 1770s (Goodchild 2000, 9; Lynch 2004); a second undated similar plan is titled 'Abraham Norfolk's Plan for Malt Kiln' (WYL250/4/2/3/7). The scheme proposed that a three storey malt house be constructed within the castle, with living accommodation for the maltster on the top floor and a malt kiln installed in the former service area at the north end which was to have a 'shed roof' over. The central ground floor hall space was to be divided by a north-south division, with a 'growing floor' on the east side and the 'withering floor' to the west, and there was a pair of cisterns placed adjacent to the main entrance. Above, on the second floor, were the 'barley chamber' and 'malt chamber', and bedrooms over. However, there is no convincing structural evidence that the scheme was ever undertaken and, given the suggested 1770's date for the plans, no mention in King's account of 1782, which would surely have made reference to the alterations had they existed at that time.
- 3.8 A painting of the castle by Nicholas Dall, probably dating to the period 1760-74, appears to accurately depict the ruins at around the same time as the proposed malt-house conversion (plate 5). Dall (d.1776) was a decorative artist and scene-painter of Scandinavian origin, and he painted four inset landscape paintings which hang in the library of Harewood House; these paintings were exhibited at the Royal Academy in 1774 (Graham-Vernon 2004). The painting of the castle provides a view from the south-east, showing the south and east elevations, with the river Wharfe and Harewood Bridge in the distance. Another painting of around the same period, by Michael Angelo Rooker (1746-1801), depicts the east elevation.
- 3.9 A detailed account of the castle was produced by Edward King in 1782, in an early journal of the Society of Antiquaries (King 1782, 329-337). He also produced a plan of the structure (figure 4) and, although there are significant differences from what is known to have survived at this date, there are a number of interesting discrepancies. For example, the wall forming the east side of hall contains two narrow loops ("*at (O O), are loop-holes, defended on the usual manner; and in the apartments above are large open windows*"); it is presently unknown whether these represent an as yet undiscovered basement level, an earlier version of the large mullion and transom windows which currently exist, or artistic licence, although only one opening is shown on the c.1770s plan. The accompanying description is

also not clear about which floor is which, for it mentions that the principal stair ('3' on figure 4) "*does not reach down to the ground, but only goes as low as the first floor*". King also notes two "*curious and large wells, for drawing up timber and warlike machines*" at '8' and '9' on figure 4, which have "*great arches at [the] bottom, to make room for turning the beams*", which presumably refer to the fireplaces and chimneys here. He refers to the buffet in the south-west corner of the hall as being a tomb or altar, or a recess for "*the station of a crossbow man*", in which case the south end of the hall might have been a chapel, and notes that the adjacent opening ('6' on figure 4) is the present entrance. However, in other respects, his description is insightful. For example, he notes that the 'lesser staircase' ('5' on figure 4) does not connect with the entrance tower, and that there is a parapet platform around the upper levels, which would now be called a wall-walk (see Chapter 5 below) but which he suggests was used to secure "*engines of war or even cannon*".

- 3.10 A poem also published in 1782 includes a footnote to the castle: "*The remains of the Castle, which seems to have been the Keep, is in a condition to last long, and the present proprietor has judiciously planted ivy around the walls, with a proper fence to protect that cheerful aspiring plant from injury, so much in character with every ruin, and which yearly add to the solemnity of the place*" (Maude 1782, quoted in Lynch 2004) - this fence is clearly visible in Turner's painting of c.1798 (see below and plate 9). As noted in Chapter 2 above, the ruined castle would have been a prominent part of the vista looking out over Wharfedale from the rotunda viewing point which was constructed in 1785 for Lady Fleming, Edwin Lascelles' second wife.
- 3.11 Another early illustrated antiquarian account of the castle was given by Grose in 1787 (Grose 1787 vol 8), which incorporated views of the east and west elevations engraved by Sparrow and Newton respectively and published by Hooper (plates 6 and 7). The elevations show that the external walls of the ruin are relatively free from vegetation, apart from the recently planted ivy, although the surrounding ground level may have been slightly higher. Although the engravings are stylised to some extent, a number of features now no longer extant or presently obscured by ivy can be seen, for example the ridge-line of a demolished structure against the east side of the south-east tower, and different door and window openings on the west side of the hall; these are features are discussed in the Architectural Survey and Description (Chapter 5) below.
- 3.12 King's account of 1782 may well have helped to put the castle on the late 18th century 'tourist trail', and many of the subsequent publications plagiarise or incorporate his description (e.g. Bray 1783, 263-266). The fourth edition of Hargrove's "History of ... Knaresborough", published in 1789, provides a description of the castle, which includes a mention of ruins around the castle: "*the extent of the castle, when entire, must have been very considerable; for now we observe near an acre of ground, around the remaining building, covered with half buried walls, and fragments of ruins*" (Hargrove 1789, 160-161). A later edition also contains a slightly revised description of the castle (Hargrove 1809, 185-193). King's plan may also have served as a model for the more accurate plan reproduced in Whitaker in 1816 (see below).
- 3.13 The castle is not shown on Teal's plan of parts of the township of Harewood drawn up in 1796 (WYL250/3/Map/44). However, it is on Jefferys' 1771 map of Yorkshire (sheet 12), where it is depicted as a roofed structure named as 'Castle in ruins'. On both these maps, the main road to Harrogate is shown to continue north past the castle, down what is now known as 'Fitts Lane'.

- 3.14 As has been mentioned in Chapter 2 above, the change in estate ownership at the end of the 18th century, brought about by the death of Edwin Lascelles in 1795, was the catalyst for the further development of the landscape. Edwin's son Edward 1st Earl of Harewood (1740-1820), and his eldest son Edward, Viscount Lascelles (1764-1814) made major changes to the landscape which included bringing the ruins of the castle into an extension of the Northern Pleasure Grounds; this aspect of the castle's history is discussed in Chapter 2 above. Edwin and Edward Lascelles were also connoisseurs of the arts, and were responsible for bringing artists such as Turner and Girtin to Harewood, who produced some of the more memorable and famous paintings of the castle.
- 3.15 J W M Turner (1775-1851) visited Harewood in 1797 as part of his extended tour through Yorkshire, Durham and Northumberland, and he produced several sketches and watercolours of the castle between c.1797 and 1808. In March 1798 Edward Lascelles the younger paid 50 guineas for a series of five paintings, including two of the castle, from the north and from the south-east. The former (plate 8) portrays a windswept landscape with lay meadows running almost up to the north elevation whereas the latter (plate 9) shows the east elevation and was preceded by a pencil sketch; this sketch also includes a more detailed but seemingly unfinished drawing of the inscription above the main entrance (Hill 1995, 25). In both cases, the drawings appear to be a fairly accurate representation of the ruins at that time. In a subsequent smaller watercolour of the view from the south-west, Turner depicted the castle as more decayed, its skyline more broken, the ivy more luxuriant, the battlements more pronounced and the window detail more emphatic, in order to produce a more picturesque version (Hill 1995, 20-27). Turner also apparently produced drawings or watercolours of the interior of the castle (Hill 1995, 15), but these have not yet been found or viewed.

The 19th Century

- 3.16 An outline plan of the castle is shown on an anonymous survey plan of Harewood dated to c.1810, with a double line, possibly representing the ha-ha surviving to the north of the site, marked close to the north elevation (WYL250/3/Map/33). Other artists, such as John Varley (1778-1842), Peter de Wint (1784-1849) and James Connor, produced various depictions and views of the castle around the turn of the 19th century (Hill 1995, 48). Two watercolours in particular, painted by J C Buckler (1793-1894) in 1817, one from the north-east showing the north and east elevations and one internal view showing the south face of the main hall, are especially useful when comparing architectural details (plates 10 and 11).
- 3.17 In the early to mid 19th century, a number of descriptions of Harewood Castle appeared in works by antiquaries and historians. Most give only a few details of the building, concentrating on the manorial history (e.g. Hargrove 1809, 186-192; Bigland 1812, 718-20). Unfortunately, many of the 19th century descriptions and accounts simply repeat or embellish earlier versions, and it is very difficult to establish the origins of some of the more interesting and informative statements.
- 3.18 The most complete account was given by Whitaker in 1816, who supplemented his rather brief description of the structure with a ground floor plan, a view of the east elevation, together with detailed engravings of the various arms and inscriptions surviving, or at one time present, in the castle and an elevation of the buffet in the hall (Whitaker 1816, 164-173) (figure 4, and plates 12 and 13). His plan, which may be based in part on an earlier survey attributed to King (see above), also shows a number of features not noted in more recent surveys (e.g. Emery 1996,

341). A garderobe and stairs are marked in the west wall of the south-east corner tower, and another garderobe to the east of the south-west corner tower, linked to the main room within the tower by a blocked passageway. However, Whitaker's account of the castle is frustrating - it contains valuable insights in that he identifies the buffet as an 'ancient sideboard' rather than the tomb canopy of earlier accounts, but then goes on to state that "*the great hall, the windows of which are mere loophole lights, must have been wretchedly dark and uncomfortable*", in direct contradiction to his ground plan. The presence of these loopholes in the great hall repeats King's earlier account (see above), and Whitaker's statements are then repeated in later descriptions (e.g. Parsons 1834, 257).

- 3.19 Jewell, writing in 1819, included two rather crude drawings of the east and west elevations of the castle, together with a sketch of the main internal staircase (Jewell 1819, 51-58); one of the elevations was later copied as a frontispiece by Cobley (1882). The east elevation is almost certainly based on the 1787 engraving published by Grose, as it does not show the mass of ivy to the north and south ends depicted by Whitaker in 1816. Jewell noted that the extent of the castle's outer works or court must once have been very considerable, stating that "*we now observe a great quantity of ground around the remaining building, covered with half-buried walls, and fragments of ruins*" (Jewell 1819, 52); similar remains had been noted by Hargrove in 1789. According to Jewell, there were two springs to the west of the castle, one called the 'Pigeon Well' and the other further to the west, known as the 'Vicar Well'. During works at the site in the early 19th century, coins, armour and a number of other objects were found in the vicinity of the castle (Jewell 1819, 57-58). In a later edition of his publication, Jewell included only the east elevation of the castle, noting that it was "*nearly all covered in ivy*" (Jewell 1822, 63); the contrast between his sketch in 1819, when there is relatively little ivy depicted, compared to the ivy-clad ruin in 1822 is remarkable.
- 3.20 Jones gives a slightly fuller account of the castle's structure than Whitaker in 1816, but it is clear that he reproduced much of the text and many of the illustrations from the earlier source (Jones 1859, 134-163; Jones 1864, 220-227) (plates 12 and 13); however, although his ground plan of the castle is virtually identical to that produced by Whitaker, it differs in one interesting detail, around an inserted opening near the buffet on the west side, where he depicts a window rather than an opening (figure 5). Jones also noted a well in one corner of the lower level of the castle; this had been cleaned out to a depth of 18 feet in 1772 but was subsequently backfilled (Jones 1859, 161-162).
- 3.21 Other mid to late 19th century accounts dwell on the manorial history of the castle and the surrounding area, or on Harewood House, and they include few details of the castle's structure (e.g. Grainge 1855, 86-99; Wheeler 1888, 92-109). The Ordnance Survey 1st edition 1851 6" map (sheet 188) shows a sub-rectangular area curiously defined by what appears to be a fence to the south-east of the castle, together with a pathway running around the castle and one leading to the centre of the west elevation (figure 6). The 'Pigeon Well' referred to by Jewell in 1819 is also marked to the west of the castle with the 'Castle Well' beyond.

Recent Accounts, Surveys and Investigations

- 3.22 The castle has continued to attract the attention of archaeologists and historians throughout the 20th century. In 1912, Kitson gave a general description of the castle, noting a number of features not mentioned in previous accounts (Kitson 1913, 176-179). For example, he noted the remains of a platform outside the entrance tower on the east elevation and the remains of a postern gate on the

exterior of the south elevation, once protected by a lean-to building, and also stated that a later wing, since demolished, had been built onto the north elevation and the bowling green to the east was either a late 16th or early 17th century addition. Finally, Kitson noted the parallels between the main part of the castle (i.e. not including the northern kitchen extension) and the castle at Dacre or other similar tower houses in Northumberland.

- 3.23 There are a number of photographs of the castle dating to the early part of the 20th century. An anonymous photograph held by Peter Goodchild and dating to c.1900 (Goodchild collection) shows the structure viewed from the west (plate 14). Much of the north-west corner and south-west tower are obscured by ivy, but with the exception of the upper part of the south-west tower, the structure is shown much as it survives today.
- 3.24 Two photographs, both taken in 1918 by Harold Grainger, can be viewed as part of a photographic archive of Leeds, and both show architectural elements no longer visible. One photograph is an exterior view from the north, showing the north and part of the east elevation as well as the south-east turret which it is thought to have collapsed in 1962 (http://www.leodis.net/display.aspx?resourceIdentifier=2003924_53889102) (plate 15), while the other is an interior view of the buffet and the adjacent opening which has steps leading down from the threshold into the body of the castle (http://www.leodis.net/display.aspx?resourceIdentifier=2003924_68153018); these steps have since been removed, but they appear on photographs reproduced as late as 1948 (Fletcher 1948, 107). Another photograph of uncertain date and provenance is probably of a similar date, this time viewed from the north-east and showing the northern end of the castle. This and the previous 1918 photograph are interesting in that the ivy that is shown in c.1900 as cladding the north-east corner of the castle has been completely removed. A photograph in the glass slide collection of the Yorkshire Archaeological Society shows the entrance tower with grass-covered earthworks to the north (WYAS 1988, 5). There is also a series of photographs of the castle, both views and detailed shots, taken in the late 1940s by Mr K Bowden; these photographs include a view of the south side of the castle showing the levelled area to the south completely devoid of any trees and woodland (plate 16). Finally, one undated and unsourced photograph depicts the west elevation with young trees recently planted over the earthworks in the foreground (plate 17); this photograph must date to the early 1950s and again shows no ivy on the visible elevations.
- 3.25 The castle appears in a number of descriptive accounts of medieval or regional architecture during the mid to late 20th century (e.g. Illingworth 1938, 139-140; Pevsner 1967, 245; Ryder 1982, 99-100), although none of these included any detailed survey of the building's structure. This was rectified by Black (1968, 339-341) and more recently Emery (1996, 339-344), who both published plans of the castle (figures 5 and 7), together with outline descriptions; Emery also included a schematic plan of the circulation routes within and between the different floor levels of the building (figure 8). There are also other accounts of varying length and accuracy in more recent works, such as Salter (2001, 40-41), Coulson (2003, 357-358), Liddiard (2005, 111) and Creighton (2002, 85 & 2009, 183), although most of these draw heavily on earlier work. Brears (2008) refers to the castle and its internal fittings several times in his detailed study of medieval kitchens and dining, and much of the contextual information he produces is also relevant to Harewood (e.g. Brears 2010). However, it is fair to say that the castle has not received the wider attention it has deserved, probably due to the fact that there is currently no public access.

- 3.26 A detailed survey of the castle's fabric was commissioned by English Heritage, and was undertaken in March 1988 by Derek Latham and Associates. This work involved the production of outline elevation drawings and ground and basement floor plans at 1:50 scale, with a resulting discussion of the condition of the stonework and a recommended schedule of repair; the latter was divided into urgent and essential repairs, and provisional cost estimates were prepared. Two reports were actually produced, one in May 1988 which dealt with emergency repairs, and another in March 1989 which provided a wider view and discussion together with some recommendations for presentation and future management (Goom and Cunnington 1988; Derek Latham and Associates 1989). It is interesting to note that at this time the ivy had returned to cover some parts of the external elevations, as it did when the current survey was undertaken. A further structural report was produced by English Heritage in 1994 (Hume 1994).
- 3.27 The most detailed investigations carried out on the castle precinct and the associated earthworks prior to the 2001 Condition Survey and the 2004-05 works were undertaken as part of a study of the wider historic landscape at Harewood (Moorhouse 1985 & 1989). An earthwork survey carried out in 1986 identified the remains of a number of terraced building platforms of probable medieval date with an associated fishpond to the north of the castle (figure 9). These earthworks continued to the north of the present A61 which, as noted above, is a late 18th century realignment that cut across the castle's probable medieval precinct. A series of possible medieval garden terraces was also identified to the west of the building, while earthworks to the east were interpreted as a substantial forebuilding and terrace leading to the entrance tower. Moorhouse also states that a large rectangular terraced area, known as the 'Bowling Green', was constructed to the south of the castle in the early 19th century (Moorhouse 1989, 6).
- 3.28 Limited trial excavations carried out in conjunction with the 1986 earthwork survey suggested that the terraces to the north of the castle represented the remains of timber-framed buildings with stone sill walls and stone slated roofs. Pottery of 12th and 13th century date was also recovered, perhaps providing further support for the suggestion that the existing castle may occupy the site of an earlier manorial complex referred to in the late 13th century (Moorhouse 1989, 6-7; WYAS 1990).
- 3.29 A detailed discussion of the results of many of these accounts and surveys appears in Chapters 4 and 5 below.

Previous Interventions to the Building Fabric

- 3.30 Structural evidence indicates that the earliest interventions to the fabric of the castle took place at some time during the later medieval or early post-medieval period (see Chapter 5 below), but there are no known contemporary documentary references to such works. Kitson stated that a later wing, since demolished, had been built onto the north elevation but he did not specify when this was done, or what function it might have served (Kitson 1913, 176-179).
- 3.31 As has previously been noted, there is some documentary evidence to suggest that parts of the castle were dismantled during the 17th century. It appears to have probably been uninhabited from around 1630, and one source suggests that it may have been slighted during the Civil War, perhaps after 1646 (Jones 1859, 149). When Sir John Cutler acquired the castle in 1656, the Bill of Sale for the property described the castle as being 'decayd', suggesting that some dismantling or collapse had already taken place (Whitaker 1816, 167). Cutler may have carried out further demolition work, re-using the materials to build a number of dwellings

elsewhere; one cottage in Harewood village, apparently built from re-used material from the castle, has the inscription '161 C78' over the door (57-59 Bondgate) (Jones 1859, 150). John Boulter, the owner of the castle until 1738, also attempted to re-use some of the material from the castle to repair farm buildings, but was apparently unsuccessful, finding the walls so firmly welded by cement that it was cheaper to quarry the stone (Jones 1859, 151; Greenwood 1903, 151).

- 3.32 The appearance of the castle has changed little since the late 18th century. The ivy presently covering the walls may have originated from the later 18th century, and it appears to have become much more extensive between 1787 and 1816. However, the early 20th century photographs show that some ivy strands had been cut down and removed. A number of structural alterations also appear to have been made to the castle in or after 1813 when the castle was incorporated into the extension to the Northern Pleasure Grounds (see Chapter 8 below). Recent studies have also suggested that the terraced area to the south of the castle known as the 'Bowling Green' is an early 19th century garden feature, perhaps a small parterre (Moorhouse 1989; HET 1997, 20) and not an Elizabethan bowling green as suggested by several antiquarians, although as has already been noted, the terrace is clearly described in the late 18th century by Gough. At a later date, after c.1900, the top of the towers were strengthened with iron bands, all of which are now fallen (WYAS 1990, 2).

4 EARTHWORK SURVEY AND DESCRIPTION

Introduction

- 4.1 As noted in Chapter 1 above, the earthworks immediately surrounding the castle were surveyed in detail in 2001/2004, but this survey area was extended to the south-west in 2008 as far as Castle Well; the results are presented as figure 10. The survey area (figure 2) covered all of the area previously surveyed by Moorhouse in 1988 (figure 9), apart from those earthworks to the immediate south and east of the A61 which were not accessible during the current project.
- 4.2 The 2001/2004 survey was useful in that it allowed direct comparisons to be made with the 1988 survey, and a number of discrepancies have been revealed, leading to a re-interpretation of some of the earlier results. As with the other surveys undertaken as part of 2004-05 repair works, much of the following chapter was written for the 2001 Condition Survey report (Dennison & Richardson 2008a, 28-40), although significant amendments have been made to report on the additional survey work and to incorporate any new interpretations. The letter-based reference system used in the 2001/2004 survey has also been revised to take account of the new features that were identified by the additional 2008 survey; the EDAS identifiers are upper-case letters in bold type (e.g. '**B**'), to avoid confusion with those lower-case ones (e.g. 'a') previously used by Moorhouse.

Earthwork Description

The Castle Precinct

- 4.3 The 1988 project design for proposed survey and trial excavation (WYAS 1988) included a sketch plan which marked the known and uncertain extent of the castle precinct's boundary, based on the evidence then available. The precinct was suggested to be sub-square in plan, c.140m in length and width, with the castle apparently lying towards the south-west corner. The only known section of the boundary was stated to be part of the western side, defined by what was described as "*a substantial break in slope*" (WYAS 1988, 4). It was suggested that the remainder of the precinct boundary might be defined by field boundaries shown on the estate map of c.1698-99 (WYL250/3/Map/33), although it is difficult to marry the 'uncertain' portion of the suggested precinct with the fields shown on the latter.
- 4.4 Following detailed survey by Moorhouse in 1988, the 'known' boundary of the precinct is shown as a north-west/south-east aligned linear depression, on the southern side of what was described as an enclosure ('g') that appeared "*to be a later addition*" and an "*extension to the precinct*" (Moorhouse 1989, 6 & 7; see figure 9). An account of the survey and accompanying trial excavations produced in 1990 stated that "*the precinct is clearly defined on the east and west*" (WYAS 1990, 2), referring the reader to letter 'c' on the accompanying earthwork plan. The western section corresponds with the linear earthwork adjacent to enclosure 'g' noted above, while the eastern section appears on the north side of the A61, marking an apparently minor earthwork here, which is in a different position to the 'uncertain' boundary suggested in 1988. More recently, it has been proposed that the precinct was of a somewhat more rectangular form and that it did not extend as far north as shown on the 1988 sketch plan, but rather as far as the largest of the two ponds to the north of the castle, almost 65m long and now bisected by the modern A61 road (a late 18th century turnpike route) ('b' on figure 9); this would form a canal that defined an entrance at the precinct's north-east corner, with

gardens lying to the north beyond the precinct boundary within an area of modern plantation (Moorhouse 2009).

- 4.5 An entrance at the north-east corner of the 'precinct' would make more sense in terms of the architecture of the castle and the concentration of defensive features at its north-east corner (see below), which would arguably be most visible when approached from the north. However, the large pond here ('**B**' on figure 10), although unquestionably impressive in scale, is quite different in terms of its form to canal-like features at other Yorkshire medieval residences, such as Sheriff Hutton Castle, Whorlton Castle or Topcliffe, which are used principally to define a barrier between one part of a precinct and another, or between the precinct and the park. The presence of another similar pond some 200m to the west ('**D**') (see below) also calls into question exactly what purpose the pond now bisected by the A61 road actually served, and indeed the layout of the precinct itself.
- 4.6 As can therefore be seen, the precinct is not well defined now and the earlier definitions of the precinct boundary are somewhat contradictory. The linear depression defining the reputed western side of the precinct ('**A**' on figure 10) remains visible as a shallow linear depression, 3.5m wide, although the southern end has been infilled as a result of coniferous tree planting undertaken after 1988. The bank previously identified as the eastern side of the precinct, on the east side of the A61 road, lies outside the area of the current survey.
- 4.7 Notwithstanding this admittedly limited idea as to the exact alignment or boundaries of the castle's precinct, there are a number of earthworks that might reasonably be thought to have lain within the area. The majority of these are located to the north-west of the castle, on the north side of the 19th century ha-ha ('**Q**'), and are represented by two ponds, various building platforms and several terraced areas (figure 10 and plate 18).
- 4.8 The smaller of the two ponds ('**C**') is aligned almost east-west and measures c.25m long and c.8m wide internally, widening slightly towards the west end; the base of the interior remains marshy. The steeply sloping internal sides are up to 1.5m deep, and the natural contours mean that the north and east sides of the pond have to be retained by prominent banks. There appear to be outlet channels or breaches at either end of the bank defining the north side; that at the east end is relatively minor, whereas that to the west is larger, better defined and appears to have a bank running across the base, perhaps the remains of a sluice. An exploratory trench (Trench A) was excavated across the north bank in 1988, exposing a substantial stone rubble bank, a stone lining and a clay puddled base (Moorhouse 1989, 6; WYAS 1990, 3; see figure 9). In contrast to the other three excavation trenches (see below), the position of Trench A is no longer visible on the ground and so it must have been backfilled and re-turfed after recording. A later 18th century view of the castle by Rooker shows a pond holding water; this might possibly represent pond '**C**', or alternatively a larger pond ('**D**') lying some distance to the south-west and also surviving as a prominent earthwork (see below).
- 4.9 The smaller pond ('**C**') is set to the south-west of and at a higher level than the larger pond ('**B**'), and it is possible that water ran from one into the other. Both of the outlets or breaches noted above have associated breaks of slope or shallow linear depressions running north towards the west end of the larger pond; Moorhouse (1989, 6) describes the latter as being fed by a spring, and so any water passing down from the smaller pond would have presumably supplemented this spring. The larger pond ('**B**') is on a similar east-west alignment to the smaller

pond. It is now bisected by the A61 road, but in its original form it was almost 65m long and has an internal width of 12.0m. As noted above, that part of the pond on the north-east side of the A61 was not able to be surveyed. However, the western part was recorded and its internal sides are steeply sloping and stand up to 1.5m high. The north side of the pond is defined by a prominent flat-topped bank, in places up to 3.0m wide, with some recent disturbance along its northern edge. In contrast, the south side is formed by two parallel north-facing scarps that diverge slightly towards their western ends. Moorhouse states that both narrow ends of this pond had been breached (Moorhouse 1989, 6), although it is also noted that *"a shallow sluice and by-pass channel to the north of the east-west path from the A61 was covered over before it was surveyed"*; this may be the same as the feature described in 1988 as a *"probable fishpond leaf"*, running *"north-east from the fishpond down the hill slope, surviving as a shallow but broad stretch of marsh"* (WYAS 1988, 4). It is possible that this feature is shown as a thicker black line defining the southern side of plot 384 on the c.1698-99 estate map (WYL250/3/3Map/33); if this were to be the case, then the north return at its east end might define the large pond ('B'). The portion of the pond lying to the west of the A61 is shown as still holding water in 1851 (figure 6).

- 4.10 The 2008 survey work identified the remains of a third pond ('D') some 200m to the south-west of pond B, again immediately adjacent to the estate/forestry track leading off from the A61. This pond is aligned more north-east/south-west, and in its existing form is 49.0m long with an internal width of 12.0m; however, it can be seen to extend to the west (beyond the survey area) as a disturbed earthwork in an area of modern coniferous plantation, and may it originally have approached the 65m length of pond 'B' described above. The remains of the pond lying within the survey area are effectively bisected by later linear disturbance (see 'P' below) and are much more sharply defined to the east of this disturbance. Here, the internal sides are steeply sloping and stand up to 1.5m in height, and there is a prominent flat-topped bank retaining the north and east sides of the pond. To the west of the later linear disturbance, the pond earthworks are rather spread, perhaps as a result of forestry works, and stand little over 0.5m in height. As noted above, it is possible that this pond is that shown holding water by Rooker in the late 18th century.
- 4.11 The larger pond ('B') was suggested in 1989 *"to form part of single period layout of terraced building platforms (d) set within larger terraced areas (e)"* (Moorhouse 1989, 6). In 1989, five sub-rectangular building platforms ('d' on figure 9) were recorded, two of similar size on the same almost east-west alignment as the adjacent pond, with three smaller platforms at the western end on a more north-south alignment. The former were investigated by two trial trenches (Trenches B and C), positioned across the northern edge of each platform. According to the 1989 account, these investigations confirmed that the platforms represented buildings with well-preserved narrow stone sill walls for timber superstructures, roofed with stone slates, and one with a flagged floor (Moorhouse 1989, 6). Pottery from these excavations, and from disturbed parts across a wider area, suggested activity during the 12th and 13th centuries, while the buildings themselves were not thought to have survived beyond the 17th century.
- 4.12 The 2001/2004 survey recorded two sub-rectangular platforms ('E1' and 'E2') approximating those investigated in 1988, with north-facing scarps standing up to 1.0m high and containing a high proportion of stone rubble. However, they appear far less regular than shown in 1989, and Trench C is placed slightly further south-east than previously shown; neither Trench B nor Trench C were backfilled following excavation, and they remain open although partly infilled by leaf debris.

Furthermore, there is what appears to be another excavation trench immediately to the north of Trench C, with an associated small spoil heap, but this does not appear in either the 1989 or 1990 accounts. Of the other three platforms recorded in 1989, one ('E3') can still be seen clearly, and there are faint earthworks adjacent approximating to the position of the other two (at 'E4').

- 4.13 A fourth trench (Trench D) was excavated in 1988 to the north-east of the other three. This was dug to investigate what was described as a large terraced area ('h' on figure 9) shown to extend either side of the A61 road. This terraced area was thought to be a later modification, as it was stated to cover parts of the ha-ha (Moorhouse 1989, 6) built before 1813 (Lynch 2004), and apparently shown on a map of c.1810 (WYL250/3/Map/50). The results from this trench were said to support this interpretation, as it "*contained a series of mostly sterile humic deposits*" (Moorhouse 1989, 6-7). The 2001/2004 survey accurately located Trench D, again left open and not backfilled after excavation. It is placed across the top of a low sub-rectangular platform ('E5') (not across the north scarp as shown in 1989), which measures 12.0m long by at least 7.0m wide and which appears to be overlain by one of the building platforms ('E2') to the immediate south-west.
- 4.14 There are therefore a number of problems with the interpretation for the precinct earthworks as offered in 1989. The surviving earthworks do not suggest that a large terraced area ('h') overlies the eastern end of the ha-ha and, given that they are shown to extend to either side of the A61 (a line established in 1796-1800), they must surely either pre-date the ha-ha or contain earthworks of several different phases. The latter is probably the most likely explanation; the platform ('E5') across which Trench D was excavated appears to have more in common with those ('E2' and 'E3') to the south-west, while to the north-west, there are shallow terraces and scarps running towards the larger pond ('B') which are similar to other terraced areas ('F') further south-west. These earthworks may be medieval, and were perhaps disturbed by the construction of the ha-ha and other features associated with the laying out of the castle pleasure grounds in the early 19th century.
- 4.15 The large terraced area ('e') noted in 1989 was badly affected by the subsequent coniferous plantation, with the numerous closely-spaced parallel lines of the tree 'ripping' still clearly visible. Nevertheless, the vast majority of the features recorded in 1989 can still be seen. The terraced area appears to be divided into two parts of approximately equal size ('F1' and 'F2'), each measuring c.30m long by c.25m wide, separated by a wide but shallow linear depression; the scarp defining their north-west sides is the most prominent, and stands up to 1.0m high (plate 18). The interior of the eastern part ('F1') is largely blank, and has the smaller pond ('C') positioned beyond the scarp at its north end. The western part ('F2') may be further sub-divided into two equal halves by an approximate east-west line, perhaps with a slightly raised feature at the northern corner. There is a narrower terrace to the north of the western part, again defined by a prominent scarp up to 1.5m in height. A narrow c.20m long and 4.0m wide sub-rectangular depression set on the edge of the scarp might be the remains of a building, although it was not noted in 1989. To the south-west of the terraced area lies a further enclosure ('F3'); as has already been noted, this was described in 1989 as being a later addition to the precinct ('g' on figure 9).
- 4.16 There are further terraces surviving to the north-east and south-west sides of the castle, and these are described below.

The Approach to the Castle

- 4.17 The 1988 survey recorded evidence for a number of communication routes of possible early date around the castle but, as with the precinct area, the information contained within the published accounts is sometimes contradictory.

Early routes?

- 4.18 In 1989, it was suggested that a trackway ('a' on figure 9) running through the north-western part of the survey area may have been a back or secondary entrance into the castle precinct, subsequently overlain by an enclosure ('g') forming an extension to the precinct, and abandoned as a result. Furthermore, this trackway was said to be the western end of *"a very early route from the river crossing at Harewood Bridge, running southwards up the valley side to the church, with an eastward arm running along the valley side"* (Moorhouse 1989, 7). Part of this route to the east, surviving as a holloway, was surveyed within the North Park area of the Harewood estate in 1985, when it was described as not only providing the main route across the Wharfe here but also acted as an access for the parishioners on the north side of the river who wished to use the parish church (Moorhouse 1985, 13).
- 4.19 The trackway ('G1') survives in the EDAS survey area as a north-south flattened linear strip some 5.0m wide, defined by a bank on the lower west side and the north scarp of terraced area 'F' on the east side; the latter appears to at least overlay the trackway. In 1989, the south end of the trackway was shown as being crossed by the linear bank and adjacent depression defining enclosure ('g'), but unfortunately this relationship has been destroyed by the subsequent coniferous plantation. However, the line of the trackway may become visible again further to the south, where it survives as a well-defined terraced feature ('G2') below and to the west of the later ha-ha ('Q'). This terrace emerges from the southern side of the plantation and its route is almost immediately disturbed by a sub-circular depression, c.1.2m deep and open to the lower north-west side ('M9'), a probable quarry (see below). Beyond the quarry, the terrace re-emerges as a flattened linear strip, aligned north-east/south-west, over 60.0m long and averaging 5.0m wide; the terrace is very slightly curvilinear in plan, rather than straight. It runs along the top of a steep and prominent north-west-facing scarp standing over 2.0m in height. At its west end, this scarp curves around to run west, becoming far less prominent but apparently forming one side of a poorly defined and shallowly marshy hollow. At its south-west end, the line of the terrace is again disturbed by another probable quarry ('M10'), but further south, beyond the EDAS survey area, it almost certainly continues, curving gently along the top of a wooded north-west facing scarp.
- 4.20 The overall line of the trackway ('G1' and 'G2') appears to be shown following this route on the 1851 Ordnance Survey 6" map through Castle Park (figure 6), where to the west of the 2008 survey area it is marked as 'Ladies Drive'. On the map to the north of Cockett's Quarry the trackway divides into three separate routes. One of these runs south to join the hollow way mentioned above, while the western routes were recorded as earthworks in 1985, although the north branch was erroneously described as part of the late 18th century Sandygate turnpike road (Moorhouse 1985, 13) which in fact lies further south. The alignment of the trackway shown in 1851 does not appear on the c.1810 plan, although part of the 'Ladies Drive' is shown on Teal's slightly earlier 1796 estate survey (WYL250/3/Sur/19). However, at this date, it curved around to the south-east to meet the Porter's Lodge, rather than continuing northwards past the castle. It is

similarly depicted on the c.1698-99 plan (WYL250/3/Map/33), although at this date it has a junction with the main route from Harewood village to the church, later utilised as part of the Sandygate turnpike road.

- 4.21 The trackway may also survive as a linear depression ('G3') running for a short distance to the north of the existing estate track leading off the A61, which clearly post-dates it, as does a narrow terrace on its north side. In 1851, this trackway runs to a break in the park wall and then continues to the north of the A61, curving to the north-west and then ending at a field boundary, although a field boundary beyond may continue its line close to the Holme Beck. There are further denuded earthworks in the area of coniferous plantation to the north-west of the existing estate track, some of which resemble very shallow terraces, and towards the north-west end of this area there may be some ridge and furrow, although the whole area has been so affected by forestry works that it is difficult to be certain.

A formal approach?

- 4.22 In the 1988 proposal document for the castle precinct survey, the sketch plan and accompanying text describe a terraced way, partly overlain by later quarrying spoil, with a possible forebuilding at the eastern end, suggested to probably form the original access to the castle (WYAS 1988, 5-6). Following the 1988 survey work, this hypothesis was more firmly re-stated (features 'k' and 'j' on figure 9), with the addition of a small structure ('l') at the western end of the terraced way, said to be *"in front of a bridge over a now filled-in ditch down the eastern side of the castle"* (Moorhouse 1989, 6). It was further stated that *"the castle complex as a whole was reached from the earlier, pre-A61 line to the barbican [which] has been destroyed; only its junction with Fitts Lane survives (m)"* (Moorhouse 1989, 6). As has been noted above, more recently Moorhouse (2009) has proposed that the precinct was of a somewhat more rectangular form than was previously suggested and that it did not extend as far north as shown in the 1988 sketch plan, with a large now divided pond ('B') to the north of the castle forming a canal that defined an entrance at the precinct's northern corner.
- 4.23 The EDAS 2002/2004 survey cast doubt on a number of these interpretations. The problems with defining the precinct area have already been outlined above. The interpretation of a possible forebuilding (at 'H' on figure 10) close to the curve of the present A61 is not convincing; the north side is formed by a small linear spoil heap containing a high proportion of stone rubble, tipped from south-west to north-east, with the base of much larger spoil heaps to the south (see below). The proposed terraced approach ('k') is formed by a c.6m wide break of slope, less steeply sloping than the more prominent north-west facing scarps above and below it but not markedly so; it is difficult to tell how much of this slope is the result of erosion, or how much of it is a natural as opposed to a man-made slope. This terrace way narrows towards its western end, where the small structure shown in 1989 is defined by a steep north-facing scarp, 1.0m high and containing a high proportion of stone rubble, some of which appears to be laid. This north-facing scarp runs at a slight angle across the proposed terraced way ('k') and is not directly aligned on the base of the castle's entrance tower. Interestingly, in 1912 Kitson makes reference to the *"remains of a platform outside"* the north-east (entrance) tower (Kitson 1913, 177), while an 1817 watercolour by Buckler appears to show just such a feature here (plate 10), although no terrace is indicated extending further to the east.
- 4.24 There are other features on the north-east side of the castle. Above the terraced approach ('k'), a further terrace ('i') was depicted in 1989 (figure 9), perhaps

contemporary with those to the west (see below). As with the terraced approach, a break of slope survives at this position, but it is less steeply sloping than the c.3m high north-facing scarp to its immediate south-east, and is much narrower than shown in 1989. At the west end of this scarp, the remains of a low stone wall (to the north-west of 'J') are visible butting the castle's south-east tower. The east face of the tower (elevation 8) retains evidence that a two-storey building with a pitched roof was once positioned here, possibly timber-framed and using the existing stone wall as a sill wall. This building was clearly a later addition to the castle, although it was demolished before the end of the 17th century as the scar of the former roof line is shown on the marginal illustration of the castle on the c.1698-99 plan and more prominently on the 1787 engraving (plate 6).

- 4.25 Below the north-facing scarp defining the northern side of the terraced approach, a sub-rectangular feature with exposed walling to the long sides is shown in 1989 ('p' on figure 9), although it is not referred to in the text. The north side of the feature ('K' on figure 10) survives as a 0.5m high north-west facing scarp, with some evidence for stone walling along the top, although none of the walling forming the south side is now visible; possibly this area has slumped. This feature might represent the remains of the 'very large barne' mentioned in the 1656 Bill of Sale (see Chapter 2 above), although the earthwork is not that extensive; previous studies infer that the barn may have been a structure shown to the north-east of the castle which appears on the 1699 estate map (WYAS 1990, 4).
- 4.26 The terraces to the south-west of the castle are better preserved than those to the north-east, although they were concealed by a dense modern plantation of yew at the time of the survey. Three terraces are depicted in 1989 ('i' on figure 9), with three un-described sub-square earthworks at their west end, and a platform ('v') at the east, described as resulting from the early 19th century creation of a large earthwork ('u') to the immediate south of the castle. Above (south of) the terraces, which were proposed as possible medieval gardens contemporary with the castle, an early 19th century terrace walk ('w') gave access to the castle and the large earthwork ('u') (Moorhouse 1989, 6).
- 4.27 The terraces ('L1', 'L2' and 'L3' on figure 10) stretch for some 45m to the south-west of the castle, running approximately parallel to the early 19th century ha-ha ('Q') (i.e. south-west/north-east), and are separated by steep north-west-facing scarps standing up to 1.5m in height and with stone rubble eroding out of them in places, implying perhaps that they were originally revetted. The surfaces of the lower and middle terraces ('L2' and 'L3') slope gently downwards from south to north, and only the upper terrace ('L1') now maintains a relatively even and flattened surface. The latter, and highest, terrace is continuous with the platform ('v') close to the castle, rather than being overlain by it as shown in 1989. The three sub-square earthworks shown in 1989 at the west end of the terraces are also now contained within the yew plantation. The largest is represented by a sub-circular depression ('M11'), some 3.0m deep on the south-east side and cut into the steep natural slope. It has a low bank curving around the north-western, downslope, side. A smaller U-shaped depression, also cut into the slope and open to the north-west, can be seen just to the south-west ('M12'), with a sub-rectangular feature to the east. The largest earthwork ('M11') is almost certainly a former quarry, and there are several other sub-oval quarries further to the west, cut into the natural slope both above and below the ha-ha ('Q') (see below).

Quarrying and Tipping Activity

- 4.28 The previous 1988 earthwork survey identified a substantial complex of quarries to the east of the castle ('r' on figure 9). These quarries were described as containing at least five distinct phases of working, each with its own access point, and at least one associated building. They were suggested as almost certainly having provided the stone for parts of Harewood House and its associated buildings, and to have become disused by the late 18th century, having therefore a relatively short lifespan (Moorhouse 1989, 7). However, Murphy's geological report notes that the Millstone Grit sandstone outcropping within the quarries is consistent with that used to build the castle, and that it contains widely spaced bedding planes that would have allowed stone blocks of the size used in the castle to have been sourced from here (Murphy 2005; contained in Dennison & Richardson 2008a, Appendix 4).
- 4.29 Described from south to north, the quarries are as follows. At the southern end, there is a flat-topped lobe-shaped spoil heap ('M1' on figure 10), some 25m long and standing up to 2.0m in height. This spoil has been tipped from south to north and it appears to be made up of soil rather than containing a high proportion of small stone rubble, as is the case elsewhere. There is a sub-circular depression at the north-east tip of the flattened top, possibly a tree-pull, one of several in this area (see below). In 1989, Moorhouse noted a sub-square structure ('t') to the south of this spoil heap, although at the time of the EDAS survey only a faint angular scarp was visible here ('N'). To the north-west, there is a c.30m long irregularly shaped depression with steeply sloping sides up to 3.0m in height and a slightly raised sub-rectangular mound in its base ('M2'). The west side of this quarry angles around to the north, and is continuous with the north side of the large earthwork ('U') noted to the south-east of the castle. The east side of this quarry appears to be surmounted by a small flat-topped spoil heap containing a high proportion of small pieces of angular stone rubble. This separates this quarry from another smaller area of quarrying ('M3') to the north-east, formed by a steep-sided sub-oval depression, c.15m long and up to 3m deep. A curvilinear depression leaves the north side of the quarry and then curves around to the north-west as a bank ('O'). In 1989, it was suggested that this bank was built to narrow the entrance to the largest area of quarrying ('M4') (Moorhouse 1989, 6).
- 4.30 The latter quarry ('M4') comprises a large steep-sided U-shaped depression, over 40m long and with a maximum depth of between 5m-6m (plate 19). The south side has several faces of outcropping freestone visible, but these retain no evidence of tooling marks or other working practices. The depression was formerly open to the north but, as has been noted above, the entrance may have been narrowed by the creation of a bank ('O'). In the resulting narrow gap, there is a heap of partly dressed stone, including pieces that are over 1.0m square. Moorhouse suggests that these were deliberately placed here to block and discourage illegal use of the quarries before the existing line of the A61 was created (Moorhouse 1989, 6). However, if the quarries were used to supply stone for Harewood House, then they must presumably have been in use some time in the period between 1759, when the foundation stone was laid, and 1771, when the house was finally ready for occupation. It seems more likely that any blocking would have been made after the A61 was realigned in 1796-1800, as access would then have been easier. The blocking would no longer have been needed once the adjacent estate wall was built; this must have been done after 1796, as Teal's survey of that date notes that the wall is to follow the line of the turnpike road.

- 4.31 The northernmost parts of the quarry complex ('M4') are formed by further impressive spoil heaps ('M5'). Of these, the southern tip appears to originate at a point very close to the south-east tower of the castle, and it then extends for over 35m to the north-east, splitting into two unevenly-sized flat-topped lobes which contain a high proportion of small pieces of angular stone rubble. These may overlie the much higher northern tip, which runs along the western side of the largest quarrying area ('M4') and also contains a high proportion of small pieces of angular stone rubble; it appears to partly obscure terraced earthworks ('I') and ('H') to the north-west.
- 4.32 The 2001/2004 EDAS survey also included further quarries ('M6') to the south-east of the castle, now on the edge of the A61 road, not surveyed in 1989. These lie c.90m south of the quarrying complex described above, and are represented by two separate sub-angular depressions, up to 30m long and 5m deep, with steeply sloping sides. The northern quarry has some outcropping freestone visible to the interior, and a low bank along the top of the north side, perhaps the remains of a wall or fence to prevent stock from falling into the depression. Both quarries are open to the east and were accessed from the direction of the A61, although this access was subsequently blocked by the establishment of the estate wall, probably after 1796.
- 4.33 Many late 18th and early 19th century illustrations of the castle show the quarries in the foreground to some extent, sometimes exaggerating their proximity to the castle and relative size for dramatic effect, contrasting the wildness of the castle setting with the Wharfe valley beyond (plates 5 and 9). However, of more interest is a path shown curving around through this area on the Ordnance Survey map of 1851, forming part of a circuit around the castle (figure 6). This suggests that the quarries were incorporated into the pleasure grounds laid out around the castle during the early 19th century (see below). The route of the path may have taken in part of the northernmost spoil heaps ('M5') and then appears to have curved around the base of the terracing to the north, passing close to a building platform ('K') and along the top of the ha-ha ('Q'). This raises the issues of post-abandonment landscaping of the quarries to include them in the pleasure grounds, and perhaps also gives some clue as to the location of the 'old stable', somewhere near the castle, which had been converted into a summer-house by 1813 (Lynch 2004; see below for further discussion).
- 4.34 The 2008 additional survey recorded further quarries to the south-west of those previously noted, on the other side of the castle. The most prominent ('M7') is sited on the immediate south side of the terraced way ('S' - see below) which runs to the castle. It is represented by a U-shaped depression, open to the north-west, 14.0m long and 10.0m wide, and with steeply sloping internal sides up to 2.0m high. The terraced way ('S') is noticeably wider to the immediate north-west of the quarry, and it may be that it partly utilised a spoil heap as part of its route, flattening it out. However, the terraced way may be wider here for other purposes, relating to the construction of the Castle Pleasure Grounds in the early 19th century (see below). Some 30m to the north-west and down the natural slope, there is a depression of similar form and dimensions ('M8'), slightly shallower at 1.50m deep and marshy in the base. It is almost certainly another quarry, and as noted above, there is a further smaller depression ('M9') in line with these other two on the other side of the ha-ha ('Q') at the north-east end of a terrace ('G2'). The alignment of these three features suggests that whatever was being quarried was outcropping down the line of the slope here. There are two other quarries ('M11' and 'M12') to the north-east, as previously noted above.

- 4.35 To the west of these features, there is another earthwork that is most probably a quarry ('M10'), lying at the opposite (i.e. south-west) end of terrace 'G2'. The main part of the earthwork is formed by an oval depression, 17.0m long, 9.5m wide and up to 1.0m deep. There is a smaller depression on the south side, and a small bank on the west side, with a narrow channel running downslope from it. This channel was presumably used to drain the main depression; a 'Well' is marked in this general location in 1851 (figure 6), although no trace of it was uncovered or seen during the survey work. The channel runs downslope from the main depression and eventually enters the western of a pair of north-west/south-east aligned linear depressions ('P1' and 'P2'). Both depressions are slightly curvilinear, averaging 7.0m wide and up to 1.0m deep, with spread and gently sloping sides. The western depression ('P1') appears to stop at the remains of a large pond ('D'), but a narrower channel continues across the pond, effectively bisecting it. The channel entering and leaving the linear depression is a relatively recent creation, and it is not certain how the main features originated. They may have been created by natural run-off, although this seems unlikely. An alternative explanation is that they are the remains of holloways; the eastern of the pair ('P2') follows a line of trees shown crossing the 'Castle Park' area in 1851. No boundary appears here on the c.1810 map or any of the earlier surveys.

The Castle Pleasure Grounds

- 4.36 The detailed history of what Goodchild has termed the 'Castle Pleasure Grounds' is covered in Chapter 2 above, and so only the information relevant to the earthwork survey is given here.
- 4.37 Although there appears to have been an acknowledgement of the importance of the castle as an element of the wider landscape of Harewood House from the early 1780s, and the Lascelles' family took walks by the castle in 1810, the creation of the pleasure grounds around the castle does not appear to have begun in earnest until after c.1811. These grounds were linked to the earlier Northern Pleasure Grounds. Reference is made to an 'old stable' converted to a summer-house in 1813, some of the Lascelles' children had 'gardens' at the castle in 1815, and in 1816 reference is made to the "*newly laid out ground inclosing the castle*". Ruins around the castle, noted at the beginning and end of the 18th century, were apparently cleared away after c.1819. Jewell, writing in 1819, noted that "*The castle was taken into the new pleasure grounds, in the year 1813, and soon after the castle garden, where the cross-walks were very plain to be seen, were planted, likewise the high bank that goes around it*" (Jewell 1819, 57). The creation of the pleasure grounds was almost certainly accompanied by minor alterations to the castle, including repairs.
- 4.38 Although overgrown and partially slumped, the ha-ha ('Q') still remains a prominent south-west/north-east aligned feature, effectively bisecting the 2001/2004 and 2008 earthwork survey areas (plate 20). It was apparently nearing completion in 1813, as in December of that year John Muschamp issued a bill for mason's work which included an entry for "*Fence Walling round the Pleasure Ground*". This detailed "*184 yds 34ft of dry sunk fence walling round the new pleasure ground taking in the Castle - £41 10s 5d*" (WYL250/3/495). The length given (c.168m) is just more than half the c.300m length of ha-ha surviving within the total survey area. The bill includes a number of subsequent entries which might also relate to the ha-ha, namely "*Walling up a large place between the Castle and the Well which fell in consequence of a spring - 5s 3d*", "*Lowering the wall by order of Lord Lascelles including the time in walling the same - £1 13s 6d*" and "*Lowering the wall a second time - 3s 6d*" (WYL250/3/495).

- 4.39 On the 1851 Ordnance Survey map (figure 6), a 'Pigeon Well' is apparently marked on the line of the ha-ha between the castle and the 'Castle Well' (see below) to the south-west; might this represent the position of the spring that caused the wall to fall? The order in which items are listed in the bill might also suggest that work was preceding in a south-westerly direction from the castle towards the 'Castle Well', in which case the 168m of ha-ha billed for may be that which occurs within the 2008 survey area, but this is not certain.
- 4.40 The ha-ha follows a relatively straight south-west/north-east alignment from the castle for a length of over 150m, angling more to the south at the south-west end of this section. It then incorporates a very slight outward bulge in its course before resuming a more general south-westerly course. There is a break in the ha-ha at the Castle Well before it resumes its course beyond the survey area. Throughout the whole of the survey area, the ha-ha is of similar construction, comprising a revetment wall built of the same Millstone Grit sandstone used in the castle and standing up to 1.4m in height, although it is badly collapsed in many places. It is set on the south side of a boggy 3.0m wide ditch, which has a spread bank of a similar width running parallel to it to the north. This bank has been disturbed by trees in a number of places, but in the better-preserved sections the earthwork stands up to 0.5m high and has a broad curving top. It is noticeable that the ha-ha and the terraces to either side of the castle described above ('I' and 'L') i.e. those features within the limit of the pleasure grounds, are on a similar alignment, whereas those features to the north (outside the pleasure grounds) are set at a slight angle to it.
- 4.41 As has already been noted, the depiction of footpaths on the 1851 Ordnance Survey map suggests that parts of the quarry complex ('M5') to the east of the castle were incorporated into the pleasure grounds, and that they pass close to a building platform ('H'), which might be a possible location for the old stable 'on Castle Hill' which was converted into a summer house in 1813. In relation to this building (wherever it was), John Muschamp's bill reads as follows: "*The Old Stable converted into a Summer House on Castle Hill. Breaking out two doorways, making the large opening in front, walling up a doorway, beam filling the whole and pointing the slate, taking down and rebuilding the wall corner, fixing the curb etc - £2 4s 6d*" (WYL250/3/495).
- 4.42 The old stable was evidently still a standing building in 1813, although its exact location remains unclear. Given the local topography at 'H', an alternative and perhaps more suitable location to that given above may be in the southern corner of the survey area, where there is a sub-rectangular slightly raised platform ('R'), c.20m long by 10m wide and defined by spread scarps up to 1.0m high. The north-west-facing scarp incorporates a c.11m long section of ruined stone wall along its top edge. This wall is divided into two distinct sections. The southern section is 3.0m long, stands a maximum of 0.9m high and is slightly curvilinear in plan, returning 1.4m to the east at its north end; it is built of roughly coursed and squared sandstone rubble. The northern section is of similar length but lower, and is built from slightly smaller and more thinly coursed pieces of stone. On the platform itself, there is a moss-covered oval mound of rubble some 0.5m high towards the centre, while to the northern end there are two smaller rectangular depressions, each 6.0m long by 2.5m wide, possibly former structures.
- 4.43 Although perhaps not strictly part of the pleasure grounds, the Castle Well is considered here as works appear to have been carried out on it during the same period as the old stable. The 'well' structure is formed by a broad segmental arch with well-cut voussoirs, 1.22m wide, covering a recess of the same width and

running approximately the same distance back from the wall face. The arch stands only 0.76m high in the centre, due to an accumulation of leaf litter and soil, but it must still conceal a source of running water, as the ground to the immediate front is very boggy, suggesting a spring rather than a well. The side walls of the recess and the vault of the arch appear to butt the recess's rear wall. The arch itself, and the c.1.50m of wall face above it, are built of coursed squared Millstone Grit sandstones. However, above this, the remainder of the wall is of a slightly different stone, and appears to be contemporary with the walls flanking the footpath to the south and also the ha-ha wall to the west beyond the survey area. To the west, the top of the earlier wall phase can be seen sloping downwards for c.3m from east to west, overlain by the ha-ha wall.

- 4.44 As described above, the 'Castle Well' is marked on the Ordnance Survey 1851 map. However, the c.1810 map shows a similar arrangement of walls in plan, indicating that at least some of those surrounding the well had already been built by this date. Unfortunately, Teal's 1796 map does not show this area, and the 1698-99 survey has a strip missing at this point. Several entries in John Muschamp's 1813 bill might relate to the well: "*Altering the wall near the well by Mr Webb's orders – 4s 6d*" and "*Taking off the coping and preparing scaffolding to raise wall round the well – 2s 6d*" (WYL250/3/495). The latter entry may explain the two distinct phases that are visible in the walls around the well; the lower phase (including the arch) built before c.1810 but the upper part being done in 1813 as part of the alterations carried out to this area of Harewood House's grounds.
- 4.45 After the creation of the pleasure grounds, the main access to the castle was along a terraced track ('S'), which runs along the summit of the steep slope to the north-west. This track formed part of a much longer distance route, which had its origins in the creation of the Northern Pleasure Grounds of Harewood House. Work on these grounds began in the 1760s, although they remained incomplete at the end of this decade, and works resumed again in 1773-74. The grounds may have been extended along the south side of the Otley and Tadcaster turnpike road in 1782, linking the church to a newly created entrance, but Teal's plan of 1796 shows no paths or tracks shown leading from the extension in the direction of the castle (Goodchild 1994, 5-6). It therefore appears that in c.1800 the northern limit of the Northern Pleasure Grounds was marked by the line of the Otley and Tadcaster turnpike as it is shown by Teal in 1796. However, by c.1810, it appears that the ha-ha ('Q') was already either in place or laid out and, as the Lascelles family took walks by the castle at that date, there must have been a path linking the Northern Pleasure Grounds to the castle. The creation of the Castle Pleasure Grounds between c.1813-1816 may have included the formalisation or augmentation of any pre-existing route, for example, in the form of the planting utilised (see below).
- 4.46 In 1851, the terraced trackway appears to be shown as one of a number of tracks diverging from the point where the great Rock Arch tunnel passes beneath the line of the former turnpike road (figure 6). Like the work outlined above, this was also billed for in 1813 by John Muschamp under the heading "*The great Rustic arch under the Pleasure Ground near Quarry Hill*" (WYL250/3/495), and a small undated pen sketch survives which may be a design for one of the two ends (WYL250 Building Plans Box 1). From this point, the trackway ran north and then north-east through a belt of woodland. It entered the 2008 survey area by crossing over a sunken footpath tunnelled beneath it leading from Bondgate to the south-east. The footpath may have been enclosed by c.1810 but it could have originated at a much earlier date, as a lane is shown leading to this location on the 1698-99

map. The tunnel over which the trackway crossed the enclosed footpath still survives, as do the impressively high walls flanking it.

- 4.47 Where it enters the southern corner of the survey area, the trackway ('S') is 3.0m wide and runs along the top of a steep north-west-facing scarp over 2.0m in height. In 1851, shortly after crossing the sunken footpath, the trackway split into two branches; at this point today, the terraced trackway is crossed by a rutted vehicle track. The vehicle track itself can be traced for some distance to the east and north-east, and c.60m to the north-east, it crosses what appear to be the remains of a narrow stone structure, 6.0m long and 1.5m wide, and open to the north-west ('T'). Despite disturbance by the vehicle rutting, the eastern branch shown in 1851 can still be traced as a very faint earthwork.
- 4.48 Beyond the vehicle rutting, the main terraced trackway ('S') continues north-eastwards, until it reaches a disused quarry ('M7'). Opposite the quarry entrance, the trackway widens to over 8.0m; in 1851, a second lower branch is shown leaving the terraced trackway at this point, running down the slope and then parallel to the ha-ha to the north of the castle. This lower branch is no longer clearly visible, although there may be traces of it amongst the terraces to the south-west of the castle. The widening of the track here may also have served another purpose. If visitors had entered the Castle Pleasure Grounds by horse or in a trap, then the quarry could have provided a spot to dismount and make the final approach to the castle by foot, or to turn the traps around to await returning visitors. Shortly before the quarry is reached, the terraced trackway is lined with pairs of tall holly bushes, and these continue beyond the quarry (plate 21). These bushes are now unkempt and vaguely triangular in shape, but it is obvious that they were deliberate planted to line the trackway and the approach to the castle. Although they are perhaps unlikely to form part of an early 19th century scheme, they support Lynch's argument that the castle was somehow concealed by planting as it was approached in the 19th century, only to be fully revealed when it was nearly reached (Lynch 2004). In this regard, it is also interesting to note the remains of a belt of mature sweet chestnut trees, present as both surviving trees and large stumps. These chestnuts are most numerous to the south-west of the castle and are concentrated on the sloping bank between the ha-ha and the immediate east of the terraced trackway; none are found to the east or west of these areas. Moving northwards, they fade out at the approximate point where the terraces to the west of the castle begin, but there are also a limited number of specimens to the immediate east of the castle.
- 4.49 The terraced trackway ('S') continues north-eastwards beyond the quarry ('M7'), maintaining a 2m-3m width and with steep north-west-facing scarps above and below. It leads directly to a doorway opening in the west wall of the castle's lower hall, created from an earlier window (W60 in elevation 16). While this doorway would have been utilised by early 19th century visitors to the castle, the opening had been created sometime before, as it was referred to as 'the present entrance' as early as 1782 (see Chapter 2 above). A branch from the terraced trackway appears to run up a short slope towards the large earthwork ('U') to the south-east of the castle.
- 4.50 The earlier 1989 survey included the large earthwork ('u' on figure 9) to the immediate south-east of the castle as part of the early 19th century pleasure ground works. It was described as a large terraced area, symmetrical with the castle, banked on the west and south and set with uniformly spaced oak trees, most of which survived only as tree holes. It was further noted that the northern part was built up using a core of large blocks of stone, that the earthwork's

construction may have disturbed medieval features, and that it was traditionally described as the 'Bowling Green' (Moorhouse 1989, 6). However, the earthwork, at least in part, pre-dates the creation of the early 19th century pleasure grounds, being described by the antiquary Richard Gough in the late 18th century as a "*triple square entrenchment on the hill sloping down to the river. The innermost vallum on the south and west side is entire and high*" (quoted in Parsons 1834, 257); in 1912, Kitson suggested that it was probably an Elizabethan addition, and described it as a 'bowling green' (Kitson 1913, 179). The earthwork is curiously depicted on the Ordnance Survey 1851 map, apparently as a fenced or paled area (figure 6).

- 4.51 The actual earthwork ('U') is c.55m square in plan, defined by well constructed banks on the south-east and south-west sides, standing up to 2.0m in height (plate 22). The south-west bank is somewhat wider and flat-topped, while the south-east bank has been breached towards the centre, and possibly further disturbed at the eastern end. The north-west side is defined by a steep north-west-facing scarp over 2.5m high, with the remains of a flight of stone steps set in the centre, although none of the large blocks noted here in 1989 could be seen. This scarp turns through 90 degrees at its north-east end and runs south-east into the area of quarry workings ('M2'). Although now planted with trees, the interior of the earthwork appears largely flat and featureless (plate 22), although there may be a very slight narrow platform running the length of the north-east side, with some possible wall sections eroding out of its south-east end. At the south-east end of this possible platform, there may be an original entrance into the interior, with perhaps also a later entrance at the opposite south-west corner, linked to the terraced trackway ('S').
- 4.52 There are a number of faint earthworks to the south-west of the feature described above, almost all formed by shallow north-west-facing scarps, following the same general alignment as the terraces to either side of the castle. They might possibly also be the remains of much denuded terracing, but they could equally result from woodland management practices; in at least one case, several felled trees have decayed, become overgrown and begun to resemble a linear scarp. To the east of the main earthwork ('U'), there appears to be a curving line of tree-pulls and surviving trees, commencing at the southernmost quarry spoil heap ('M1') and then running around to the south. It is possible that these may form a remnant of the early 19th century works, perhaps designed to screen the pleasure grounds from the line of the turnpike road.

Earthwork Interpretation

- 4.53 It is probable that the earthworks recorded by Moorhouse in 1989 and latterly as part of the two-phase EDAS survey do include features that pre-date the mid/late 14th century castle. The 12th and 13th century pottery recovered from the excavated trenches to the north of the castle may indicate activity, and perhaps settlement, in the area at this date, although the trenches were limited in scale. Any buildings in this area may have been associated with Isabell de Fortebus' late 13th century manorial complex, although again the exact location of this complex within Harewood township remains uncertain. However, it is also likely that the mid/late 14th century castle was surrounded by contemporary buildings within some kind of precinct, ward or enclosure, and indeed traces of these appear to have survived into the early 19th century. It is likely that only large-scale excavation of the area surrounding the castle would begin to resolve the relationship of the castle to any pre-existing manorial complex.

- 4.54 The boundaries of the precinct are now difficult to establish with any certainty, although a number of suggestions can be made. Even allowing for the damage caused by the modern plantations, the fact that the earthworks to the north-west of the modern estate track running south-west from the A61 are much less prominent perhaps indicates that the precinct did not extend much further than this. The eastern and western limits may have been those proposed by Moorhouse in 1989; the eastern boundary (i.e. 'c' on figure 9) seems the most plausible, given the natural topography here and the presence of the park, but the western boundary is less well defined. The large pond ('D' on figure 10) lying adjacent to the modern estate track at the western limit of the survey area might indicate contemporary medieval activity extending this far to the west, although it is acknowledged that this could have taken place outside the precinct.
- 4.55 It is important that further attempts are made to more closely define the limits of the precinct, as the size of the precinct is an important factor when considering the function of the other earthworks around the castle. For example, if much of what surrounds the castle is considered to be the remains of an ornamental landscape, then what proportion of the precinct was given over to this, and how did this compare to other contemporary castles? It is also likely that there was some sub-division within the precinct, perhaps inner and outer courts or yards, demarcating what Creighton refers to as the classical tripartite seigneurial structure of domestic, agricultural and horticultural zones (Creighton 2009, 53). Such arrangements could cover very substantial areas, for example at Sheriff Hutton Castle in North Yorkshire, but even considerably smaller residences than Harewood such as Ayton and Harlsey castles (both North Yorkshire) had precincts measuring 120m by 110m and 220m by 180m respectively, both with evidence for sub-division (Dennison & Richardson 2008b; Matthews & Richardson 2007). At c.140m square, the sketched boundary of the precinct given in 1989 appears somewhat small in comparison, perhaps strengthening the case for attached yards or courts whose form is presently uncertain.
- 4.56 Creighton further observes that castle gardens were in a sense transformative, mediating domestic spaces between the household and the natural world beyond, and cites examples of 15th century Flemish paintings where gardens appear between the windows of an apartment and the natural landscape beyond (Creighton 2009, 47-48). Although Moorhouse's suggestion that the castle's gardens may have been located in the plantation to the north-west of the main estate track has yet to be proven, Creighton's observations may still be relevant to the ponds, and in turn to the form of the precinct. As has been already noted, canal-like water features have been recorded at several other Yorkshire castles where they almost always occur at points of change, for example, between the enclosed manorial or castle complex and the surrounding landscape, or between the castle precinct and an adjacent park. If the two large ponds 'B' and 'D' were taken to define the north side of the precinct, then they might be interpreted as forming the interface between the precinct and the small park to the north of the castle, rather like that constructed at Sheriff Hutton in the early 16th century (Roberts & Richardson 2005; Richardson & Dennison 2007), but on a much smaller scale. The double canals at Sheriff Hutton also served to create an uninterrupted view from castle to park and vice versa, formalising a visual relationship which had probably been present since the castle was built in the late 14th century. One might speculate that the ponds at Harewood, particularly the eastern pond ('B'), served a similar purpose, and that it was important at these points to have an uninterrupted view into the park, although this would imply that the area to the immediate south was largely ornamental.

- 4.57 The question of looking or viewing into the park from the precinct is an interesting one, and has wider implications for the interpretation of the earthworks surrounding the castle and the castle itself. Following the survey work of the late 1980s, it was suggested that some of the platforms and terraced areas ('d' and 'e' on figure 9) to the north-west of the castle formed the remains of contemporary buildings and, given that the main vista from the castle was in this general direction, it was perhaps surprising that these more functional elements of the precinct were not placed to the south (Moorhouse 1989, 7; WYAS 1988, 6). The whole question of viewing from castles and other medieval residences, and indeed of the contemporary designed landscapes that are now recognised to surround them, has undergone much development since the late 1980s. The consideration of contemporary 'designed' or 'ornamental' landscapes around late medieval castles is now a well-established aspect of their study, albeit one not without important dissenting voices (for example Platt 2007a & 2007b); the most comprehensive overview of work undertaken to date is given by Creighton (2009). However, the way in which the man-made and natural features of a landscape may have been viewed from a building such as Harewood Castle can only be properly considered through detailed recording of both the landscape and the building from which it was to be seen, and the former still remain under-represented in published accounts.
- 4.58 A detailed consideration of how the medieval viewer at Harewood looked out, what they looked at and why they looked at it has been produced elsewhere (Richardson 2010), and so only a brief summary of the material considered therein is given below. The form and setting of Harewood Castle are such that one might almost imagine that it been created for a single purpose only: to provide those living within with a view. Deliberately positioned on an elevated steep slope overlooking the lower reaches of the Wharfe valley, it would not be unfair to say that the castle incorporates a more exaggerated vertical emphasis than exists in other contemporary Yorkshire castles and residences of this scale. Indeed, the whole upper area of the castle gives the impression of the raked seating of a cinema balcony, looking outwards over the land to the north, east and west. However, a detailed study of the surviving structure, combined with art-historical and literal evidence, argues for a less straightforward concept of viewing.
- 4.59 As it survives today, Harewood Castle preserves a total of 87 windows of varying form, ranging from the tiny slits lighting garderobes, barely 0.10m wide externally, to the elaborately traceried or large mullioned and transomed examples within the chapel and the halls (see Chapter 5 below). The slope siting of castle, its stepped form and the ordering of the main structural elements gave many of the internal spaces, particularly in the high south-east and south-west angle towers, the possibility of windows with unimpeded views to the north, east or west. However, the majority of the actual windows themselves are so narrow externally that the occupant of the chamber would literally need to jam his or her head into the splay to see anything at all. It is therefore not surprising that, in terms of views, mid 19th century and subsequent attention has been focused on the large windows of the chamber forming the uppermost floor of the castle's lower block, and to a lesser extent the complex system of wall-walks which surmounts the castle.
- 4.60 The 2004-05 conservation works have allowed these upper windows and particularly the wall-walks to be studied in much greater detail than was previously possible, and it is therefore now appropriate to begin to explore late medieval perceptions of space and how it was experienced at Harewood (Richardson 2010). The structural form of the windows, particularly the form of the barring and the window seats, contrasts markedly with that most often shown in late medieval illustrative material, and a detailed consideration of the wall-walks as experienced

by a pedestrian demonstrates that the upper part of the castle was not quite as open as it first appears. Nevertheless, there were apparently extensive, indeed panoramic, views from the wall-walks on the uppermost south part of the building, and from these one could overlook a wide range of features, including parts of the immediate landscape now represented by earthworks, the earlier manorial centre of Rougemont Castle and Great Almscliff Crag, to name but three. All, some or none of these may have been the object of the late medieval view at Harewood, and why a viewer may have chosen to look at them remains the most difficult to answer, yet most pertinent, question of all.

- 4.61 To return to the survey work of the late 1980s, it may not have mattered that parts of the castle precinct were visible from the chamber in the north block; McNeill (2006) has argued for a passive use of the landscape in the view, with the lord looking out on to parks, fields, rural and urban peasant settlements. Warnke makes a similar point regarding the calendar scenes in the *Trés Riches Heures* of Jean, Duke of Berry, noting that the tracks quarter the land into neat rectangles, with workers faithfully going about their tasks in a strictly prescribed framework (Warnke 1994, 9).
- 4.62 It should also be stressed that it may be possible to overestimate the importance of the view from the castle in its original design, and proper consideration should also be given to the castle as an object to be viewed itself. The slope setting and massing of Harewood Castle within a surrounding precinct might be seen as an example of the continued fashion throughout the late medieval period and into the 17th century of the use of a tower within a courtyard arrangement as a symbol of royal or baronial power. Dixon and Lott note several examples of tower houses in the Midlands and the north of England where the importance of the tower is the “*signalling out of the lord’s apartments above the roofs of an adjacent range of buildings*” (Dixon & Lott 1993, 95). Such an arrangement has been potentially recognised at other Yorkshire castles, such as Ayton Castle near Scarborough in North Yorkshire (Dennison & Richardson 2008b), and this would also seem to be eminently applicable to Harewood, especially if the external elevations were rendered, as the c.1698-99 marginal illustration of the castle seems to suggest.
- 4.63 Given the importance apparently attached to the landscape setting of the castle, it is highly likely that it would have had an original approach which was both formalised and perhaps deliberately contrived to display the building in its wider setting. The only original entrance to the castle was through the north-east tower, perhaps making an approach from this direction the most likely, although the route proposed in 1989 is not convincing for several reasons. Equally, it is not clear how the terraced way (‘k’ on figure 9) was to be reached from the junction with Fitts Lane (‘m’ on figure 9). The proposed forebuilding (at ‘j’ on figure 9; ‘H’ on figure 10) appears to comprise quarrying activity rather than a structure, and there is also a c.3.5m drop to its immediate east; even allowing for the cutting and terracing resulting from the construction of the turnpike road in 1796-1800, and considering the level of the natural ground to the east of the road, it is difficult to see how such a forebuilding would have been accessed. The terraced way itself (‘l’ on figure 10) does not slope as much as the adjacent terraces, but it is not level by any means and, although it is possible that some slumping and soil creep may have occurred since the 1989 survey, it is difficult to see this route as the main access to the castle. The structure at the west end of the presumed terraced way is more likely to have been a contemporary building or platform, and it does seem possible that a bridge led across to the north-east tower from here, although there is now only a faint indication of the ditch suggested in 1989 to have once existed here (‘J’). In addition, the fact that the possible back entrance (‘G’) to the precinct appears to

have remained in use as a trackway into the mid 19th century also calls into question the relationship of some of the earthworks in this area. Whether one considers them to be actual defensive features or merely the trappings of such, the concentration of military features at the north-east corner of the building (such as the portcullis, the arrow-loop like openings in the north face of the north-east tower, the massive battered north wall of the lower block with only small openings at a lower level) might indicate an approach from the north rather than the east along the terraced way ('I'). By comparing Harewood to other late medieval residences, one might also have expected a more convoluted approach than directly along the terrace.

- 4.64 An approach along the terraced way ('I') also pre-supposes that the terraces here are late medieval in origin. In 1989, it was suggested that the terraces to either side of the castle were possibly the remains of contemporary gardens, and were suggestive of a planned layout. The latter is certainly true, especially when one also considers the large earthwork ('U') to the south-east of the castle; taken together, the three elements form a T-shaped arrangement with the castle at the centre. The large earthwork is known to pre-date the late 18th century, and the description given by Gough in 1789, with its 'triple entrenchment' (Gough 1789, vol 3, 7 quoted in Parsons 1834, 257) is suggestive of some kind of moated enclosure. It is also interesting to note that the earthwork is open to the north-west and north-east sides, a recommendation made for pleasure gardens as early as the late 13th century due to belief in the health and purity of winds from these directions, and one which persisted into the late medieval and early post-medieval periods (Baumann 2002; Rawcliffe 2008). The 1787 engraving of the castle, although partly stylised, appears to show the terracing to the west of the castle (plate 7), while the c.1698-99 marginal illustration might arguably depict the terraced way ('I') (plate 4).
- 4.65 There is therefore reasonable evidence to suggest that the terraces and the large earthworks around the north-east, south-west and south-east sides of the castle do not form part of the early 19th century landscaping works, but it remains far from certain whether they are contemporary with the castle (i.e. mid/late 14th century) or are slightly later in date. Shallowly terraced gardens are known to exist at some late medieval castles in Yorkshire, such as at Ravensworth in North Yorkshire (Richardson & Dennison, *in prep.*), and it has been argued that a terraced garden was created at Bassingbourne in Cambridgeshire by John Tiptoft, Earl of Worcester, between 1461-70, perhaps as a result of him having seen new gardens of the Renaissance in Italy during the 1450s (Oosthuizen & Taylor 2000). However, it is difficult to find a late medieval landscape that displays such a symmetrical arrangement as at Harewood, and the arrangement and form of the earthworks here appears to more closely resemble a late 16th or early 17th century layout (for example, see Henderson 2005, 111), although this would seem to contradict the known history of the ownership during this period (see Chapter 2 above), particularly James Ryther's apparent impoverishment in 1595 and the sale of the castle to clear family debts in 1600.
- 4.66 If these earthworks around the castle are 16th or 17th century in date, this would have major implications not only for the building itself, but also for the creation of the Castle Pleasure Grounds in the early 19th century, as they would have been incorporating or modifying an earlier scheme, rather than creating a new one. It has already been noted above that the ha-ha ('Q') runs parallel to the terraces within the survey area, while the description of the castle garden given by Jewell in 1819 might easily be applied to the large earthwork ('U') to the south. Indeed, one wonders if 'the triple entrenchment' noted here by Gough in 1789 was remodelled

and done away within the early 19th century, leaving only the banks to the south and west from an earlier garden scheme.

- 4.67 The relationship between the Castle Pleasure Grounds and the major quarrying complex to the east of the castle ('M1' to 'M5') also needs further consideration, for a number of reasons. It is possible that, rather than supplying stone solely for Harewood House, these quarries may have been used in part for the construction of the castle, and also the later ha-ha and perhaps the estate wall in this area. The spoil tips ('M5') at the north end of the complex may be made up from dressing waste and, given that they appear to originate close to the castle, could be a result of repairs undertaken when the pleasure grounds were created. In addition, it is possible that the flat-topped spoil heap ('M1'), which appears to be predominantly of soil rather than stone, may have been a viewing area, looking out to the north and north-east, at the end of a line of trees. Finally, it is not impossible that some of the quarries supplied stone for the creation of the metalled surface of the turnpike road itself at the end of the 18th century.

5 ARCHITECTURAL SURVEY AND DESCRIPTION

Introduction

- 5.1 The castle is described below, beginning with an account of its location and plan form, and its structure and materials, then proceeding to the external elevations and the interior circulation. The description refers to the various plans, the external and internal elevations (with their interpretation drawings), and the scale drawings of architectural details; figure 11 provides a key to the elevation drawings while figure 12 provides a key to the various plan levels. The black and white photographs taken as part of the recording project are referenced throughout the following text in *italics*, the number before the stroke representing the film number and the number after indicating the frame [e.g. 5/032].
- 5.2 In the text and on the figures, certain features have been allocated unique numbers to allow for ease of description and cross-referencing, e.g. D1 or W14. The letter refers to the type of feature (D = doorway; G = garderobe; F = fireplace; S = chute, spout or drain; W = window), while the numbers follow on from those allocated during the 2001 survey work. As part of the 2001 work, the spouts/drains were numbered up to S25, the windows to W85, the doorways to D32 and the fireplaces to F10; no garderobes were numbered in 2001. Following the 2004-05 works, spouts S26 to S34 were added, as were windows W86 to W87, doorways D33 to D63 and fireplaces F11 to F18; the cruciform arrow loops in the turrets over the south-west and south-east towers were not given window numbers as these were considered to be more decorative features rather than viewing points. In addition, the garderobes were numbered from G1 to G10. As with the 2001 survey work, it should be noted that the feature numbers allocated in 2004-05 do not correspond with those used in earlier surveys of the castle (e.g. Latham 1989; Hume 1994); Appendix 3 provides a concordance between the features recorded by these earlier surveys and the 2001 work, as well as a list of all the numbered features and their locations.
- 5.3 As has already been noted, for ease of description, the castle has been divided up into a number of different areas; these are the four towers, the middle block containing the lower and upper halls, and the north block containing the service areas and domestic offices on the lower floors and chambers to the upper levels. Although both Emery (1996, 342) and Brears (2008, 48 & 439-445) characterise the upper hall, along with the other major first floor spaces, as a private or chamber suite, the term 'upper hall' has been retained in the following text for ease of description. Likewise, the term 'chamber' has been used for brevity to denote an individual space or room although, as Brears notes, by the late 14th century the term was more frequently used to denote a suite of rooms, rather than a single space (Brears 2008, 439-441). The likely organisation and functioning of the spaces within the castle, and their organisation (or not) into suites of rooms, is discussed more fully in the Discussion and Conclusions (Chapter 6) below.
- 5.4 Each discrete room or space within each area of the castle has been assigned a unique reference code (highlighted in bold in the text below), based on its location and height relative to that location. For example, the lowest chamber in the south-west tower has the code **SWT1**, the second chamber **SWT2** and so on, until the uppermost level of the turret (**SWT7**) is reached. Each room or space is described in detail on an individual pro forma record sheet, reproduced as Appendix 1 of this report, which also contains numbers and dimensions of the doors, windows, fireplaces etc as well as details of masons' marks and the black and white photographic record - the dimensions for the doors are given as widths and

heights, those for the fireplaces are given as widths, heights and depths, while for the windows the dimensions of the width and height of the external lights, and the width, height and depth of the internal openings and any rectangular recesses have been measured. The architectural descriptions given below are based on the information contained within these sheets.

- 5.5 Finally, as has already been noted, the castle is aligned north-west to south-east but, for the purposes of this description, it will be considered to have its long axis aligned north-south.

Location and Plan Form

- 5.6 Harewood Castle is built into a considerable north-facing slope on the south side of the glaciated valley of Wharfedale; from the south to the north, the slope drops over 8.5m in height along the length of the castle alone (figure 1). The decision to terrace the castle into the slope was a deliberate one, as there is flatter land to the immediate south that might have accommodated the structure, while to the north the ground again slopes far more gently downwards towards the early 19th century ha-ha. The precise choice of site was probably determined by several factors. Firstly, the bedrock beneath the castle is the medium to coarse sandstone of the Lower Folifoot Ridge Grit, a sandstone (gritstone) unit in the Millstone Grit Series of the late Carboniferous period - the wider area is prone to rotational slope failures and geological faulting, and so by placing the castle on a stable outcrop of gritstone, not only could building stone be easily sourced but there were wide-ranging views to the east, west and north (Murphy 2005). Secondly, the south side of the Wharfe valley on which the castle sits consists of a series of steep gritstone escarpments, compared to the north side which comprises a much more gentle slope. Thirdly, the steeply sloping topography meant that the castle could have a stepped structure falling from south to north in line with the natural slope, thus giving the opportunity for a greater complexity of wall-walks to the upper parts of the structure than would have been possible on a flat site.
- 5.7 At ground level, the castle has maximum overall dimensions of 31.90m in length (north-south) by 19.60m in width (east-west) (figure 21) and, despite the loss of the internal floors and some elements of its uppermost parts, it remains remarkably complete. Reduced to its most basic form, the castle comprises a middle block accommodating a lower and upper hall, with a tower to each corner and a further block to the north of the middle block, housing services on its lower floors. The two southern towers are surmounted by square turrets, although that to the south-east tower fell in 1962. The main, and only, original entrance into the castle was through a gateway in the north-east or entrance tower, and two newel stairs served nearly all the floors internally.
- 5.8 At ground level, the walls of the middle (hall) block are up to 2.20m thick, while those of the towers and north block are slightly narrower at between 1.70m to 1.90m wide. However, these overall widths are deceptive as the presence of mural passages, stairs, flues and garderobe chutes means that, in some areas, the actual width of the external wall face can be as little as 0.30m. Most external elevations are broken by one or more chamfered offsets, and the lower block rises from a more substantial chamfered plinth; below the plinth, the walls of the lower block (equating to the internal basement level) have a battered profile to stabilise the structure against the sloping ground.

Structure and Materials

Structure

- 5.9 Use was made of the falling ground on which the castle is sited to create multiple levels internally, although these are not necessarily set at the same height throughout the building (figures 12, 37 and 38). As a result, the central (hall) block is of two storeys, the lower northern block has four storeys, and the southern towers are of five storeys, rising well above the central block; externally, the tallest surviving wall (the north side of the north-west tower) stands to a height of over 25m. The overall effect was to provide a stepped structure, falling from south to north in line with the natural topography (plates 2 and 23). The upper hall of the central block had a steeply pitched roof over, with the ridge running north-south; the roof over the north block was slightly less steeply pitched, and had a ridge running east-west. The exact form of the much smaller tower roofs is uncertain, although surviving structural evidence suggests that they too were pitched, with trusses supported on projecting corbels. It is assumed that the roofs were at least partly leaded, although there is a late 16th century reference to slates from Guiseley quarries being used at the castle.
- 5.10 The height of the internal spaces varies throughout the structure. In the north block, they increase in height from the lowest to the uppermost levels; the basement spaces are c.3.0m high, whereas the uppermost chamber (**NB4**) occupying the third floor once stood to nearly 4.0m, perhaps more if the roof structure was open to the chamber. The lower hall (**MB2**) had an original height of c.6.5m, while that of the upper hall (**MB3**) was c.8.75m, again including an open roof structure. The tower chambers follow the same pattern as those in the north block, increasing gradually in height from bottom to top; for example, in the south-west tower, the lowest chamber (**SWT1**) is c.3.0m in height while the uppermost (**SWT5**) was c.4.0m, and perhaps more if there was an open roof structure above.

Materials

- 5.11 The internal and external walls of the castle are built from large (up to 0.50m deep) squared coursed blocks of medium to coarse grained sandstone, giving the masonry a regular appearance; it is typical of material sourced from the sandstone beds within the Millstone Grit (Murphy 2005). The stones were originally set with cream/light-grey lime mortar. The Millstone Grit sandstones were also used for carved and decorative features throughout the castle, a surprising feature given that their coarse grain size and variable cementing does not make them ideal material for such a purpose. The only place where Millstone Grit sandstones were not noted in the castle is in the back of a fireplace (FP2) to the east wall of the upper hall (**MB3**), where the stone is too thinly bedded to be of this type [36/01]; significantly, this fireplace is a later insertion.
- 5.12 At least some of the stone used in the castle may have been obtained from the quarries to the immediate east, now disused but surviving as prominent earthworks, although it is more likely that the majority of these were created during the post-medieval period (see Chapter 4 above). The sandstone outcropping within these quarries is consistent with that in the castle, and it contains widely spaced bedding planes that would have allowed blocks of the size used in the castle to have been sourced from here (Murphy 2005). Interestingly, Murphy also notes that metamorphic pebbles, weathered pebbles and small angular sandstone and limestone pieces were used as fill to the wall cores. This material could have been sourced from either the flat ground to the south of the castle or the valley

floor gravels to the north; the glacial deposits to the south are perhaps the most likely. This suggests that as well as rock quarries, there may have been a gravel pit open during the construction of the castle, and this might survive either as an earthwork or as an infilled archaeological feature somewhere in the vicinity.

Evidence for Construction

- 5.13 In contrast to other late 14th century castles in the region, such as, for example, Sheriff Hutton Castle, North Yorkshire (Richardson & Dennison 2008) and Bolton Castle in Wensleydale (LUAU 1992a, 1992b & 1994), Harewood Castle preserves little in the way of either particularly obvious building breaks or putlog holes. This is probably due in part to the better quality of the masonry at Harewood as opposed to Sheriff or Bolton, which makes building breaks more difficult to discern. Nevertheless, much evidence for construction techniques does survive throughout the structure, and this is described below.

Planning

- 5.14 Although the impression of a well-ordered and pre-conceived design given by the finished castle may be deceptive (see below), there is evidence within the structure to suggest that some forward planning was involved. It is difficult to imagine that the placing of garderobe chutes, mural passages and flues, together with the windows and other openings, was decided as construction progressed, because in many places the provision of these features on the upper floors had an effect on the lower floor plan. A good example of this is provided by the east face of the south-west tower (elevation 12) (plate 3). There are no features to the main face of the elevation, but it does incorporate a shallow projection, 0.50m wide, rising almost the full height of the tower. The primary purpose of the projection appears to have been to house a garderobe (G9) serving the uppermost chamber (**SWT5**) of the south-west tower. The garderobe itself is slightly corbelled out from the east face of the projection; however, if it had been supported on this corbelling alone, then there would have been no room for the associated garderobe chute, and so the solid masonry mass was needed beneath to house it. The fact that the projection relates to a structure on the uppermost level of the tower, yet rises from ground level, implies a quite detailed idea of how the upper levels of building would be organised when construction commenced. Quite how this idea was communicated by the master-mason to his workforce is not certain, but it may have been in the form of drawings or wooden models.

Building Breaks

- 5.15 A number of possible building breaks were noted around the exterior of the castle. These are usually expressed horizontally as a subtle change in the colour or size of the masonry used, and also quite often as courses which decrease or increase slightly in depth across a face, in order to create a level base for the masonry above.
- 5.16 The building breaks are concentrated along the east and west sides of the castle (figures 14a, 15a, 17a and 18a). Working from south to north, on the east face of the south-east tower (elevation 8), there are possible levelling courses separated by a vertical height of 3.5m, at 93.75m and 97.25m AOD respectively. The upper break continues virtually at the same height (at 97.40m AOD) around to the south face of the tower (elevation 9), while the lower offset of this face (set at 89.00m AOD) may also mark a construction break, as the stone above appears better dressed, although this might result from differential erosion. A change in masonry

can be seen at c.85.50m AOD on the east face of the middle (hall) block (elevation 6), while on the south face of the north-east (entrance) tower (elevation 5), a similar change occurs slightly lower at 84.00m AOD. This carries around the east and north faces of the tower (elevations 4 and 3) at the same level, and also along part of the east side of the north block (elevation 2).

- 5.17 Turning to the west side of the castle, on the west side of the middle (hall) block (elevation 16), there appears to be a building break running between the central ground floor window and the southern opening (W58 and W60), again set at c.84.0m AOD, and this may continue intermittently further northwards at a slightly higher level, over a short staggered vertical joint. Approximately 2.20m above this first level, there is another building break at c.86.5m AOD. To the south, the south-west tower may have a building break at 100.0m AOD, just below the corbel marking the base of the former corner turret here (elevation 14), while there is a more definite break to the upper part of the south face (elevation 13) at c.93.75m AOD, below the upper off-set, which steps up slightly at the west end. There are also numerous places in the external walls where patterns might be discerned in the way different depths of stone coursing were used, for example, a deeper course and then five or six shallower courses, but these do not appear to mark actual breaks in construction nor are they placed at regular intervals. It may perhaps have been thought that a deeper course in some way added strength to the external facing stone.
- 5.18 It may be significant that the building breaks along both the east and west sides of the middle (hall) block are both set at similar heights (between 84.00m and 85.50m AOD), roughly equating to the basement and ground floor levels of this part of the castle. This is also the case for the north-east (entrance) tower and the east side of the north block, and so may indicate that these areas were being built contemporaneously. Although no convincing examples of putlog holes were recorded around the exterior of the castle, the vertical distance of 3.45m between the breaks on the east face of the south-east tower (elevation 8) may represent the limit of work achieved in a single construction 'season'. If this is the case, then it is slightly more than the 2.5m-3.0m spacing recorded on the north-east tower of Sheriff Hutton Castle (Richardson & Dennison 2008), but slightly less than the c.4.0m suggested for each construction season at Bolton Castle (LUAU 1992a, 11).
- 5.19 Less evidence for building breaks was noted to the interior of the castle, although there are a few possible examples. For example, the mural stair descending from the lowest chamber (**NWT1**) of the north-west tower to the west basement room (**NB1W**) below is not straight, nor does it run exactly parallel to the outer face of the castle's west side, kinking slightly approximately half way along its length. The slight change in angle might result from a break in construction, with the lower half of the stair built in one season and the upper half the next. Similarly, the masonry to the rear (west) wall of the mural stair leading from the lower hall (**MB2**) to the basement store (**MB1**) below also changes markedly at about ground floor level, perhaps also for the same reason.

Masons' Marks

- 5.20 The builders and masons who constructed the castle were clearly very familiar with the properties and limitations of the Millstone Grit sandstones, as shown by the preferential use of plane-bedded blocks for corner stones and jambs, the use of face bedding for fireplace lintels (so as to avoid upward failure caused by repeated heating and cooling), and the presumably deliberate avoidance of blocks

containing pebbles and other coarser materials (Murphy 2005). They also left their mark, quite literally, in another way, in the form of the numerous masons' marks which survive around the structure [41/17-41/18].

- 5.21 As part of the 2004-05 architectural and archaeological survey work, all existing masons' marks were located and recorded, and categorised according to form. A detailed summary of the presence or absence, location and form of the masons' marks is given in Appendix 2, and their presence or absence is also recorded on the room sheet descriptions (Appendix 1).
- 5.22 The 2004-5 survey identified a total of 475 marks, comprising 29 different types, all within the interior of the castle (figure 13). However, it is acknowledged that, in a few cases, some marks are of a very similar form, and it is possible that type attributions may be mistaken as a result of weathering. Where possible, the marks have been classified using names used by other similar surveys of Yorkshire medieval buildings (for example Rimington & Rutter 1967, 77-79; Barnwell & Pacey 2008). An example of each mark, together with the name assigned to it, is given on figure 13. The marks recorded at Harewood are of the type classed by Alexander (2008, 28-30) as 'banker masons' marks', although for reasons of brevity they have been referred to throughout this report simply as masons' marks. A banker was a bench, and the mark was used to identify work done by a highly skilled mason who cut the stone into regularly squared blocks or more complex sections, such as those for mouldings, at his bench. Unlike those for eastern Europe, no written regulations survive in English documents detailing how masons' marks were allocated and used, and the reason for a lack of information is that probably no single system was in use during the medieval period. Individual masons may have chosen their own mark, or been given one when they joined a construction site. Masons did not usually spend a long time cutting elaborate marks; for example, 13th century marks are mostly made up of four to six lines, and marks of more than seven or eight lines are rare. It is likely that at Harewood, as identified elsewhere, payment was by piecework, with an individual mason marking his stone to let the paymaster know how much work he had done.
- 5.23 The marks recorded at Harewood are, as noted for the 13th century marks above, mostly simple, some comprising only two lines and none more than six. Some of the marks are very similar to those recorded at other major medieval buildings, such as Carlisle Cathedral (Alexander 2008, 35), supporting the suggestion that simple marks were preferred and that masons may have been allocated a mark when they joined a particular construction site. The 'crossed one' type might possibly be an example of a 'textura' letter mark as described by Alexander (2008, 32). Virtually every single mark that was recorded survived on a former internal rather than an external surface, and there was a marked bias towards enclosed areas such as garderobes, mural passages and window embrasures on the upper floors of the south-east and south-west towers. Alexander (2008, 34) states that in theory there are six faces that a mason might mark his block on, but in practice one face was always left unfinished, and so if all blocks are marked, there is then a 20% chance that the mark will be visible. Therefore, areas of stonework which exhibit no visible marks at all may be of significance, for example denoting a different payment or working practice, and therefore perhaps signifying a different phasing.
- 5.24 However, Alexander's examples are taken almost wholly from roofed buildings such as cathedrals. At Harewood, the distribution of surviving marks may also be heavily influenced by differential weathering, the wall surfaces being protected from the elements within the garderobes and passages, although it is perhaps possible that more marks were left exposed in these areas during the original construction

period. Generally, few marks were recorded in the lower and upper halls (**MB2** and **MB3**), with none at all in the lowest chambers of the south-east and south-west towers (**SET1** and **SWT1**), the second and fourth chambers of the north-east tower (**NET2**) or the uppermost chamber of the north-west tower (**NWT1**). The fact that none of these chambers are provided with garderobes supports the suggestion that the distribution of surviving marks at Harewood is at least partly dependant on differential weathering.

- 5.25 In terms of overall numbers, the most common of the masons' marks are the 'asterisk' and 'X' form, comprising some 48% of the total recorded (figure 13). They are also among the simplest of the surviving marks and occur almost wholly, but not exclusively, on walling stone. There is then a large drop to the next most common marks (24 to 50 recorded examples); of these, the 'hourglass' form occurs on chamfered doorway jambs and also a toilet seat. The vast majority of marks (21 out of the 29 different types) occur ten times or less within the castle. Of these, some, like the 'star' form, occur only on chamfered doorway jambs and two (the 'V'-form and 'T'-form) have an association with complicated joints to corbels over windows in the north-west tower.
- 5.26 An analysis of the marks based only on their overall numbers would be simplistic and highly deceptive. However, if they are transferred onto a copy of the castle's circulation diagram, then a number of broad patterns become clear. The first is the fairly even distribution of some of the marks throughout the castle, supporting the idea that it is of a single phase of construction. The common 'X'-form and 'asterisk' types can be found in all parts of the castle where marks were recorded; the 'hourglass', 'V'-form and 'right-angle' type, although occurring in lesser numbers, also have a relatively wide distribution. Other marks have a more specific distribution. The 'bench' type is almost entirely absent outside the south-west and south-east towers, and they increase in number towards the tops of these towers. The 'X-with-legs' type can be found only in the south-east and south-west towers, and the upper hall (**MB3**). There is also a concentration of singly occurring marks, or marks that occur only in very small numbers, in the third, fourth and fifth chambers of the south-west tower (**SWT3**, **SWT4** and **SWT5**); the 'T'-form appears to be restricted to the uppermost parts of the castle, and the 'zigzag'-form is found only in the mural passage between the upper chambers of the north-west tower and the north-east newel stair (**NWT3** and **NWT4**).
- 5.27 A number of suggestions might be made from this information. The mason/masons represented by the 'asterisk' and 'X'-forms were employed throughout the whole of the castle's construction period, and perhaps also those using the 'hourglass', 'V'-form and 'right-angle' forms; the 'asterisk' and 'X'-form masons specialised in walling stone, while the 'hourglass' mason produced many chamfered doorway jambs. The masons using the 'bench' and 'X-with-legs' types were employed primarily on the south-east and south-west towers, while an increased number of masons were brought in to work on the uppermost chambers of the south-west tower. Those using the 'T' and 'zigzag' forms worked primarily on the upper parts of the castle, when the building was nearing completion.

Evidence for Repair

- 5.28 A certain amount of evidence was noted during the 2004-05 conservation works for earlier repair schemes to the castle's structure.
- 5.29 Some of this evidence may be associated with the incorporation of the castle ruin into the Castle Pleasure Grounds during the early 19th century. For example, a

small amount of masonry around the north side of the main entrance doorway (D2) has very well defined tooling marks, markedly more so than the surrounding masonry [56/02]. A detailed pencil sketch of the castle by Turner made in 1798 and an equally detailed watercolour by Buckler made in 1817 both show the lower right-hand (north) side of the doorway to be collapsed (plate 10). Similarly, projecting masonry at the base of this side of the doorway does not appear in the illustrations, again demonstrating that it was built after c.1817. It is possible that other examples of 19th century repair exist, for example to the west side, but the lack of early depictions of the castle from this direction make it more difficult to compare the 'before and after' appearance. The iron bands placed around the high corner turrets are not shown on any of the early 19th century depictions of the castle, and their form would suggest that they are significantly later, perhaps late 19th or early 20th century - they are visible on photographs of the castle taken in c.1940 (Bowden c.1940) (plate 16).

- 5.30 Elsewhere, other repairs are more difficult to assign to a specific period. Above the upper off-set of the south external elevation of the middle (hall) block (elevation 11), the masonry has been repointed using a thickly applied white lime mortar. Similarly, a hard white lime mortar has been applied to the ground floor masonry above the chamfered plinth, particularly to the east of window W35, on the north elevation of the north block (elevation 1) [43/6].

Graffiti

- 5.31 The graffiti surviving throughout the castle is also worthy of note, particularly in what it might reveal about the attitudes and interests of 19th century visitors.
- 5.32 As might be expected, the surviving graffiti is concentrated around the north-east (secondary) newel stair, as visitors would have climbed this part of the castle to take advantage of the superb views over the Wharfe valley. Their inscriptions, which are carved, scratched and pencilled on the stair wall, date from the mid 19th century to the last few years. At the top of the stairs, the east wall bears the initials 'T N' and to the west wall, the name 'TOMLEY' can still just be made out, together with scratched names dated to 2003 and 2007. The stair newel here bears the initials 'J. P. C. R.' and 'GB 1884', with others now too faint to read. Descending the stair, the blocked doorway formerly leading to the wall-walk along the east side of the upper hall (**MB3**) has 'T SH 1889', 'HP 1868' and 'I SANDEN' carved into the blocking. An adjacent newel bears the name 'I Coupland RC' in a beautiful flowing hand. Further down, close to the inserted doorway into the upper chamber of the north block (**NB4**), there is a concentration of pencil inscriptions, reading 'R SOASE 1884', 'P Clay (Gayle?)', 'R March SH 1884', along with other fainter marks. The name 'J BETTY 1847' is carved within a rectangle close by. Towards the base of the stair, there are the pencil initials 'PA HH' and the carvings 'CAAB 1910' and 'W STEAD 1930'.
- 5.33 A small amount of graffiti was also recorded away from the north-east newel stair. The garderobe (G9) to the uppermost chamber of the south-west tower (**SWT5**) has the initials 'GK LVII' and the name 'F E Clarke' pencilled on the doorway, with 'T I' carved beneath. One of the walls has the initials 'WT RC' with the date '1762' beneath carved in a rather florid script [11/12] - this is the earliest piece of dated graffiti to survive within the castle. The mural stair linking the two uppermost chambers of the north-west tower (**NWT3** and **NWT4**) has the pencil inscriptions 'AH' and 'SR' dated '24th June 1880' and '25th June 1880' respectively, but the majority of the graffiti is crudely scratched onto the walls and dates to 1985.

- 5.34 Finally, perhaps the most puzzling piece of graffiti is carved over the window in the north wall of the entrance passage in the north-east tower (**NET1**). The part-finished inscription 'VAT SAL BE SAL' has been carved in low-relief Gothic script here, apparently replicating the same Aldeburgh motto set into a panel over the external entrance doorway. However, it is not clear if the former is also medieval in date, or if it is the work of someone with an antiquarian interest in the 19th century.

Description of the External Elevations

- 5.35 Each external elevation is described below, starting on the east side of the castle and progressing around to the north, west and south sides; figure 11 provides a key to the elevations. Each elevation is illustrated by two figures, one (b) showing the stone-by-stone drawing and the other (a) showing the interpretation and numbering of identified features.

The East Side (Elevations 2 to 8)

- 5.36 The front of the castle, i.e. the east elevation, is composed of seven co-joined wall faces (elevations 2 to 8), including the returns associated with the south-east and north-east (entrance) towers [56/18; 57/1] (plates 2 and 23). The elevations are described from south to north.

Elevation 8 (figures 14a-14b)

- 5.37 The southernmost part of the castle's east side (Elevation 8) [43/13], which forms the east side of the south-east tower, has lower and upper chamfered off-sets, set at c.89m and c.95m AOD respectively. Towards its upper part, the wall face steps out above a chamfered string course set at c.101m AOD. Above the upper off-set, the wall face has extensively collapsed at the north end of the elevation in the area of the primary newel stair. The chamfered string course formerly supported the south-east corner turret (**SET6** and **SET7**) but this has also largely collapsed, with little more than the stump remaining.
- 5.38 The lowest visible part of the elevation equates to lowest chamber (**SET1**) of the south-east tower. This is lit by a single narrow window (W5) with a chamfered surround; the similar window (W6) to the north, set slightly lower, lights the base of the primary or main newel stair. A similar pattern is repeated above, with a narrow chamfered window (W4) lighting the first floor chamber (**SET2**) of the tower. Immediately above the lower of the two-chamfered offsets, there is a slightly larger window (W2) lighting the tower's second floor chamber (**SET3**), again with a chamfered surround but also once fitted with an iron grille, formed by two cross-bars and a single vertical standard socketed into the frame. Immediately below the offset, a spout (S1) drains a sink placed in the doorway leading into the chamber from the principal newel stair, which is itself lit by a narrow window (W3) at this level. The uppermost surviving window in the elevation (W1) lights the third floor chamber (**SET4**) of the tower; like the window (W2) below, it has a chamfered surround and was fitted with an iron grille, formed by two cross-bars and a single vertical standard socketed into the frame. Above this window, the elevation is largely blank, although there may once have been additional windows lighting the principal newel stair which have subsequently been lost through collapse.
- 5.39 Several other features of note survive within the elevation. To the north of window W4, a crudely inserted doorway (D1) with a shallow rebate and slightly shouldered outline, its threshold 3.0m above external ground level, is visible (plate 2). This doorway, which measures 2.25m high by 0.95m wide, formerly led into the principal

newel stair and is associated with a prominent roof scar cut into the wall face. This scar represents a pitched roof, 6.2m wide and 3.5m in height. Some idea of the roof structure can be gained from shallow sockets and scarring that survive around window W3, now contained within the roof line. It appears that the roof had principal rafters, each supporting a pair of purlins, with two vertically aligned sockets above the window perhaps representing the ridge-piece and ridge-brace, although the upper socket is set quite a way below the apex of the roof scar. Alternatively, it might represent the crown-plate of a crown-post roof, supported by a brace, which would then have significant implications as to the date of the roof and the building it covered. There is a further shallow socket to the immediate south of window W3, but it is not certain if this is associated with the roof.

- 5.40 The former building represented by the roof scar, inserted doorway and associated features was clearly a later addition to the main castle structure. The remains of a stone plinth running east from the castle (to the north of 'J' on figure 10) and associated with the building suggest that it may originally have been timber-framed. The roof scar is clearly visible on the very late 17th century marginal illustration of the castle (plate 4), as is at least one of the sockets and the doorway. It is therefore curious that a building is shown in this position by Buck on his early 18th century sketch. The roof scar is again clearly visible on late 18th century depictions of the castle, such as those accompanying Grose's 1787 description (plate 6). These depictions also show the ivy beginning to grow at the south-east corner of the castle, which was to obscure this area for much of the 19th and 20th centuries.
- 5.41 In addition to the above, two possible levelling courses or building breaks are visible in the elevation, at 93.75m and c.97.30m AOD. At the very top of the elevation, the remains of a cruciform arrow-loop, lighting the lower level of the south-east turret (**SET6**) can be seen. The arrow-loop, and a second similar example above it lighting the upper level of the turret (**SET7**) can just be made out on the late 17th century marginal illustration, and they are more clearly visible on late 18th century paintings and engravings, which show that the turret was once of similar proportions to that surviving to the south-west tower. The upper part of the tower collapsed after c.1950, apparently in 1962.

Elevation 7 (figures 14a-14b)

- 5.42 The northern return of the south-east tower has a continuation of the lower off-set noted above, but due to collapse, the elevation no longer stands to the height of the upper off-set. At the west end of the elevation, the lower off-set is cut as if it should have once returned to the north, across the adjacent wall face (elevation 6) to the north. However, its course is blocked by a shallow projection housing a mural passage (see below). There are two windows in the elevation (W7 and W8), one above and one below the lower off-set, both of the plain, square-headed, chamfered form found elsewhere in the castle; both these windows light the principal newel stair. There are no obvious levelling courses, as seen on the adjoining elevations.
- 5.43 At the foot of the elevation, a low stone revetment wall, up to 1.0m high, continues to the east beyond the castle. This may well have formed the footings for the building formerly attached to the east side of the south-east tower (elevation 8); there is no indication that the footings ever rose any further up the elevation, suggesting that the building was timber-framed.

Elevation 6 (figures 14a-14b)

- 5.44 The central part of the east elevation (elevation 6), forms the east side of the lower (**MB2**) and upper (**MB3**) halls [43/15], but the exterior is relatively unimposing, given the relatively short length of the wall face (7.2m) and the fact that it is flanked to either side by adjoining towers. However, these aspects were partly compensated for by the elaborate treatment of the three main windows, and the added interest provided by a projecting bay at first floor level at the south side. The wall is thickened at the base, with a chamfered off-set immediately below the sill level of the ground floor windows (W12 and W13), and there is another chamfered string course near the present top of the wall, above which the parapet of the wall-top walkway projects slightly; two spouts (S2 and S3), set 1.00m below the string course, drained the base of the east slope of the upper hall's roof. These spouts are angled so as to direct water away from the mullioned and transomed window (W10) to the upper hall (**MB3**). Neither the string course nor the chamfered off-set extend to the adjacent elevations (elevations 5 and 7). Interestingly, the late 17th century marginal illustration of the castle appears to show ashlar above the upper string course but none below, as if the elevation were rendered here.
- 5.45 The fenestration in the elevation includes two formerly mullioned and transomed windows (W12 and W13) lighting the lower hall (**MB2**); the window surrounds are moulded to the exterior and they have square heads. A third mullioned and transomed window (W10) lights the upper hall (**MB3**) at first floor level, and is the best preserved of its type in the castle (plate 24). It measures 1.30m wide and stands 2.40m high overall, moulded to the exterior and with both mullions and transoms remaining *in situ* [26/4]. These three windows are shown in the same condition in the late 17th century, and each separate light was originally fitted with an iron grille, formed by two cross-bars and a single vertical standard socketed into the frame; furthermore, the upper two lights of each window had fixed glazing. There are another two small and plain windows at the north end of the elevation, in the angle with the entrance (north-east) tower. The upper window (W11) lights a small walk-in cupboard or recess on the south side of the chapel (**NET3**), while the lower window (W14) lights a mural passage that appears to be hacked out of the north side of window W13 to the lower hall (**MB2**); the presence of this latter window indicates that there must have been some feature here before the passage was cut through. Both these windows appear to be somewhat truncated by the south return of the entrance (north-east) tower (elevation 5) (plate 24).
- 5.46 The south end of the wall face is corbelled out to accommodate the mural passage leading from the principal newel stair to the south-east corner of the upper hall (**MB3**); this is lit by a small chamfered, square-headed window (W9) [32/11]. The sloping 'roof' of this projection butts the face of the elevation (elevation 7) to the south. The stonework course immediately above the projection stands slightly proud of the wall face and is chamfered, but this runs no further north than the projection itself. Finally, a change in the masonry can be seen in the elevation at c.85.5m AOD, at the base of the projection housing the mural passage. This probably represents a levelling course or a building break, as the stone courses above are generally thinner and less well laid than those below.

Elevation 5 (figures 15a-15b)

- 5.47 This elevation forms the south side of the entrance (north-east) tower, which is of a similar height to the adjoining parts of the building; the uppermost parts are collapsed however, but once housed a chamber (**NET4**) over the chapel (**NET3**).

The face is continuous, except for a chamfered off-set 2.50m below the present wall top (at 91.50m AOD).

- 5.48 There are two windows in the elevation. The lower window (W16) is narrow and square-headed with a chamfered surround. It lights the first floor chamber of the tower (**NET2**), and has a sink or drain set into its base internally, which vents through a spout (S4) to the exterior. The upper window (W15) lights the chapel (**NET3**), and has a two-centred arched head; it originally contained a pair of trefoil-headed lights with a quatrefoil over flanked by sunken spandrels. A single voussoir of a more shallowly pitched opening, similar to the rear arches of the main windows lighting the upper and lower halls, is visible just above the window (plate 24). It appears that this was meant to be a different form of window opening which was then changed, rather than acting as a relieving arch for the existing window, as can be seen to the north face (elevation 3) of the entrance (north-east) tower.
- 5.49 There are two types of stonework visible in the elevation; the horizontal break between the two is set at c.84.00m AOD, and this continues around the east and north faces (elevations 4 and 3) of the tower. Below this level, the stone is greyer in hue, and appears to be harder or eroded to a lesser degree, with finer tooling marks. Above it, the stone is more yellow in tone and retains less definition. The difference may result from a building break, or a change in the source of the building stone.

Elevation 4 (figures 15a-15b)

- 5.50 The east face of the entrance (north-east) tower is the most visually prominent element of the castle's east side, as befits its status as the principal entrance [56/2]. The approach to the entrance may have been along a terraced area to the east, possibly crossing a ditch adjacent to the tower (see Earthwork Description, Chapter 4 above), but subsequent erosion and soil movement has resulted in the loss of its definition as well as of any metalled surface. The base of the wall is thickened to a wide chamfered plinth, surviving partially around the north face (elevation 3) of the tower. However, the plinth appears to have terminated at the south-east corner of the tower, and never to have continued around the south face (elevation 5).
- 5.51 The entrance to the castle is via a centrally-placed 1.80m wide doorway (D2) which has a shallow pointed arch and moulded surround, terminating in plain stops; the threshold does not survive, but internal structural evidence indicates that it was set c.1.0m above the existing ground level, giving the doorway a height of at least c.3.30m [57/02] (plate 25). Above the doorway, there is a large area of unbroken masonry, necessary to house the portcullis, and contributing to the fortified appearance of the building. The unbroken masonry is surmounted by a large window (W17), formerly of three trefoil-headed lights with chevron-shaped trefoils over. The window lights the chapel (**NET3**) and is surmounted by a carved panel bearing the Aldeburgh motto '*vat sal be sal*' (what shall be shall) and foliate decoration (omitted by Whitaker - plate 13) [33/1], flanked by shields bearing the Balliol arms to the left and the Aldeburgh arms to the right [32/16-32/18] (plates 13 and 26). Immediately above the panel is a moulded string, running for 3.20m along what is now the top of the wall. This may be the base of a window, although no remains indicative of such were uncovered during the conservation works here, and it is perhaps more likely to be the remains of a hoodmould covering the panel below.

- 5.52 As has been noted above, there is a change in the character of the stonework at about c.84m AOD, as well as a difference in tooling and the finish of the stones in the lower parts of the elevation. A small area around the right (north) side of the doorway (D2) also has very well defined tooling marks. A detailed pencil sketch of the castle by Turner made in 1798 and an equally detailed watercolour by Buckler made in 1817 both show the lower right-hand side of the doorway to be collapsed, and so the well defined tooling must be a post-early 19th century repair, perhaps associated with the creation of the pleasure grounds around the castle during this period.

Elevation 3 (figures 15a-15b)

- 5.53 This elevation is divided into three parts by a chamfered plinth set 2.50m above ground level (at 79.00m AOD), and by the chamfered off-set at 91.50m AOD matching that on the south side of the entrance (north-east) tower. Additionally, the difference in masonry types noted above at around c.84m AOD is clear on this elevation, and there is an area of stonework around the lower east end where the more prominent tooling is evident. As with the right-hand side of the doorway referred to above, late 18th and early 19th century depictions of the castle suggest that this area has also been repaired in the more recent past. The fact that the base of the wall below the chamfered plinth projects beyond the plinth's north-east corner, whereas it does not at the south-east corner, may also indicate some rebuilding to support the wall above.
- 5.54 The lowest opening in the elevation is a much enlarged window (W21), set immediately below the chamfered plinth [33/9] and formerly lighting a small basement chamber or space set beneath the entrance passage (**NET1**) [56/4], and opening off the main cellar/basement space (**MB1**) beneath the north end of the lower hall. The surviving portion suggests that it was a narrow unchamfered loop, which would have provided only a dim light for the small basement space. Above the chamfered plinth, window W20 lighting the entrance passage (**NET1**) is also defensive in character [33/8], being a very slender loop with a wide internal splay. Both these windows (W21 and W20) provide an impression of strength to this side of the entrance tower, and also give good coverage over the area to the north-east. This may indicate the principal direction from which the castle was meant to be approached, irrespective of whether the loops were meant to actually function as defensive features or just give the impression of such. To the west of window W20, there appears to be a small area of blocking at the angle of the entrance (north-east) tower and the north block (elevation 2) - this might be the remains of a narrow light, perhaps intended to light the lesser newel stair, but whose position was changed during construction. It could have been replaced with the adjacent window W28 on elevation 2, which does light the newel stair.
- 5.55 Above window W20, window W19 lights the first floor chamber (**NET2**) within the tower, and is a narrow rectangular chamfered opening. At second floor level, window W18 lights the chapel (**NET3**) [33/2]. This is of the same form as window W15 in the tower's south face (elevation 5), but it is located nearer to the centre of the elevation. There is a shallow arch, offset to the west, over the window, similar to the rear arches of the main windows lighting the upper and lower halls [32/12] (see below). It appears that this was meant to be a different form of window opening which was then changed, rather than acting as a relieving arch for the existing window. As previously noted, a possible similar feature in the tower's south face (elevation 5) is represented by a single voussoir.

- 5.56 The uppermost surviving part of the elevation, above the chamfered off-set, contains the partial remains of a further window (W87), lighting the chamber (**NET4**) over the chapel. Internal structural evidence suggests that this window was probably of a rectangular chamfered form. To the west, a spout (S5) drains an internal sink to the north wall of the chamber.

Elevation 2 (figures 15a-15b)

- 5.57 The northernmost part of the castle's east side is formed by the east face side of the north block, which lies below the middle (hall) block. Due to the falling ground level on which the castle is sited, the north block has a full height basement, approximately defined externally by the chamfered plinth at 79.00m AOD; below the plinth, the wall face has a shallow batter, presumably intended as a strengthening feature (plate 23). The elevation is further broken by a chamfered off-set at 87.50m AOD, and also along the angle with the entrance tower, which steps out to accommodate the upper parts of the lesser newel stair. There has been some loss in height along much of the top of the elevation, principally a parapet wall behind which a wall-walk was situated. The remains of a possible construction break can be seen at 84.00m AOD, continuing that seen on the entrance (north-east) tower to the south (elevations 3, 4 and 5). Interestingly, the late 17th century marginal illustration of the castle appears to show ashlar below the chamfered plinth but none above, as if the elevation was rendered here.
- 5.58 At basement level (i.e. below the chamfered plinth), there are two windows [56/3]. Window W29 is a centrally placed, chamfered, rectangular window, lighting the east basement room (**NB1E**), while window W21 (previously described above) is set in the angle with the entrance (north-east) tower. Above this, and above the chamfered plinth, window W28 is a very small opening to the lesser newel stair; as with windows W11 and W14 on elevation 6, window W28 perhaps has the appearance of being slightly truncated by the entrance (north-east) tower. Above the window, there is a second window (W26), again lighting the lesser newel stair [33/7]. This is placed further away from the angle of the north-east tower and the north block than window W28 below. It has a deep chamfered lintel, which carries the projecting canted angle of the lesser newel stair above. The lowest window in the projecting angle of the stair is window W25; between the sill of this window and the chamfered lintel of window W26 below, the joint of the angle with the main wall face is rather irregular, and not quite as wide as for the remainder of its height. It increases in width slightly again in line with the base of the uppermost window (W22) lighting the lesser newel stair. Above this window, the projecting angle rises for a further 2.60m until is approximately level with a spout (S6) in the east external face of the north block (see below). Here, the north block and north-east tower form a right angle once more.
- 5.59 Away from the lesser newel stair, the main windows above the chamfered plinth are all centrally placed. The lowest of these, window W27, lights the east room (**NB2E**) of the north block's ground floor. This is of similar external form to window W29 below. However, on Turner's c.1798 watercolour, the window appears as a cruciform shape (plate 9). This might be interpreted as artistic licence, were it not for the fact that the window is similarly depicted on Turner's pencil sketch of the same year and more significantly the late 17th century marginal illustration. One has to therefore assume that either the window was originally of this form but was subsequently rebuilt after c.1800 (for which there is no clear structural evidence), or that it had decayed or been damaged so that it resembled a cruciform loop and was so depicted by both Turner and the anonymous 17th century draughtsman.

- 5.60 The window (W24) lighting the east end of the large first floor chamber (**NB3**) of the north block is far more elaborate and much larger. It originally measured 1.05m wide by 1.60m high and was of two-light mullioned form with a rebated chamfered surround (figure 42); each light was formerly fitted with fixed glazing, and an external iron grille comprising a single vertical standard and four horizontal bars socketed into the frame [33/3, 33/5-33/6]. Above, the window (W23) lighting the east end of the upper chamber of the north block (**NB4**) is even more elaborate, and also better preserved [35/4]. It measures 1.05m wide and 2.05m high and was also originally of four-light mullioned and transomed form, set within a moulded surround (figure 42). The upper lights had fixed glazing and were provided with internal shutters, hinged to the outer sides. The glazing slots are either partly absent from the surviving parts of the lower lights or very shallow, and while it is possible that this might indicate fixed glazing with opening panels as sometimes shown in late medieval illustrations, it is more likely that the lower lights were provided with shutters only. All four lights were originally provided with external iron grilles comprising a single vertical standard and two horizontal bars socketed into the frame [32/13-32/14].
- 5.61 Above the window, to either end of the elevation, there are two spouts (S6 and S7). The south spout (S6) passes through the north wall of the lesser newel stair and drained the south roof slope of the north block; the fact that it has to pass through the upper part of the newel stair may demonstrate a somewhat awkward relationship between the two elements. The wall face is slightly corbelled out over the drain on an inverted chamfer and this was once probably carried across the whole elevation, to support a parapet wall screening a wall-walk here around the north block; the chamfer returns downwards at its southern end. The north-east corner of the wall-walk was drained by the north spout (S7), which probably also served the north slope of the north block's roof.

The North Side (Elevation 1) (figures 16a-16b; plate 27)

- 5.62 The north side of the castle is formed entirely by the north elevation of the north block [58/3, 58/5]. Again, due to the falling ground level here, the north block has a full height basement, approximately defined externally by the chamfered plinth at 79.00m AOD; below the plinth, the wall face has a shallow batter, presumably intended as a strengthening feature [56/6, 56/8]. The elevation is further broken by a chamfered off-set at 87.50m AOD, although the chamfer is very worn towards the east end of the elevation. There has been some loss in height along much of the top of the elevation, principally a parapet wall behind which a wall-walk was situated.
- 5.63 At basement level (i.e. below the chamfered plinth), there are two windows (W37 and W38). Both of these formerly lit a mural garderobe passage (G1) associated with the east basement room (**NB1E**); window W38 is a very small rectangular opening 0.30m high by 0.10m wide placed immediately above the garderobe seat, while the form of window W37 is almost completely lost through later decay, only part of the east splay surviving. Below window W37, a spout (S11) emerges from the elevation; this must have served the east basement room (**NB1E**), although in what capacity is not clear and it must now lie below ground level internally. Similarly, some distance to the west, there is another spout (S13) at a similar height. This formerly projected slightly but has since been broken off. It runs back into the wall almost horizontally for 1.50m, and then rises vertically. The inference is that it must have served the west basement room (**NB1W**) but again, it must now lie below ground level internally. Between the two, the base of the external chute (S12) for garderobe G1 remains in place directly below window W38, although

much of the surrounding masonry has either collapsed or been removed to create an opening 2.50m high by 1.50m wide [56/7]. One might also have expected the external chute for garderobe G2 serving the first floor chamber (**NB3**) to be located in this area, but it must now emerge below the existing ground level.

- 5.64 Above the chamfered plinth, the fenestration of the lower block's ground floor is rather irregular, partly as a result of having to fit the windows around large internal features such as the kitchen fireplaces. Towards the east end of the elevation, a rectangular window (W35) with a chamfered surround lights a curious internal feature (see below) to the east ground floor room (**NB2E**) of the lower block. The window was originally equipped with fixed glazing, unusual for a window of this size (1.10m high by 0.35m wide) within the castle; the glazing was set behind an external iron grille comprising a single vertical standard and four horizontal bars socketed into the frame. To the east of this window, and also to a lesser extent to the west, the masonry had been repointed using a thick and quite hard white lime mortar [43/6]; a similar mortar is also seen on the south elevation of the castle (elevation 11, see below). To the west and below the window, a spout (S10) emerges from the wall face, draining a sink set just above floor level in the east ground floor room (**NB2E**). Further to the west, the window (W36) lighting the kitchen (**NB2W**) is far more elaborate, with a chamfered and rebated surround. This window, measuring 1.05m wide and 1.60m high externally, was probably formerly of two lights with a central mullion, a smaller version of window W42 in elevation 18 (see below), although there is no definite structural evidence remaining for the mullion. Each light was fitted with fixed glazing, set behind an external iron grille comprising a single vertical standard and four horizontal bars socketed into the frame. Below the window, a spout (S14) is incorporated into the chamfered plinth [60/2] and serves a drain set into the floor to one side of the fireplace in the kitchen (**NB2E**).
- 5.65 On the first floor of the lower block [39/17], there are three further windows. The eastern window (W32) is very small, and lights the mural garderobe (G2) passage to the first floor chamber (**NB3**) of the lower block; an external spout (S34) is set into the base of the window. There is another spout (S9) to the east and below [39/8], which serves a drain set into the floor of the garderobe passage. There was once another window (W33) lighting the seat area of the garderobe but this has almost completely collapsed or been removed, so that only fragments of the west jamb remain; the external garderobe chute itself is not visible, and so it must emerge below the current ground level. As on the ground floor, the westernmost window (W34) is again more elaborate, with a chamfered and rebated surround [39/18]. The pattern of the glazing slot around the sides is now difficult to discern, but it is possible that the upper half may have been equipped with fixed glazing, set behind an external iron grille comprising a single vertical standard and three horizontal bars socketed into the frame [41/7].
- 5.66 The second floor chamber of the lower block (**NB4**), above the upper chamfered off-set [37/18; 38/1], is lit by two large windows (W30 and W31), each measuring 1.40m wide by 2.50m high overall and giving an opening of 1.05m wide by 2.00m high. Interestingly, and in contrast to all those below, these windows are placed symmetrically within the elevation. They were originally of very similar form and size to the window (W23) lighting the east end of this chamber (elevation 2). Both were of four-light mullioned and transomed form, and set within a moulded surround [37/12-14, 37/16] (plate 28). The upper two lights had fixed-glazing, and all four lights were fitted with external iron grilles comprising a single vertical standard and two horizontal bars socketed into the frame. To the east of the east window (W30), a spout (S8) serves a drain set into the north wall of the chamber.

There is a second spout (S29) set between the windows at the uppermost surviving part of the elevation, draining the wall-walk around the north block and also the north slope of the north block's roof.

The West Side (Elevations 14 to 18)

- 5.67 The west external elevation is actually composed of five co-joined wall faces (elevations 14 to 18), including the returns associated with the north-west and south-west towers [57/4-7, 57/10, 57/16-57/18; 58/1-58/2, 58/6-58/7]. Each elevation is described in turn, from north to south.

Elevation 18 (figures 17a-17b; plate 30)

- 5.68 The northernmost part of the castle's west side is formed by the west face of the north block, which lies below the middle (hall) block and the west face of the north-west tower [56/10]. Due to the falling ground level on which the castle is sited, the north block has a full height basement, approximately defined externally by the chamfered plinth [40/6-40/7]; below the plinth (i.e. below 79.00m AOD), the wall face has a shallow batter, presumably intended as a strengthening feature. The plinth steps up approximately two-thirds of the way along the elevation, although this step is now partly buried by soil movement on the pronounced slope. The elevation is further broken by a chamfered off-set at 87.50m AOD, which runs across both the lower block and the north-west tower. There has been some loss in height along much of the top of the elevation, principally a parapet wall behind which a wall-walk was situated.
- 5.69 At the basement level of the north block (i.e. below the chamfered plinth), there are two windows (W48 and W49) lighting the west basement space (**NB1W**) [56/9]. The south window (W49) is a small, narrow loop, illuminating the base of a mural stair passage, while the north window (W48) has been largely destroyed or collapsed but was probably of a rectangular chamfered form. Above the chamfered plinth, a very small window (W47) lights the head of the mural stair passage noted above, and at a high level to the ground floor of the north-west tower (**NWT1**), a small rectangular chamfered window (W46) [42/12] was equipped with an external iron grille comprising a single vertical standard and two horizontal bars socketed into the frame. To the north, at the same level, there are two very similar windows (W44 and W45) [42/8, 42/10], placed either side of the flue for the west fireplace in the kitchen (**NB2W**).
- 5.70 The west end of the first floor chamber (**NB3**) of the north block is lit by a one of the best preserved windows in the castle (W42), measuring a total of 1.60m wide by 1.80m high overall, of two-light mullioned form and set within a chamfered and rebated surround [38/2; 42/4-42/7] (plate 29). Each light, measuring 0.45m wide by 1.55m high, was originally fitted with fixed glazing behind an external iron grille comprising a single vertical standard and four horizontal bars socketed into the frame. To the south, a much plainer window (W43) [38/14; 42/1] with a chamfered surround but similar external iron grille lit the first floor chamber (**NWT1**) of the north-west tower. The only original access to this chamber was via a mural stair passage leading downwards from the upper hall (**MB3**).
- 5.71 At a later date, an external doorway (D3) was hacked into the west (lower) end of the passage; Emery (1996) suggests that this may have been enlarged from a small original opening lighting the passage. This doorway is crudely rebated to the exterior and has a very shallowly curved head, a feature common to many inserted doorways within the castle [42/2]; a flight of crude steps has been cut through the

wall core at the base of the doorway [42/11] (plate 30). The doorway must have been reached via an external flight of steps, and there is indeed extensive scarring to the wall face around the doorway. However, the scarring more closely resembles a pitched roof line to either side of the doorway, while above there is a rectangular area rising as far as the upper chamfered off-set which might represent a former canopy, although the door is not central to it. Historic views showing this side of the castle are far less common than those that looked north-east so as to take in the Wharfe valley, and the few that do exist from the late 18th century, such as the 1787 Newton engraving (plate 7), depict neither the doorway nor the scarring. It is possible that the doorway (D3) may be shown by Jewell in 1819, but the engravings accompanying his description are so crude as to render doubtful any detail shown (Jewell 1819, 36).

- 5.72 The window (W40) lighting the east end of the upper chamber (**NB3**) of the north block is set to the north of centre of the elevation. Like window W23 in the chamber's east wall and windows W30 and W31 in its north wall, this window was originally of four-light mullioned and transomed form, and set within a moulded surround; the mullions and transoms remained *in situ* in the 1940s (Bowden c.1940, 20) but have since fallen. The upper two lights were provided with fixed glazing, and all lights were fitted with external iron grilles comprising a single vertical standard and two horizontal bars socketed into the frame. Above and to either side of the window, there are spouts (S28 and S27) draining the north and south roof slopes of the north block [37/5, 37/7-37/8, 37/10]. The wall face steps out slightly above a chamfered string course over the southern drain (S27), which then rises vertically at its south end, marking the junction of the north block and north-west tower here. This feature was once probably also carried northwards at the same height across the whole east elevation of the north block, to support a parapet wall screening a wall-walk.
- 5.73 The second floor chamber (**NWT3**) of the north-west tower is lit by a rectangular chamfered window (W41) [37/17], once fitted with an external iron grille as described elsewhere on the elevation. Above, the third floor chamber (**NWT4**) of the tower could originally only be reached via a mural stair passage from the chamber (**NWT3**) below. The head of this stair was lit by a small loop (W86), with a rectangular chamfered window with an external iron grille (W39) to the chamber itself. Above, another spout (S26) drained the roof structure of the tower, and possibly also a wall-walk around two or more of its sides.

Elevation 17 (figures 17a-17b)

- 5.74 The south return of the north-west tower measures only 2.90m wide but rises to 14m above the existing ground surface here. At ground level, the wide chamfered plinth which steps up across the west side of the lower block (elevation 18) is either absent or buried; a projection through from elevation 18 would suggest that it would lie some 0.50m below the current ground level. However, a short stretch of chamfered plinth does exist at the base of the east side of the elevation, although it is of quite different form to that at the base of elevation 18. Not only is it somewhat deeper (0.45m as compared to 0.35m) but more significantly rather than being formed by a single piece of chamfered stone, it is built from at least two pieces of stone laid to a sloping profile, rather like the external sloping roof areas surviving, for example, over the south end of the upper hall (**MB3**) roof. The plinth continues eastwards to be butted by the adjoining west elevation (elevation 16) of the lower hall (**MB2**). The upper chamfered off-set seen on elevation 18 continues around onto this elevation (at 87.50m AOD), but terminates at the angle with the main hall block.

- 5.75 There are three windows in the elevation. The lowest window (W52) lights the tower's first floor chamber (**NWT2**) and is a tall rectangular chamfered opening [3/7, 3/9], formerly fitted with an external iron grille comprising a single vertical standard and three horizontal bars socketed into the frame. There appears to be a small blocked square recess to the west of the window, resembling a putlog hole. There was once another window (W51) above to the second floor chamber (**NWT3**) but this has been almost completely removed as a result of later collapse/destruction, and its original form is unclear. A smaller window opening (W50) to the third floor chamber (**NWT4**) is also chamfered and rectangular, and this retains some evidence for an external iron grille [1/17]. A spout (S15) placed immediately below the opening drains a sink set into the internal base of the window [2/7; 60/8].

Elevation 16 (figures 17a-17b; plate 31)

- 5.76 The west side of the hall block is densely fenestrated, and shares many features with the east side of the hall block (elevation 6) [56/12]. There is a chamfered off-set immediately below the sill level of the ground floor windows (at 82.50m AOD), and there is an intermittently surviving chamfered string course at 91.75m AOD near the present top of the wall, above which the parapet of the wall-top walkway projects slightly. Two spouts (S16 and S17), set slightly below the string course, drained the base of the west slope of the upper hall's roof (plate 33). Neither the string course nor the chamfered off-set extend to either of the adjacent elevations (elevations 17 and 15). There appears to be a building break running between two of the ground floor windows (W58 and W60) at c.84.00m AOD, and this may continue intermittently further northwards at a slightly higher level, over a short staggered vertical joint. Approximately 2.20m above, there is another building break at c.86.50m AOD, running beneath the best-preserved first floor window (W54).
- 5.77 The fenestration in the elevation includes two formerly mullioned and transomed four-light windows (W57 and W58) lighting the lower hall (**MB2**). The window surrounds are chamfered to the exterior and they have square heads [3/8, 3/10; 9/18; 10/1]. The upper two lights of each window were fitted with fixed glazing, and all lights had external iron grilles comprising two cross-bars and a single vertical standard socketed into the frame. There is a third slender window (W59) to the south lighting the buffet to the lower hall, with several iron objects projecting from the wall face on its south side. At the very south end of the elevation, a tall c.4.00m high opening (W60) has been hacked through the wall to create an entrance into this side of the castle [56/13]. Newton's 1787 engraving appears to show the top of a four-light mullioned and transomed window here (plate 7), similar to those to the north, although some five years earlier in 1782 King showed this as a doorway, and described it as 'the present entrance' (King 1782, 330); it is also shown as a doorway on the proposed malting house conversion plans of c.1770 (WYL250/4/1/3) (figures 3 and 4). This suggests that, although the terraced walkway created in the early 19th century as part of the Castle Pleasure Grounds leads towards this opening, the opening itself pre-dates the pleasure grounds themselves. It is shown as a doorway by Whitaker in 1816 (Whitaker 1816) and it is possible that Jewell also shows the enlarged opening in 1819, although this is not certain (Jewell 1819, 36). Above this opening, there is a smaller opening (W56), crudely rebated to the exterior and with an elliptical arch over [2/12; 3/1]; this opening is shown as having the same form on Newton's 1787 engraving. Its form, particularly the external rebate, is typical of later inserted openings throughout the castle, although it may have been enlarged from an original opening.

- 5.78 A third four-light mullioned and transomed window (W54) lights the upper hall (**MB3**) at first floor level, and is the best preserved of its type in this elevation [2/2-2/3, 2/6, 2/8] (plate 32). The opening measures 1.15m wide by 2.10m high and, as with the ground floor windows of similar form, the upper two lights had fixed glazing, and all lights were fitted with external iron grilles comprising two cross-bars and a single vertical standard socketed into the frame [2/13]. There is a much enlarged window opening (W53) at the north end of the first floor [2/11; 3/5; 9/8]. Emery (1996, 342) appears to suggest that this may once have been of oriel form although there is no convincing structural evidence to support this (see below), and it may well have been mullioned and transomed like the adjacent window (W54). In 1787, Newton appears to show the opening as being of a similar form and dimensions to that existing, although a photograph taken in c.1900 appears to show it with the remnants of a flat head (Goodchild 2000) (plates 7 and 14). To the south end of the first floor, a narrow chamfered window (W55) lights a mural passage which leads from the south side of window W54 to the second floor chamber of the south-west tower (**SWT3**) (plate 33). There is a sink set into the west wall of this chamber, which drains through an external spout (S18) [2/5].

Elevation 15 (figures 18a-18b)

- 5.79 The north face of the south-west tower is the castle's tallest surviving elevation, rising 25.20m above the external ground level here when the small turret to the south-west corner is included. The elevation is divided into three parts by two chamfered off-sets, at 89.00m and 95.00m AOD, which do not continue northwards along the hall block (elevation 16). There are five windows (W61 to W65) to the elevation, each lighting one of the five chambers of the south-west tower (**SWT1** to **SWT5**). All the windows are of the same chamfered, rectangular form, although of varying external dimensions [2/14; 3/3]; the wider windows were fitted with external iron grilles comprising two cross-bars and a single vertical standard socketed into the frame.
- 5.80 To the immediate west of the lowest window (W65), there appears to be a small square blocked recess, resembling a putlog hole. To the east of window W61, there is the chamfered square-headed doorway (D9; see elevation 20) that gives access to the uppermost chamber (**SWT5**) of the south-west tower. This doorway was reached from a stair, now almost completely collapsed, rising from the wall-walk on the west side of the upper hall. Between the doorway and window W61, a narrow area of corework forms a scar 2.40m high and c.0.45m wide, the only indication throughout the whole castle of the form of a parapet wall. The outline of the coping surmounting the parapet wall is clearly visible, and it was of either triangular form or possibly sloped steeply down from the exterior to the interior. Assuming that the scar represents the height of a crenel, the merlons would have been slightly lower, and are perhaps represented by projecting masonry within the scar, indicating a height of c.1.70m. It is of course not known if these dimensions were replicated throughout the castle, or if they represent only sections of parapet wall shielding an external stair, for example. The north elevation of the south-west turret is described under elevation 14 below.

Elevation 14 (figures 18a-18b, plate 34)

- 5.81 The west side of the south-west tower is divided into three parts by the two chamfered off-sets carried round from the north face (elevation 15), and it includes the west side of the angle turret. There is a horizontal construction break set at c.93.75m AOD, just below the upper off-set, which continues to the east on elevation 13.

- 5.82 There are three windows (W68, W67 and W66) to the lower part of the elevation, lighting the first (**SWT2**), third (**SWT4**) and fourth (**SWT5**) floor chambers respectively. All are of a similar rectangular chamfered form, closely similar in size; only the uppermost window (W66) was sufficiently wide (at 0.30m) to require an external iron grille comprising two cross-bars and a single vertical standard socketed into the frame. Above and to the north of the first floor window (W68), there are four thin iron straps projecting from the wall face and possibly associated with former signage here. At the top of the tower, there is a chamfered string course (at 101.00m AOD) above which the wall face corbels out slightly to form the corner turret; just below the string course, there may be a horizontal construction break at c.100.00m AOD.
- 5.83 The turret is divided into two levels internally. The lower level space (**SWT6**) was reached via a doorway (D56) in the internal east face (see elevation 36), while the upper level space (**SWT7**) has a doorway (D4) in the north face (see elevation 15). Adjacent to the west side of the doorway, there is a 0.40m wide scar, apparently representing the width of the parapet wall here, although curiously it rises only 0.50m above the door threshold, providing little shelter or indeed safety. At a lower level, and some way to the north, the remains of a circular flue rising from fireplace (FP18) in the fourth floor chamber (SWT5) are visible within the core here [1/3; 15/3] and exposed at wall-top level, mirroring the better preserved arrangement at the south-east tower.
- 5.84 Both levels of the turret have a well-preserved cruciform arrow-loop in their west sides. Above and to the south of the upper loop, a small spout (S19) drained the roof structure of the turret, which would have been concealed behind a parapet. A small stone shield surmounts the parapet, and there is a similar feature to the north face (elevation 15); reinforcing angle-irons and iron strapping also survive around the turret. The cruciform arrow loops are a prominent feature, and were shown by Newton on his 1787 engraving (plate 7); the shields do not appear but the depiction implies that the parapet wall was crenellated, as does a sketch by Turner made in 1797. Photographs taken in c.1940 show the iron strapwork to be in place by this date (Bowden c.1940, 20).

The South Side (Elevations 9 to 13)

- 5.85 The south external elevation is actually composed of five co-joined wall faces (elevations 9 to 13), including the returns associated with the north-west and south-west towers [56/14-56/16; 57/11-57/13] (plates 3 and 36). Each elevation is described in turn, from west to east.

Elevation 13 (figures 19a-19b)

- 5.86 In many respects, the south-face of the south-west tower is very similar to its west face (elevation 14). The two chamfered off-sets, at 89.00m and 95.00m AOD, dividing the elevation into three parts, continue around from the west face, as does the chamfered string course above which the wall face corbels outward slightly to form the corner turret. There is a horizontal construction break set at c.93.75m AOD, below the upper off-set, which steps slightly higher at the west end, and this continues to the north, on elevation 14.
- 5.87 There are three windows (W71, W70 and W69) to the tower part of the elevation, lighting the first (**SWT2**), second (**SWT3**) and third (**SWT4**) floor chambers respectively. All are of a similar rectangular chamfered form, closely similar in size, and were all fitted with an external iron grille comprising two cross-bars and a

single vertical standard socketed into the frame. Just below the lower chamfered off-set, there are what might be taken for a pair of sockets, perhaps formerly housing timbers for an adjoining ephemeral lean-to structure, but which are in fact no more than fallen facing stones.

- 5.88 The turret above the string course is divided into two levels internally (**SWT6** and **SWT7**). Both levels have a well-preserved cruciform arrow-loop in their south sides. Below the lower loop, and the string course supporting the turret, a spout (S20) presumably drained part of the roof structure of the main tower immediately beneath the turret. A small stone shield surmounts the parapet, and there is a similar feature to the west face; angle-irons and iron strapping also survive around the turret. The cruciform arrow loops are a prominent feature, and are shown on a sketch made by Turner in 1797, who also implies that the parapet was crenellated. The top of the turret currently stands at 107.00m AOD, c.22m above ground level.

Elevation 12 (figures 19a-19b)

- 5.89 On the east face of the south-west tower, the two chamfered off-sets continue around from the south face (elevation 13). There are no features to the main face of the tower, but it does incorporate a shallow projection, 0.50m wide, rising almost the full height of the elevation; for ease of description, a number of features appearing on the south face of the projection (elevation 11) are described here.
- 5.90 The primary function of the projection appears to have been to house a garderobe (G9) serving the uppermost chamber (**SWT5**) of the south-west tower. The garderobe is slightly corbelled out from the east face of the projection; however, if it had been supported on this corbelling alone, then there would have been no room for the associated garderobe chute, and so the solid masonry mass was needed beneath to house it. The base of the chute is not visible, and so it must emerge below the existing ground level. The base of the east face of the projection incorporates another chamfered off-set below that carried round from the main body of the tower. Above the former, a small window (W72) angled through the wall thickness lights the garderobe (G7) of the third floor chamber (**SWT4**) of the south-west tower. The east face is then corbelled out to support the garderobe (G9) of the tower's uppermost chamber (**SWT4**), lit by a narrow window (W73) in the projection's south face (see elevation 11). The top of the projection is formed by a steep single pitch roof, formed from masonry courses but with the appearance of stone slates [12/7] (plate 35). The uppermost surviving part of the main tower rises 1.50m above the roof.

Elevation 11 (figures 19a-19b)

- 5.91 In addition to the south side of the middle (hall) block, this elevation also includes the south side of the small projection within the angle with the south-east tower. However, for ease of description, this is described under the main west face (elevation 10) of the south-east tower.
- 5.92 The south side of the middle (hall) block survives to 14.50m in height, and contains a number of features relating to both the original construction and also apparently later alterations (plate 36). The elevation is divided into three parts by two chamfered off-sets. The lower off-set (at 89.00m AOD) is continuous with that to the adjoining south-west and south-east towers (elevations 12 and 13, and 10 and 9 respectively), but the upper off-set is placed at a higher level than the equivalent feature to the towers, at 98.00m AOD.

- 5.93 The only window below the level of the lower off-set is a small chamfered rectangular opening (W80) lighting the garderobe (G3) which serves the first floor chamber (**SWT2**) of the south-west tower; despite being relatively narrow (0.15m wide), it was still provided with a vertical iron standard socketed into the frame. At a higher level, but still beneath the off-set, there are three shallow recesses or sockets, formed by a pair to the west and a single example to the east; the latter is slightly deeper than the other two. Above the off-set, the dominant features are two large rectangular openings (W76 and W77), measuring 1.40m wide and 2.70m high externally. Their size led Latham to suggest that they were both doors accessed by an external stair (Latham 1989, 12), and it was previously thought that they were created as part of the early 19th century alterations to the castle, perhaps to give access onto a platform or balcony to look out over a bowling green to the south. However, the openings are clearly visible on a late 18th century oil painting of the castle by Nicholas Dall (who was active between 1760-1777; Graham-Vernon 2004) (plate 5), and they must therefore originally result from activities pre-dating the creation of the Northern Pleasure Grounds of Harewood House. Nevertheless, the openings may possibly have been used as doorways at a later date, as the pattern of damage to either side of them both suggests hinge blocks for outward opening shutters or doors. Close internal inspection shows that both openings were originally formed by deeply splayed windows, probably no more than 0.50m wide externally [12/6] (plate 37). The eastern window (W77) accommodated two garderobe chutes within its splays [9/2], from G8 on the third floor and G10 from the fourth floor of the south-east tower (plate 38). It is noticeable that many garderobe chutes are clustered around the angles of the middle (hall) block and the two southern towers here, and they may possibly have discharged into pits. The concentration of garderobes here may also explain why the majority of the windows in the south elevations are so narrow, and why the inner faces of the towers contain no windows apart from at their upper levels.
- 5.94 The two large openings (W76 and W77) are flanked by much smaller windows; window W79 to the west lights a garderobe (G5) of the second floor chamber (**SWT3**) of the south-west tower, while window W78 to the east lights the garderobe (G6) of the equivalent chamber (**SET3**) of the south-east tower. Above the larger openings, there are three square sockets or recesses, measuring between 0.10m to 0.35m in depth; these are also visible on Dall's late 18th century painting. Immediately to the east, a small chamfered window (W75) lights the garderobe (G8) of the third floor chamber of the south-east tower (**SET4**). Below this window, a spout (S22) drains the garderobe sink [9/03] (plate 40). Above the window, set some c.2m higher than the large openings, there are further recesses or sockets, all set at the same height; these comprise a row of four small blocked sockets, spaced at equal centres and resembling putlog holes, and two larger sockets to the east, the larger one (central to the elevation) containing a piece of timber. There is single small chamfered window (W74) at a higher level, lighting the garderobe (G10) of the uppermost chamber (**SET5**) of the south-east tower. Approximately 0.50m to the west, a blocking of the same proportions as the window can be seen [12/8; 16/1] (plate 39) - it seems likely that this represents either a change of design or a mistake during the original construction, with the window's position having to be changed to fit into the garderobe.
- 5.95 The window W74 and its blocked counterpart are set below the upper chamfered off-set. Above the off-set, as far as the top of the elevation, the masonry has been repointed using a thickly applied white lime mortar, which is very similar to that seen on the north elevation of the castle (elevation 1). The top two courses of the central part of the elevation form five corbels, above which are a set of machicolations, 2.5m wide in total [7/5, 7/6, 12/9] (plates 41 and 42). It is assumed

that there was some sort of structure surmounting these, but it has completely collapsed. To the east, a spout (S21) would have drained whatever existed on the upper part of the castle here.

Elevation 10 (figures 19a-19b)

- 5.96 On the west face of the south-east tower, there are two chamfered off-sets at the same levels as those surviving to the south-west tower, and these continue around to the south face (elevation 9) of the tower. The lower off-set (at 89.00m AOD) may mark a construction break, as the stone above appears better dressed, although this might result from differential erosion. The only window to the main tower face is a rectangular chamfered opening (W82), fitted with an external iron grille comprising a single vertical standard and two horizontal cross-bars socketed into the frame; the window lights the uppermost chamber (**SET5**) of the south-east tower. There are two blocked putlog-like recesses below the window, similar to those noted on elevation 11 but at a slightly higher level, and a further socket or recess to the south of the window. Towards the top of the elevation, there are two further sockets or recesses; the west recess has been blocked and the east recess was previously mistaken for a spout (S24) in the previous 2001 Condition Survey.
- 5.97 The main face of the tower incorporates a shallow projection, 0.50m wide, rising 5.80m above the existing ground level here. The primary function of the projection is to house two garderobes (G4 and G6), serving the first (**SET2**) and second (**SET3**) floor chambers respectively of the tower. Neither chute base is visible, and so they must emerge below the existing ground level. Both garderobes were lit by small windows, W81 to garderobe G4 and window W78 to garderobe G6, but both of these have been largely destroyed or collapsed. The majority of the projection has collapsed in the past, leaving a void forming part of the garderobe passage leading from the second floor chamber (**SET3**). The top of the projection is formed by a steep single pitch roof, formed from masonry courses but with the appearance of stone slates.

Elevation 9 (figures 19a-19b)

- 5.98 The south face of the south-east tower [43/14] incorporates two chamfered off-sets at 89.00m and 95.00m AOD, dividing the elevation into three parts, continuing around the east and west faces; at the top of the elevation, the chamfered string course, above which the wall face corbels outward slightly to form the corner turret, continues around from the east face (elevation 8). There is a strong horizontal construction break set at c.97.30m AOD, above the upper off-set, and this also continues around from the east face.
- 5.99 There are three windows (W85, W84 and W83) to the elevation, lighting the second (**SET3**), third (**SET4**) and fifth (**SET5**) floor chambers respectively. All are of similar rectangular chamfered form, closely similar in size (0.30m wide by 0.90m high), and were all fitted with an external iron grille comprising two cross-bars and a single vertical standard socketed into the frame [24/1, 24/4]. The turret above the string course has largely collapsed (in c.1962), although late 18th century depictions show it to have been of the same form as the surviving south-west turret, i.e. divided into two levels internally (**SET6** and **SET7**), both with cruciform arrow-loops to the east and south faces, and a crenellated parapet decorated with stone shields. Only the south loop of the lower level (**SET6**) now survives complete. Below the lower loop, and the string course supporting the turret, a spout (S25) presumably drained part of the roof structure of the main tower immediately beneath the turret.

Internal Circulation Description

- 5.100 The complex circulation plan within the castle and the difference in floor levels from the south to the north ends makes it difficult to assign a single ground, first floor or other level throughout the whole building. As a result, the following description is grouped around the entrance tower, the service areas, the lower and upper halls, and the upper levels etc.
- 5.101 The circulation description is drawn from the more detailed information contained within the room description sheets (see Appendix 1), and reference should be made to the various floor level plans and the internal elevation drawings. There are a total of eight floor level plans (figures 20 to 27), and figure 12 provides a key to the plans. As with the external elevations, each internal elevation is illustrated by two figures, one (b) showing the stone-by-stone drawing and the other (a) showing the interpretation and numbering of identified features (figures 28 to 35); the key to the elevation numbering system appears as figure 11. There are also additional figures illustrating the internal elevations of the south-west turret (figure 36), internal sections through the castle (figures 37 and 38), various mural passages and garderobe chambers (figures 39 to 41), some details of various windows (figures 39 and 42), and a plan and section through the oven in the kitchen (**NB2W**) (figure 43).

The Entrance Tower, Screens Passage and Associated Spaces

(figures 20 and 21 (plans); figures 28a-28b, 29a-29b and 32a-32b (elevations))

- 5.102 The principal and indeed only original entrance into the castle was positioned in the north-east tower. The original floor of the entrance passage (**NET1**) has been completely taken up and only exposed rubble core now survives at the base of the north and south walls, although it appears that the store (**MB1**) beneath the lower hall (**MB2**) may have extended beneath the entrance passage here (see below). The external doorway (D2) at the east end of the entrance passage is 1.80m wide and at least 3.30m tall, with a two-centred arched head (see elevation 4 above). It is rebated to the west (internal) face, the sides splaying outwards beyond the rebates to house the pair of doors that were once mounted here; when the doors were closed, a drawbar was placed across them, as evidenced by the drawbar slots to either of the door splays. The splays terminate at the former portcullis position, which is marked by narrow vertical grooves to the north and south walls. Beyond the portcullis slot, the south wall of the entrance passage is blank, while the north side is lit by a very narrow loop with a wide internal splay (W20), with an unfinished carving of the word 'Vat' in relief Gothic script above. This is the same inscription as survives externally over the chapel window in the tower's east external elevation (elevation 4) ('*Vat sal be sal*') although it is not certain that the two are contemporary; the single word could be the work of an 18th or 19th century copyist.
- 5.103 At the west end of the entrance passage (**NET1**), there is another part-collapsed two-centred arched doorway (D5), measuring 1.70m wide by at least 2.50m high. The east face is moulded and chamfered, with a hoodmould over; the south stop is badly eroded but the north stop is still recognisable as the face of a man, perhaps wearing a helmet [29/16] (plate 43). The west face of the doorway is rebated; both jambs splay outwards towards the castle's interior, although the north side is slightly longer and placed at a slightly more acute angle. A second pair of doors were once mounted here and, like those to the outer doorway (D2), could also be secured with a drawbar when closed.

- 5.104 This doorway (D5) opened into the east end of the former screen passage located at the north or lower end of the lower hall (**MB2**). The position of the screen is marked by low level slots or recesses to the immediate south of doorway D5 at its east end (elevation 21) and immediately south of doorway D10 at its west end (elevation 22). However, it should be noted that these slots are not exactly opposed, and so the screen was either set at a shallow angle (which seems unlikely), or it incorporated a step to the north somewhere along its length.
- 5.105 A number of other doorways led off the screens passage. The chamfered doorway (D10) at the west end of the passage has a two-centred arched head, with a semi-circular rear-arch [55/6], which gave access to the lowest space of the north-west tower (**NWT1**) and so to the kitchen (**NB2W**). Another doorway (D11), positioned midway along the north side of the screens passage, opened into the ground floor service area (**NB2E**) and domestic offices in the castle's north block [29/13] (plate 50). There is a wall cupboard to the east of the doorway, while the doorway itself is flanked by small circular areas of damage positioned about mid-way up its height, suggestive of a fitting or other item being removed (elevation 19). Finally, another doorway (D12) with a flat lintel is placed at the east end of the north side of the screens passage, to give access to the base of the lesser newel staircase [19/18] via a small landing or lobby.

The Service Areas, Domestic Offices and Associated Spaces
(figures 20 and 21 (plans); figures 30a-30b, 31a-31b and 35a-35b (elevations))

- 5.106 The main service areas of the castle were located on the ground floor and basement levels of the north block, and also beneath the lower (north) end of the lower hall.
- 5.107 The service areas on the ground floor of the north block are accessible from two points, the central doorway (D11) in the north wall of the screens passage and the lowest chamber of the north-west tower (**NWT1**) at the west end of the screen passage. The latter (**NWT1**) is described as a 'kitchen lobby' by Emery (1996, 340-341) and as a 'servery' by Brears (2008, 199), and both the position of and the surviving structural evidence within the chamber suggest that this is the case. The north side of this chamber is now completely open, presumably as a result of later demolition which may have been associated with the removal of materials from the kitchen area (see Chapter 6 below) [63/8] (plate 44). However, there was formerly a c.3m wide opening here leading into the kitchen (**NB2W**), perhaps provided with a flat or very shallowly arched head for which only corbel fragments remain [55/5]. Beyond (to the north), the west wall of the opening has a slightly inset panel 1.20m wide and 2.30m tall, once fitted with a door (D62; elevation 34). By contrast, the lower c.1m of the east wall of the opening is formed by projecting rubble core. Taken together, the evidence suggests that a dresser hatch was positioned here, providing the route by which food reached the lower hall. The east side of the opening housed the hatch, which had a low stone shelf on which items were placed, and which could apparently be closed by a shutter mounted on the east wall; the shutter apparently opened horizontally, rather than vertically, as does the dresser hatch at Gainsborough Old Hall in Lincolnshire (Brears 2008, 193). The shelf did not cross the full width of the opening, but had a doorway at its west end to allow the movement of people and perhaps forming the only access to the kitchen. There is a wall cupboard at the south-west corner of the chamber, perhaps once fitted with internal shelves or a closing door; it is possible that this was a secure cupboard, used to house the accounts of those officers and clerks checking the dishes leaving the kitchen, as has been seen to survive elsewhere (Brears 2008, 192). Indeed, the chamber itself may have doubled up as a servery

and dresser office, allowing a variety of activities to be overseen and controlled from the same area. The chamber is lit by a single window (W46) placed at a high level in the west wall [55/4], while a shouldered doorway (D22) in the west wall provides access to basement room (**NB1W**) (see below).

- 5.108 The doorway (D11) [46/12; 47/8] in the centre of the north side of the screens passage opens into the east ground floor chamber (**NB2E**) of the north block. This chamber measures 6.00m north-south by 5.20m east-west, and is lit by two windows, W35 [28/5, 46/13] in the north wall (elevation 28) and W27 [47/1] in the east wall (elevation 27). The latter window is of a similar splayed form to many others surviving within the castle, but the former (W35) is more unusual. It is set within a large rectangular window opening or recess (1.80m wide by 1.30m deep), the base of which once projected out by 0.30m into the chamber to form a shelf or lip [28/2]; at either end of this lip, there are projecting stones, chamfered to their outer edges and standing 0.65m in height (plate 45). The inner, straight, edge of each stone preserves a shallow vertical slot to the centre, apparently to hold planks or boards on edge [46/14]. The base of the projecting lip is set c.0.50m above the former internal floor level, and traces of a smooth lime mortar floor survive to the interior. The narrow 0.35m wide window (W35) itself is also unusual in that it was not shuttered and had fixed glazing [46/17], one of only a few such instances in the castle away from the lower and upper and halls (**MB2** and **MB3**), where the windows are in any very case very much larger. To the west of window W35, there is a stone sink set just above the former internal floor level, draining into an external spout (S10). In the opposite, south, wall of the chamber (elevation 30), there is a two-level wall cupboard [47/4, 47/7; 63/11], again the only example of such surviving within the castle (plate 46). The two are separated by a slightly projecting stone shelf, chamfered to the underside, which runs as far as a slightly projecting block of stonework situated at the east end of the south wall [47/7]; the chamfer at the east end of the shelf is damaged. In the east wall (elevation 27), there is a pair of mortar patches, centrally placed either side of window W27, presumably to hold sconces [47/2].
- 5.109 The shared wall between the chamber (**NB2E**) and the kitchen (**NB2W**) to the west has almost completely collapsed, apart from the north and south stubs. There may once have been a doorway linking the two spaces, although Brears (2008, 192) notes that examples of two doors leading into kitchens were rare, and so the only access to the kitchen may well have been through the combined doorway/dresser hatch at the base of the north-west tower (**NWT1**). Any such door would have been accompanied by a step or two, as the floor levels of the two spaces are at different heights, the eastern room (**NB2E**) being c.0.6m higher than the kitchen (**NB2W**) to the west (figures 30a and 31a).
- 5.110 As might be expected, the kitchen (**NB2W**), which measures 6.00m north-south by 5.70m east-west, is dominated by the remains of two fireplaces, one to the west wall (FP6) and one to the north wall (FP10) (elevations 29 and 28). The west fireplace recess (FP6) is 3.90m wide and 1.05m deep [47/10; 63/9] (plate 47). The back of the fireplace is formed by ashlar stonework of the same depth and form as that used in the walls. The head has either collapsed or been removed, exposing the tapered flue behind; it is probable that the fireplace originally had a broad arched head and the height is estimated to have been 3.80m. Above the fireplace, flanking the flue at a high level in the kitchen's west wall, there are two small windows (W44 and W45), both splayed internally to their flue sides only so as to maximise the light entering this area [28/1, 28/4; 49/7].

- 5.111 The north fireplace recess (FP10) is slightly larger than the other (estimated 3.90m wide by 1.20m deep), with two sockets surviving in the rear wall, set 2.30m apart and 1.60m above the former fireplace base, and a third possible socket above. These sockets were presumably used to house a frame on which different pots and utensils were suspended while cooking took place. Whitaker (1816) shows a sub-circular recess at the rear north-west corner of the fireplace - it is difficult to find any convincing evidence for this recess in the surviving structure, and it is possibly that Whitaker was attempting to show the well to the west. However, if the recess did exist here, then it may be the remains of a simple boiler furnace, like the examples illustrated by Brears (2008, 157; 2010, 75). Unfortunately, both the north and west fireplaces have lost their original bases. As Brears (2008, 306-308) notes, meat was always roasted in front of the fire, rather than over it, and although surviving examples are now rare, it is quite possible that one of the fireplaces was provided with a stone vessel or trough to collect dripping in. There is a stone sink [47/11] to the immediate west of the north fireplace, set just above the original floor level, draining into an external spout (S14) which was presumably used to dispose of kitchen waste. At a high level, to the north of the fireplace, there is a window (W36), formerly of two-lights with a central mullion [49/11] and with a crude alteration to the east [49/10].
- 5.112 A baking oven is positioned across the south-east angle of the kitchen [48/16, 48/18] (plate 44). The low mouth of the oven originally had a shallow arched head and may have been fitted with either a single or a pair of doors. To either side of the mouth, a narrow sill, chamfered to the underside, projects from the wall face [49/12]. Above the mouth, the wall is corbelled out to the west side only [51/4-51/5]. It is possible that this corbelling supported a small hood or canopy structure, directing smoke into the flue above, although it is not clear if smoke would have been let out of the mouth of the oven or perhaps another opening positioned above it and now lost. The interior of the oven is more oval than circular in plan, measuring a maximum of 1.70m north-east/south-west by 1.40m north-west/south-east, and has a slightly domed profile, rising 1.25m to the flattened apex [51/1-51/2] (figure 43). The flue structure of the oven is of some considerable interest, even if the structure itself has unfortunately been partly destroyed. It emerges from above the oven's mouth as a slot, c.1.0m wide but measuring only 0.10m from front to back [51/6]. It then arches back southwards over the oven, rising at an angle and becoming wider as it does so [51/7-51/8]. At c.2.30m above the flue opening, the flue then rises vertically; on the floor above, its course has been blocked following alterations to the fireplace (FP7) in the south wall of the first floor chamber above (**NB3**), but it must eventually have emerged through one of the flues visible at the very top of the surviving south wall of the uppermost chamber (**NB4**) of the north block (elevation 30).
- 5.113 In the north-west corner of the kitchen (**NB2W**), a narrow opening leads into an angled passage, which opens into a small chamber over the well [49/2]; the chamber is rather restricted, and has a number of vertically aligned sockets in the west wall [49/6]. The well shaft [49/5] is rectangular in plan and located on the east side of the chamber. There is a rectangular stone block at the south end of the shaft, with shallow recesses in its surface adjacent to the shaft flanking a shallow curving recess. These features are mirrored by identical recesses in the wall above the north side of the shaft; together, these must mark the position of the wooden frame over the shaft. The position of the windlass or winding drum across the shaft is marked by a shallow circular recess in the east wall, positioned above the centre of the shaft below [49/4].

- 5.114 There are two basement chambers located beneath the ground floor service rooms of the north block, which may also have had a service function. The west chamber (**NB1W**) is reached from a doorway (D22) in the lowest chamber (**NWT1**) of the north-west tower above, which opens into a north-south aligned descending mural passage leading down to the basement room [55/7] via another door (D25). The 0.80m wide passage is not straight, nor does it run exactly parallel to the outer face of the castle's west side, but rather kinks and narrows slightly approximately half way along its length. The mural passage has well-preserved steeply inclined stone stairs and is lit by small windows at its head (W47) and foot (W49) (figure 41c).
- 5.115 The west chamber (**NB1W**) measures 5.20m north-south by 5.25m east-west and its main feature is the remains of the semi-circular vault which formerly covered it, supported on five north-south aligned substantial ribs, set at 0.75m centres (plate 48). All five ribs have now collapsed or been removed, and only the stubs of either end remain; they are not chamfered, and spring from c.0.80m above the compacted rubble and soil ground surface of the chamber. At the east end of the chamber, there are three pairs of opposed recesses flanking the two easternmost ribs. These recesses are all placed immediately below the springing line of the ribs which are neatly cut (elevation 30). They may have been used to support the centring for the ribs when they were being built, although some seem rather shallow for this purpose, and it is then unclear why they should be present only at the east end. Above these recesses, c.1.50m above the existing ground surface, there is a second set of recesses. There are seven in all to the north wall (elevation 28) but only three to the east end of the south wall (elevation 30) partly within the exposed core, opposite those in the north wall; it is probable that similar features once extended the length of the south wall. In contrast to the lower recesses, the upper ones are crudely cut but are much deeper, extending up to 0.75m back from the wall face. Their form and height suggests that they are the remains of a floor, inserted either after the ribs had collapsed or immediately after the vault had been removed to convert this space to another purpose, such as the proposed 1770s corn drying kiln (figure 3). The chamber is lit by a single window (W48) in the centre of west wall (elevation 29) while at the north-west corner, there is a short angled passage, leading to the shaft of the well, descending from the kitchen (**NB2W**) on the floor above. Due to a build up of later materials, the original height of this passage is now uncertain. However, if it had been tall enough to walk into, then this could suggest that water was needed for whatever took place in the chamber, as well as in the kitchen. Comparison with other late medieval residences (e.g. Wressle, East Yorkshire - Brears 2010) suggests that the chamber might have been used as the wine cellar, with the ale cellar perhaps located within the adjacent basement (**MB1**) beneath the lower end of the lower hall.
- 5.116 Apart from projecting stubs, the partition wall between the east and west basement chambers [47/12] has been almost completely removed, making it difficult to be sure if the two were ever linked (plate 48). Very limited clearance undertaken in this area as part of the 2004-05 works found no evidence to suggest a connection. The spacing of the vault ribs may also be significant in this respect. As has already been noted, the ribs in the west room (**NB1W**) are set at 0.75m centres. However, the distance between the west wall of this chamber and the centre of the westernmost rib is c.1m, possibly to allow easier access to the doorway (D25) and the well shaft. There is a similar distance between the centre of the easternmost rib and the projected east wall of the chamber, again possibly to allow easier access to a doorway positioned somewhere in the wall.

- 5.117 The only surviving original access into the east chamber (**NB1E**) was via a steeply inclined mural stair passage [47/13] in the south wall, descending from the lesser newel stair at the castle's north-east corner. Little remains of the doorway (D60) at the upper end, and the doorway (D57) that was almost certainly present at the lower end has completely collapsed [63/14]. To the east of where the doorway would have been, there is a curious feature that would once have been placed within the chamber. Even allowing for the raised ground surface, the feature is placed at a very low level; it is c.0.55m wide and is rebated to the east side, and the overall form is suggestive of a below-stair wall cupboard with an opening door (elevation 30).
- 5.118 The east chamber itself measures 5.55m north-south by c.5.00m east-west, is lit by a single window (W29) in the east wall (elevation 27) (plate 49). There is also a fireplace (FP9) to the immediate south of the window [63/13]. The head of the fireplace, and much of the north side, have either collapsed or been destroyed, although in its original form it probably had the same flat stone lintel as occurs elsewhere within the castle. At a low level on the immediate south side of the fireplace, a shallow rectangular socket of uncertain function is visible in the wall face. An opening (D30) at the east end of the north wall (elevation 28) gives access to a small lobby formerly lit by a window (W37) in its north wall, but only the lower part of east splay now survives. On the west side of the lobby, there is another doorway (D31) giving access to a mural passage leading to a garderobe (G1). At its west end, the passage returns to the north to form the garderobe proper. The floor of the garderobe has been completely removed, so that there is now a void opening into the chute below. However, part of the stone seat survives, complete with approximately half of a slightly oval central hole, and the chute (S12) exits through the north wall of the basement. The garderobe (G1) was lit by a narrow single-light window (W38) to the north wall and there is a small recess or wall cupboard to the west wall (figure 41b).

The Lower Hall and Associated Spaces

(figures 20 and 21 (plans); figures 28a-28b, 29a-29b, 33a-33b and 34a-34b (elevations))

- 5.119 The lower hall (**MB2**) was entered via the screens passage at its lower (north) end, although the actual position of any doorway or entrance is unknown. Almost immediately to the south, in the west wall (elevation 22), a doorway (D17) with a shouldered head gave access to a tight dog-leg descending stair, which winds around to the east to another doorway (D59) and then enters a large space (**MB1**), perhaps an ale cellar, positioned beneath the lower hall's north end. Due to accumulated rubble and soil infill, it is now difficult to assess the full extent of this store. The east-west width, 8.20m, is fairly certain but the north-south measurement is less easy to ascertain, but it was at least 5m long, and may have been 6.45m as there is a shallowly projecting block in the east wall which might represent a return. Only a single window (W21) can be identified as lighting this space, set at the extreme north-east corner and placed rather awkwardly at the junction of the north-east tower and north block of the castle. The window opening narrows very markedly towards the exterior, being little more than a loop. The space was crossed by a substantial north-south aligned beam, which is another reason to believe that it was of shorter rather than greater length. Joists ran east and west from the beam, and a single joist socket survives at the north end of the east wall. A projecting stone in the north-west corner of the store is just visible above ground level, of uncertain function but perhaps supporting a timber for the floor above.

- 5.120 There was formerly a small extension or walk-in cupboard/space on the east side of the store, set beneath the entrance passage (**NET1**) of the north-east tower. This was accessed via a short angled passage leading off the east side of the store, with a 1.40m wide doorway (D61) at the east end fitted with a door hinged to the south side. The resulting space itself was rather small, measuring perhaps 1.50m east-west by 1.30m north-south. On the north side, there appears to be the remains of a small splayed opening. This could have been a window, although it would have had to run through the full 2.30m width of the wall here and would have been very narrow externally - it is not visible to the exterior of the north-east tower, but may be either buried below ground level and/or perhaps was blocked at a later date. Ryder suggests that this extension may form a pit associated with the operation of a drawbridge (Peter Ryder, *pers. comm.*).
- 5.121 Turning to the lower hall (**MB2**) itself, the former floor level can be discerned through scarring on the east and west walls; the ground surface is now formed by compacted rubble and soil, rising gently from north to south, partly infilling the former store (**MB1**) described above. The east and west sides of the hall were equipped with stone benches, and these still survive in part. On the east wall (elevation 21), the stone bench can be traced almost as far north as the main doorway D5, where there is a 'proper' return, and scarring perhaps indicates that it ran nearly as far south as another doorway (D14); it appears to have stepped up midway along its length, under window W13. The bench to the west wall (elevation 22) can be traced as far north as window W57, where it has been broken off, leaving exposed core; however, it cannot have run much further north as it would have blocked the doorway (D17) to the store (**MB1**). This bench may also have stepped up to the upper (south) end of the hall, as there is an area of scarring and adhering mortar here below the buffet (see below), although this scarring may also relate to a slightly raised dias floor at the hall's upper end. On both sides of the hall, the highest parts of the bench appear to have been set c.0.50m above the internal floor level, but lower towards the north end.
- 5.122 The lower hall (**MB2**) measures 16.60m north-south by 8.90m east-west overall and was c.6.5m high. It was lit by four principal windows, W12 and W13 to the east wall [5/2; 20/8] (plate 54), and W57 and W58 to the west wall. All of these windows are of similar form. The base of each window opening is set c.1m above the former internal floor level (figure 39g), and each has a broadly segmental rear-arch over [4/8; 5/5-5/6; 9/13-9/14, 9/15, 9/17; 20/2], although that to window W57 has collapsed; the total height from the base to the underside of the rear-arch for these windows is between 3.00m and 4.50m. Internally, the sides of the window openings are parallel, while the bases are stepped [10/2]. These steps are better preserved in the windows to the west wall, particularly window W58, where they form a lowered central well containing two steps which rise upwards from east to west [4/2; 10/3] (figure 39h and plate 52). These wells formed the access into the window from the hall floor; once in the window, there are a further two steps running around three sides of the window opening, the uppermost of which was a stone bench providing additional areas in which people could be seated to observe activities in the hall. The window openings themselves measure 1.10m wide by 2.10m high and all were of mullioned and transomed form, and of four lights; the upper lights had fixed glazing and were rebated to the interior, to take a pair of internal shutters closing flush to the frame, probably secured with a bolt or latch to the rear when closed. The lower lights were not glazed but were also fitted with similar internal shutters to the upper lights, also closing into rebates. All four lights were equipped with external iron grilles comprising cross-bars and vertical standards socketed into the frame. In the east wall, window W13 once had a doorway (D15) leading to a mural passage in its north side. This passage was lit

by a small window (W14) in its east side. However, whatever window W14 once lit was subsequently destroyed by the removal of a large section of wall core from this area, for reasons which remain unclear [20/4, 20/10; 24/17]. The initials 'NW' are carved into the south side of window W13.

- 5.123 The upper end of the hall was located at the south end. It may well have been approached via a slightly raised dias; a line of partly buried stones in the surface of the hall's soil infill, set c.6.20m north of its south wall, has previously been suggested to mark the edge of the dias. The upper end of the hall was heated by a 2.75m wide fireplace (FP1) placed in the centre of the south wall, the largest in the castle outside the kitchen (**NB2W**) (plate 51). The dias area was originally lit by another window (W60) on the west side but this has been almost completely removed to make an opening to the exterior; as a result, its original form is uncertain, although the broad curving rear-arch of the window is set slightly higher than those of windows W57 and W58 to the north. The window originally had a doorway D13 in its south side leading to the lowest chamber of the south-west tower (**SWT1**) (see below).
- 5.124 Fortunately, to the north of the inserted opening (W60), an elaborately carved stone buffet (termed a 'cupboard' by Brears (2008, 432)) remains virtually complete, although eroded (plates 52 and 57). The base of the buffet, measuring 1.65m wide by 1.20m deep, is formed by a slightly projecting moulded shelf, decorated with trailing greenery spewing forth from heads, possibly lions, at either end; if not lions, the heads are definitely of animal form rather than any other form, such as a green man. The buffet opening is a shallow two-centred four-cusped arch; the spandrel of each cusp has a different decoration. Described from south to north, these comprise three leaves, an animal head spewing forth foliage from the mouth (plate 58), a flower and finally another flower [3/13-3/15, 3/17-3/18; 4/1]. Above the arch, there is a crocketed ogee hoodmould, surmounted by an elaborately moulded foliate finial, rising across the centre of the canopy [4/5]. The hoodmould is framed by thin projecting strips, which rise towards the moulded canopy. The canopy comprises two separate horizontal strips. The lowest strip is a panel decorated with five-petalled flowers; at the extreme south end, a bird, perhaps a dove, pecks at one of the flowers [4/3] (plate 59). There is then a shallow moulded projection, above which the upper panel is decorated with cruciform arrow loops like those to the south-west and south-east turrets, below a crenellated or brattished band. Above the canopy, and at either end, there are two recesses or sockets, one of which has been blocked. These may have supported a projection above the buffet, perhaps a wooden canopy, or alternatively a frame for curtains which could be drawn back to reveal the buffet at the appropriate moment. The interior of the buffet is lit by a narrow barred window (W59) with a stepped base in the west wall. There is no scarring to the interior walls of the buffet to indicate the presence of fixed shelving, and so it is assumed that freestanding wooden shelving was once housed within or that it was fixed to an internal timber lining, now removed.
- 5.125 As has already been noted, the lowest chamber of the south-west tower (**SWT1**) is reached from the lower hall. At the time of the survey, the floor of the chamber was formed by hard-packed accumulated rubble and soil and is probably some 0.40m above its original level. The chamber measures 2.75m north-south by 3.30m east-west, is lit by a single narrow splayed window (W65) in the north wall and was heated by a low fireplace (FP5) with a flat stone lintel, placed rather awkwardly beneath the window in the chamber's north-west angle [14/12]. There are wall cupboards to the east and west walls, and a stone sink [14/13] at the

south-east corner; the sink would formerly have emptied through an external spout (S31) but this now lies below the external ground level here.

- 5.126 At the south-east corner of the upper end of the hall there is semi-circular headed doorway (D14), 1.25m wide and 2.10m high, moulded to the west (hall) face and leading to the main newel stair which gives access to the upper hall (**MB3**) and also the chambers of the south-east tower (**SET1**, **SET2**, **SET3** and **SET4**) [35/5-35/6] (plate 55). To the south of this doorway, in the south-east corner of the upper end of the hall, there is small wall cupboard, c.0.30m deep, with adjacent scarring perhaps indicating the former position of a piece of fitted furniture. All but the lowest steps of the main newel stair have now been removed [17/5, 17/7; 35/7-35/8, 35/10].
- 5.127 After leaving the lower hall, the first space to be accessed from the stair was the lowest chamber of the south-east tower (**SET1**), via doorway D20. As in the south-west tower, at the time of the survey, the floor of the chamber was formed by hard-packed accumulated rubble and soil. The chamber measures 3.30m north-south by 3.05m east-west, is lit by a single narrow window (W5) in the east wall, set into a rectangular window opening and provided with a stone sink in the base of the opening [17/2; 35/11-35/12]; the sink is very gently inclined and would formerly have emptied through an external spout (S32) but this now lies below the external ground level. There is also a small wall cupboard at the north end of the west wall.

The Upper Hall

(figures 23 and 24 (plans); figures 28a-28b and 29a-29b (elevations))

- 5.128 The main newel stair rises to the upper hall (**MB3**). A lobby off the stair which precedes the entrance to the upper hall is lit by a window (W9) in the east wall, and contains a small niche, with an ogee head, in the north side, the only surviving example of such in the castle [4/12; 5/3; 29/5-29/6] (plate 56). The doorway (D16) into the upper hall has the same moulding as doorway D10 at the west end of the lower hall's screens passage and possibly evidence for a drawbar, but notably the moulding faces into the lobby, rather than into the hall.
- 5.129 The upper hall or solar, which measures 17.10m north-south by 8.85m east-west, was carried on four massive east-west beams c.0.5m square spanning the width of the block, their ends set into the walls, and supported by impressive but plain moulded corbels, of which four survive, two on each side (plates 54 and 60); there are also rows of joist sockets in the north and south walls [4/7; 5/7; 20/1, 20/6-20/7]. The position of the corbels suggests that the height of the lower hall was c.6.5m and, although there is some variation in the size of beam sockets presumably caused by their being removed, that the floor of the upper hall was level, without a dias.
- 5.130 The doorway (D16) from the main newel stair opened beneath a raised balcony or gallery (**MB4**) situated at the south end of the hall (plate 51). This has since been completely removed, although surviving structural evidence indicates that it was a wholly timber construction, projecting some 4.00m from the hall's south wall [19/17] (plate 62). The northern limit of the structure was supported on a substantial east-west aligned beam, set c.2.50m above the internal floor level and supported on corbels at either end, although only that to the west end now survives. Four equally substantial timbers, spaced at equal centres, ran north-south between the beam and the south wall of the hall, and these in turn supported closely spaced east-west aligned floor joists, the sockets of which survive to the west wall [10/7]. There is also a horizontal band of scarring to the south wall face immediately

above the former joist level; the extent of the damage suggests that a substantial floor was removed. The gallery may have had timber posts set beneath the main beam to help support it, or perhaps even a partition, so that the south end of the upper hall below was an entirely separate space.

- 5.131 The upper level of the gallery/balcony was lit by two windows, W76 and W77 [8/17; 12/2]; the existing openings (measuring 2.75m high by 1.40m wide) are much larger versions of the originals (see below). At a point c.2.20m up the window openings W76 and W77, a line of shallow sockets are visible crossing the south wall of the balcony area. These sockets run level between the window openings but then slope gently downwards towards either side of the balcony. They continue around the interior of the window openings [9/5-9/7; 12/1, 12/4] (figure 39b and plate 61). Their purpose is unclear; they may represent the remains of a form of decorative canopy installed over the gallery (**MB4**), or alternately may belong to a much later period and relate to the conversion of this space to another use. All these features are clearly visible on Buckler's 1817 watercolour (plate 11).
- 5.132 Moving out from beneath the balcony/gallery, the upper hall (**MB3**) was originally lit by three principal windows, two in the west wall (W53 and W54) [10/12] and one (W10) in the east wall, with a further smaller window (W56) at the south end of the west wall beneath the balcony/gallery. The latter has a broad segmental rear-arch and was originally provided with a wall cupboard to the north side [4/14] and a doorway (D38) to the south [5/8] (figure 39f), which provided access to a mural passage leading to the first floor chamber (**SWT2**) in the south-west tower. However, as has already been noted above, the window (W56) has been much altered in the more recent past. To the south of the window opening, there is a pentagonal area of reddening to the wall with an iron stain at its head; this might mark the position of an older fitting, or perhaps a more recent sign.
- 5.133 To the north, window W54 is much better preserved, and is of a similar form to the principal windows lighting the lower hall (W57 and W58). The base of the window opening is set c.0.50m above the former internal floor level, and it has a broadly segmental rear-arch over with shields (now blank) to the keystone and springers [5/15; 19/6, 19/8] (plate 63). Internally, the sides of the window opening are parallel, while the base is stepped [10/11]. The base has been partly removed, but it was probably of similar form to those noted to the lower hall windows, with a stepped central wall forming the access into the window, with two further steps running around three sides of the window opening. These steps would have formed additional areas in which people could be seated to observe activities in the upper hall. The window itself was of mullioned and transomed form, and of four lights; only the upper lights had fixed glazing. However, in common with virtually all other windows throughout the castle, all four lights were originally fitted with external iron grilles, comprising two cross-bars and a single vertical standard socketed into the frame. They are also all rebated to the interior, to allow for internal shutters to close flush with the frame. There is a wall cupboard in the north side of the window [4/15; 10/8], while a doorway (D41) [4/17; 10/9] (figure 39e) in the south side [5/11] opens into a mural passage [5/13] leading to the second floor chamber (**SWT3**) in the south-west tower.
- 5.134 The northern principal window in the west elevation (W53) is assumed to have once been very similar to window W54 but it has also been subject to considerable alteration. The base has been hacked out and lowered below the level of the internal floor, while the original parallel sides of the opening have been cut back and partly rebuilt to a wider splayed form [4/18; 5/1; 6/1] (figure 39d). The rear-arch was also taken down and crudely rebuilt at a shallower angle [5/18]. The

window itself may have been removed and blocked up, although it is difficult to be certain as this area has itself subsequently either collapsed or been removed. A small square flue opening was made in the rebuilt head of the window opening, venting out through the wall-walk above which runs along the west side of the upper hall roof [1/13, 1/15; 8/8-8/9, 8/12; 10/14-10/15]. A second flue-like opening was also noted in the remains of the parapet wall along the west side of the upper hall roof (plate 64). This opening was 0.35m square, and almost directly in line with that over the window; it was blocked with rubble, and so its course could not be traced downwards. The opening is a puzzling feature; there are no fireplaces on the levels below the upper hall that it might have served, nor can it be a garderobe chute, as there was only the parapet wall above it. The opening seems therefore likely only to have been associated with window W53, although it cannot be seen in the window head; it was only revealed during repair works. Its presence might suggest that there was once a fireplace here which was replaced at a later date by the window. However, a fireplace located here would not have been the usual arrangement for an upper hall, and the flue would have emerged through the steps that seem to have descended from the north-west tower to the west side of the upper hall roof. An alternative explanation would be that a window resembling W54 was removed and converted into a fireplace, with both flue openings serving this fireplace in a way which is now unclear. The possible conversion of the window into a fireplace is one of a number of alterations undertaken to the north end of the upper hall (see below), although it is not certain if they are all contemporary.

- 5.135 Beneath the balcony/gallery area in the centre of the south wall of the upper hall, there is a fireplace (FP3) with a flat stone lintel (plate 62). It is flanked by a wall cupboard to the west and a doorway (D21) to the east. This doorway gives access to a mural passage leading to the first floor chamber (**SET2**) in the south-east tower (see below). Between the cupboard and the fireplace is a more recent opening, 0.6m square and positioned just above the original floor level - this opening provides access into the garderobe G3 to the south, but its size means it is unsuitable for regular movement and its function remains unclear.
- 5.136 The principal window (W10) to the east wall is of very similar form to that described for window W54 in the west wall above, and indeed is the best preserved of all the upper hall windows [5/10; 19/10] (plate 65); it is also provided with blank shields to the rear-arch. It has a wall cupboard to the south side [19/14] (figure 39a) and a doorway (D42) [19/11] to the north side. This doorway opens into a mural passage [19/16], originally ascending to the chamber (**NET4**) over the chapel (**NET3**) (figure 39j and plate 66). However, at a later date, this passage was disturbed by the creation of a fireplace (FP2) [19/13], and so a second access had to be created by cutting a doorway (D51) in from the lesser newel stair at the castle's north-east corner. The 1.85m wide fireplace (FP2) has a back of thinly course reddened stone, quite different to that used in any of the castle's original fireplaces (plate 67).
- 5.137 There is evidence for further alterations to the north end of the hall. The entrance (D8) into the chapel lies at the north end of the upper hall's east wall and is clearly an original feature of this area of the hall. The opening is 2.50m wide and has a broad segmental arch over, with three stone shields, that of Balliol to the keystone and Aldeburgh to both springers. The sides of the entrance are now badly weathered, but it may once have been fitted with a screen. The north wall of the upper hall is almost completely blank, with a doorway positioned at either end [29/11] (plate 50). The west doorway (D18) presents a slightly 'squeezed' appearance in relation to the west wall [29/10] and it leads into a descending mural passage, once providing the only access to the first floor chamber (**NWT2**) of the

north-west tower, although the circulation in this area was subsequently much altered. There may be a staggered joint in the adjacent wall face set c.2.10m to its east, and also a small surviving patch of render/lime wash. There is a similar staggered joint to the west of the east doorway (D19), which leads via a short passage or lobby and a second door (D26) into the uppermost chamber (**NB4**) of the north block. There is also a blocked vertical slot or recess to the immediate west of doorway D19's lintel, while to the east, the north-east corner of the hall is angled and corbelled outward to accommodate the lesser newel stair.

- 5.138 Some of the features described above may be explained by a remodeling of the north end of the upper hall, perhaps taking place in several different phases. It is noticeable that, apart from the relatively small fireplace (FP3) in the south wall, there is a lack of identifiable original fireplaces, both the fireplace in the window (W32) in the east wall and the fireplace (FP2) in the east wall being later insertions. Perhaps there was once a large fireplace in the centre of the north wall of the hall, similar to that at the south end of the lower hall (FP1), but it was subsequently removed. Its removal entailed the rebuilding of the central section of the north wall, creating the staggered joints adjacent to doorways D18 and D19. The resulting area of rebuilding is completely blank, apart from three rows of sockets, set at 2.20m, 3.70m and 5.60m above the internal floor level; there are two further recesses placed immediately above the uppermost row (elevation 19) [4/9; 28/14, 28/16-28/17; 29/8; 31/3, 31/5] (plate 50). At first glance, these are suggestive of putlog holes, although such features are relatively rare in the castle, and with an average depth of little over 0.10m, they appear rather shallow for this purpose. It is unlikely that such a large expanse of wall in the upper hall would have been left completely blank and so it is possible that the recesses might mark the position of a frame or other structure used to support a decorative item such as a large tapestry, or perhaps even the large multi-quartered heraldic device mentioned by King (1782, 335) as being 'enamelled on metal and put in the Great Chamber'. Alternatively, it is possible that either the sockets or the rebuilding relate to the former presence of a large projecting firehood here, so that the fire would not have had a fireplace within the wall but rather would have stood to the front of it (Peter Ryder, *pers. comm.*). However, if there had been a large fireplace in the north wall, then an explanation would be required as to why it was necessary to create fireplaces in the east and west walls; the most logical reason for these would be that the upper hall was later divided into an inner and outer chamber. Might this have been done after a larger fireplace in the north wall had already been removed for some time, requiring the creation of new heating arrangements?
- 5.139 The roof space of the upper hall was once crossed by a pair of trusses, supported on sharply curved corbels [5/17] (plate 60). The trusses were spaced symmetrically between the edge of the gallery/balcony at the south end and the north wall. It is almost certain that the hall was not ceiled and so the trusses are likely to have been of a reasonably decorative or elaborate form, although to judge by the corbels they were not particularly substantial and it is difficult to see how they would have carried the weight of the roof. The profile of the steeply pitched roof of the upper hall is preserved at either end, where an inset to the wall face marks its former line [28/13]; the roof covering was presumably tucked under this inset. On the south wall (elevation 20), various scars/sockets indicate that the principal rafters of the roof truss at this end of the hall supported three pairs of purlins (plates 51 and 94). At the apex of the roof, there is a socket, apparently for a ridge piece, as it is set too high for the collar purlin of a crown post roof. Directly beneath, there is a long narrow slot for a ridge brace. The surviving arrangement at the north end (elevation 19) is slightly different, with only a single purlin to each principal, although sockets for a ridge piece and ridge brace are visible as at the

opposite end [18/16] (plate 50). The east slope also preserves a line of mortar immediately beneath the inset and running parallel to it; the use of mortar might suggest that the roof was tiled rather than leaded [18/1; 20/5].

Spaces Accessed from the Upper Hall

(figures 22, 23, 24 and 25 (plans); figures 32a-32b, 33a-33b, 34a-34b and 35a-35b (elevations))

- 5.140 As will be clear from the preceding section, the upper hall allows direct access to more separate rooms or chambers than any other space within the castle.
- 5.141 Perhaps the most significant space to be linked to the upper hall is the chapel (**NET3**). As has already been noted, the opening (D8) leading to the chapel was most probably formerly fitted with a screen, and is enriched with three shields, two of Aldeburgh and the central one of Balliol [9/9, 9/11-9/12; 18/18; 19/1-19/2]. These, and the other shields in the chapel, were examined and identified as part of the previous Condition Survey (Dennison & Richardson 2008a, Appendix 5; Neave 2008), although many have also been previously identified by Bowden (c.1940). The chapel measures 2.75m north-south by 4.20m east-west.
- 5.142 Once inside the chapel, the rear-arch of the entrance D8 is also provided with shields. The keystone of the arch bears the shield with the Aldeburgh arms [27/1], flanked to the north by the arms of the Vipont family [26/8; 27/2]. The chapel is lit by three windows, W18 to the north wall, W17 to the east wall and W15 to the south wall. The north window (W18) is housed to one side of a large (2.20m wide by 3.50m high) rectangular window opening which mirrors the arch on the external face (elevation 3) and which is easily tall enough to walk into [25/8]. The keystone of this semi-circular rear-arch bears a shield with the arms of Aldeburgh [26/11]. To the east, there are three further shields - those of Constable and probably Roos above, with Aldeburgh again set below [26/12-26/13]. There are three more shields within the opening, over the window itself; from west to east, these represent Sutton, Aldeburgh and possibly Balliol with label [26/6, 26/10] (plate 68). There are a number of other features, principally slots and scarring, within the window opening possibly marking the position of a low cupboard or other piece of fitted furniture. The window (W18) itself is of two-centred arched form, and the head bears the remnants of quatrefoil tracery; the original form was probably two trefoil-headed lights with the quatrefoil over. The window was formerly fitted with fixed glazing, almost certainly stained glass, and was also equipped with an external iron grille. There is a wall cupboard to the east side [25/11].
- 5.143 The window (W17) to the east wall formerly had the altar positioned directly beneath it [19/4-19/5, 19/12] (plate 69). The altar has long gone, although the 1.80m wide recess which housed it survives [25/12]. The window itself has a flat head and retains the remnants of trefoil tracery; the original form was probably three trefoil-headed lights with three trefoils over. The window was formerly fitted with fixed glazing, almost certainly stained glass, and was also equipped with an external iron grille. The semi-circular rear-arch of the window opening bears three shields. The keystone is Balliol [27/5], flanked by Aldeburgh to the north and south [26/14, 26/16]. Like the north window, the south window (W15) is also located within a tall window opening with a semi-circular rear-arch [25/14; 34/12]. The keystone of the rear-arch is formed by a probable Aldeburgh shield [26/7, 26/18], with those of Thweng and Boldersley or Grauncester to the east [26/17]. There is a further shield of Aldeburgh impaling Sutton within the window opening [27/6], above the window head. Within the window opening, the east wall houses a wall cupboard of complex form [25/13], perhaps formerly used as the piscina. The west

side of the window opening gives access to a tight space, tall enough to stand in and lit by a small window (W11) in its east wall [25/16-25/17] (plate 70); there is also a small recess or cupboard to the west wall. The south window (W15) itself, like the north window (W18), is set at the east end of the window opening's south wall, and is of identical form.

- 5.144 The chamber (**NET4**) over the chapel was originally also reached directly from the upper hall through window W10 but, as has been previously described, this route was interrupted by the insertion of a later fireplace (FP2) and its attendant flue [18/4-18/5], and so a new entrance (D51) had to be created from the lesser newel stair [27/12]. The original mural stair passage from window W10 was steeply ascending (plate 66), curving around to the east and then the north [18/10; 27/8] to give the upper north end a tight S-plan [27/7], and it entered the chamber via a now largely collapsed doorway (D7) (plate 71). The chamber itself measures 3.20m square but much has now collapsed [32/10], with the only part to survive to any appreciable height being the west end of the north wall. Immediately to the east of the inserted doorway D51, there is a stone sink set c.0.7m above floor level into the north wall [27/13], which empties into an external spout (S5). The remains of the west jamb of a window (W87) [27/11] are also visible in the north wall; there may once have been similar windows positioned in the south and east walls but all structural evidence for these has now disappeared. A centrally placed wall cupboard survives to the west wall, markedly shallower than many of the other cupboards within the castle, and with its base set at a higher level [27/10].
- 5.145 Two doorways in the north wall of the upper hall (**MB3**) each led into a different space. The east doorway (D19) accessed a small lobby and another door (D26) which provided the only original access to the uppermost chamber (**NB4**) of the north block (see below). The rather constricted west doorway (D18) opens into a descending mural passage, once providing the only access down to the first floor chamber (**NWT2**) of the north-west tower [28/18; 40/18; 41/1-41/2; 54/16] (figure 39i). At the base of the passage's south wall is the original doorway (D33) [40/14, 40/16; 54/4, 54/11] into the chamber. At a later date, three more openings were cut into the passage, although they may not all be contemporary. Firstly, at the very west end, a doorway (D3) was cut through the external wall [29/1; 40/13], and was reached via a flight of covered external wooden stairs (see above). Secondly, another doorway (D23) [40/17; 41/4] was cut through to this passage from the first floor chamber (**NB3**) of the north block. Thirdly, a crude doorway opening (D34) with a semi-circular head [54/7] was cut through the south wall at the upper east end of the passage to give access to the second floor chamber of the tower (**NWT3**), possibly destroying a wall cupboard to the second floor chamber in the process.
- 5.146 The original doorway (D33) into the first floor chamber (**NWT2**) opened into the north side of a rectangular window opening housing one of the two windows (W43) lighting the chamber, which measures 3.00m north-south by 2.20m east-west. The window opening has a semi-circular rear-arch and parallel sides, with the base set at or just above internal floor level [54/5, 54/12]. The window to the south wall (W52) was also housed within a rectangular window opening with the base at or just above internal floor level [54/6, 54/14]. However, the sides of this opening are unevenly splayed in plan and the head is shouldered; it is supported on two levels of curved corbels to the east side and a single similar corbel to the west. The corbels to the east side incorporate joggled joints, very neatly cut [29/2] (plate 72). There is a wall cupboard to the west of the window [54/13] but no garderobes, sinks or fireplaces.

- 5.147 The doorway (D21) at the east end of the south wall of the upper hall gives access to a mural stair passage leading to the first floor chamber (**SET2**) in the south-east tower. After passing through the doorway [12/12], the passage returns to the east [12/11] and descends to a small 'landing' adjacent to the doorway (D39) [12/13; 22/17] into the chamber (figure 40d). From here, one can either enter the chamber itself (via another door D39) or ascend another mural stair passage [12/14] to the garderobe (G4) which also served the chamber (figure 40d). This garderobe is lit by a narrow window (W81), now partly destroyed in the south-west angle, and has a small wall cupboard adjacent in the south wall [12/15]. Immediately in front of the former seat, a stone sink is set into the floor of the garderobe [12/17-12/18] (plate 73). Although there is another sink set into the floor of garderobe passage G2 within the north block, that within G4 appears to be positioned specifically to stop urine running back down the steps towards the chamber; this may imply male rather than female usage. There is no external spout to drain the sink, but any contents might perhaps have been mopped up using cloths. The first floor chamber (**SET2**) itself measures 3.80m north-south by 3.15m east-west, and is lit by a very narrow single-light window (W4) to the east wall, set within a relatively narrow window opening. There is a fireplace (FP12) with a flat stone lintel at the west end of the south wall [22/16; 22/18], and wall cupboards at the east end of the south wall and in the north-east corner of the chamber.
- 5.148 In contrast, the first and second floor chambers of the south-west tower (**SWT2** and **SWT3** respectively) were reached through doorways positioned within the windows of the upper hall's west wall. The first floor chamber (**SWT2**) was accessed via a doorway (D38) and a mural stair passage in the south side of window W56 [4/13] (figure 39f). The floor of the passage steps downwards, so that by the time it reaches the south doorway (D36) into the chamber, the floor level is set some 1.40m lower than the north end. The chamber measures 2.75m north-south by 3.30m east-west, and is lit by two windows, W68 to the wider west wall [14/1] and W64 in the narrower north wall. There is a fireplace (FP11) [14/8] with a flat stone lintel adjacent to window W68 in the west wall and a 1.75m high recess in the south-east corner; this recess is tall enough to stand in and there is a stone sink set into the base [14/7] which once emptied through an external spout (S30) in the south wall, now below ground level (plate 74). A doorway (D37) at the north end of the east wall leads into an *en suite* garderobe (G3), initially comprising a short east-west aligned passage, to which a wrought-iron door grille of probable 19th century date has been added (not shown on figure 23) [14/5-14/6]. Beyond the door, the passage returns to the south to form the garderobe proper, which is lit by a narrow window (W80) [14/3] in the south wall and with a small recess in the east wall, perhaps formerly used to house a light [14/2]. As noted above, a low passage has been cut through the south wall of the upper hall into this garderobe chamber at some point in the past.
- 5.149 The second floor chamber (**SWT3**) of the south-west tower [13/17] is accessed via a mural stair passage leading from a doorway (D41) in the south side of window W54 (figure 39e). The floor of the passage retains a quarter-circle step with an adjacent shallow angled inset to the east wall to allow the door to open fully [5/11] (plate 75). The passage itself is 5.20m long, rising from the north end in five steps to a short level section, lit by a small window (W55) in the west wall (plate 76). At the south end of the level section there is a sink [5/12] set into the north wall at a height of c.0.5m and a corresponding spout (S18). The floor of the passage then steps downwards over five steps [5/14] towards another doorway (D45) into the chamber itself [13/11]. The actual chamber measures 2.85m north-south by 3.50m east-west, and is lit by two windows, W63 to the north wall and W71 [13/10] to the south wall. There is a fireplace (FP13) with a flat stone lintel in the south end of the

west wall, but no wall cupboards [13/18]. This chamber also has an *en suite* garderobe (G5), accessed via a doorway (D46) at the north end of the east wall. This doorway leads into a short east-west aligned passage, which incorporates a splay, butt joint and step in its north wall [13/13]. At the east end, the passage returns to the south to form the garderobe proper [13/16], which is lit by a narrow window (W79) [13/12] in the south wall. The east wall of the garderobe has been cut through into a former wall cupboard located on the west side of window W76 to the upper hall (**MB3**); there was originally no connection between the two.

The Upper Floors of the North Block and Associated Spaces

(figures 22, 23 and 24 (plans); figures 30a-30b, 31a-31b, 32a-32b and 35a-35b (elevations))

- 5.150 The lesser newel stair at the north-east corner of the castle ascends to both the first floor chamber of the north-east tower (**NET2**) and the first floor chamber of the north block (**NB3**), and both of these rooms were thus easy to reach from one another.
- 5.151 The smaller tower chamber (**NET2**) is named as the 'portcullis chamber' by Emery (1996, 341). The doorway (D6) [24/18; 25/1] off the newel stair opens into a small lobby, once equipped with a further door opening (D63) into the chamber proper [24/13]. The chamber measures 2.85m north-south by 2.90m east-west, and is lit by two single-light windows, W19 in the north wall and W16 [24/16] to the south wall. Both are of very similar form, although window W16 also has a stone sink set into the west side of the base [25/5-25/6], with a raised area to the east, draining to spout S4 externally. The portcullis grooves visible in the entrance passage (**NET1**) [24/14] below rise up through the chamber at the north-east and south-east corners, as far as the former ceiling level, where they terminate, giving a height for the portcullis of c.3.50m. In the east wall of the chamber, there are slightly deeper recesses positioned at the north and south ends, c.2.30m above the former internal floor level, immediately adjacent to the portcullis grooves. There are similar recesses set slightly lower and also immediately adjacent to the grooves at the east end of the north and south walls [25/2, 25/4, 25/7] (plate 77). It is assumed that these housed a timber frame or mechanism used to either partly support the portcullis when it was in the raised position, or to secure it in the raised position in the event of one of the chains from the winding mechanism breaking. Unless the chains rose through the chapel (**NET3**) above, and then descended again (which is unlikely and for which there is no structural evidence), they must have been run through supports suspended from the timber ceiling and then presumably down to a winding drum secured to the floor.
- 5.152 The first floor chamber of the north block (**NB3**) is an altogether more impressive space, measuring 5.70m north-south by 11.80m east-west and occupying the whole of the first floor here; its proximity to the tower chamber apparently housing the portcullis mechanism led Emery to suggest that it was the 'Steward's chamber' (Emery 1996, 341). A doorway (D35) off the newel stair opens into a short lobby, and then a second doorway D27 [46/11] accessed the chamber proper. The chamber is lit by three windows, placed asymmetrically around three of the walls. The window (W24) to the east wall is placed within a sub-rectangular window opening; the base of the opening is set just above the approximate height of the former floor level and it rises 2.25m to the shouldered head, supported on cyma moulded corbels; the window itself was of two fixed-glazed lights with a central mullion [46/1, 46/6, 46/9; 48/12-48/13]. The window (W34) to the north wall is positioned towards its west end. The base of this opening is also set at the approximate former floor level, with a shouldered head over supported on curved

corbels. The third window (W42) is placed towards at the north end of the west wall. This opening has a shouldered head to the chamber, supported on a single moulded corbel to the south and two levels of moulded corbels to the north side [48/14] (plate 78). The window itself is well preserved and is of two lights with a central mullion; there was a separate internal shutter to each light, closing flush to the rebated east face, and there was presumably once a bar or latch used to close them across the mullion. The chamber was heated by a single 1.60m wide fireplace (FP7) with a flat stone lintel supported on curved corbels [46/4-46/5; 62/6], placed slightly to the east of centre of the south wall. The back of the fireplace has been rebuilt in brickwork; the brickwork itself is now also decayed, but was red, handmade, with an average depth of 0.45m; the repair to the back of the fireplace blocked the flue rising from the oven in the ground floor kitchen (**NB2W**) below which meant that the oven was out of use by then.

- 5.153 A 0.60m wide doorway (D29) at the very east end of the north wall opens into a mural garderobe passage (G2) [41/8; 45/18; 46/8] (figure 41a); at its east end, a stone sink [41/13] is set into the passage floor, draining into an external spout (S9) (plate 79). A short distance to the north, there is a small window (W32) with a second stone sink set into the base [41/14] draining to another external spout (S34). The garderobe proper [41/12, 41/16] at the west end of the passage was lit by a small window (W33), since collapsed or removed, with a small wall cupboard or recess in the west wall (figure 41a); the garderobe chute survives but it must now exit below the existing ground level. As previously noted above, at a later date, a second doorway (D23) [46/2; 51/13-51/14] was cut through the west end of the south wall of the chamber into a mural passage leading to the first floor chamber (**NWT2**) in the north-west tower (see above).
- 5.154 The uppermost chamber (**NB4**) of the north block was originally only accessible from the upper hall (**MB3**) via doorway D19 [45/3; 52/2] at the east end of the north wall. This doorway preserves a number of curious features. The staggered joint visible to the west of the doorway from within the hall lines up almost exactly with a 2.20m high and 1.10m long slot in the short mural passage or lobby to which the doorway gives access. The masonry of the north side of the slot appears very fresh, as if it has never been exposed to the elements. In addition, to the immediate west of the doorway within the hall, there is a small recess at waist height which passes through the wall to the slot [29/4], with a shallow socket opposite in the slot's north side. The whole arrangement is suggestive of a sliding door, with a peg or bolt passing through the recess and across the slot to secure the door when it was retracted. However, it is difficult to see how the mechanism of a sliding door would have functioned; for example, if there was a wooden runner for the base, how was the friction between it and the door overcome? It is presumed that a sliding door was necessary here (compared to all others in the castle which were simple hinged opening examples) because the short length of the passage (c.1m) meant that it would not have been possible to open both doors (D19 and D26) at once if they were both hinged. Alternative explanations for these staggered joints here are given under the description of the upper hall (**MB3**) above. Another doorway (D28) was cut through into the chamber from the lesser newel stair at a later date [45/11, 45/17].
- 5.155 Like the first floor chamber, the uppermost chamber (**NB4**) of the north block is formed by a single space occupying the whole of the floor level, measuring 5.70m north-south by 11.80m east-west [59/1-59/2, 59/4-59/5]. It remains one of the most impressive spaces within the castle and, although the main features within the chamber are not absolutely symmetrically placed, there appears to have been an attempt to create a greater sense of symmetry here than occurs elsewhere (plate

81). The chamber is lit by four windows in total, one (W23) to the east wall [45/5-45/6; 52/5], two (W30 and W31) [44/18; 48/1-48/2] to the north wall, and one (W40) [52/12] to the west wall, all of similar form (plate 80). Each window is placed within a large window opening measuring on average c.2.00m wide. The base of the window openings are set only c.0.10m above the former internal floor level and they rise 3.10m to the centre of the broad segmental rear-arches. The sides of the two windows in the north wall (W30 and W31) run parallel for a short distance and then splay inwards towards the window; the west splay of W31 is shallower than that to the east, presumably to accommodate the adjacent cupboard. The sides of the east (W23) and west (W40) windows are similar, but the splays are unequal, being greater to the south. All windows openings were provided with a seat in the form of a stone bench running parallel to the window; each bench was 0.45m deep and stood c.0.70m high, with a slightly projecting moulded lip [45/8-45/9, 45/15; 48/8; 52/11]. The windows themselves were all mullioned and transomed and of four lights. The upper lights had fixed glazing and were provided with internal shutters, hinged to the outer sides. The glazing slots are either partly absent from the surviving parts of the lower lights or are very shallow and, while it is possible that this might indicate fixed glazing with small opening panels as sometimes shown in late medieval illustrations (particularly in the case of window W23), it is more likely that the lower lights were provided with shutters only. However, both upper and lower lights were fitted with iron grilles of two cross bars and a single vertical standard, socketed into the frame.

- 5.156 There are wall cupboards to the south of window W40 in the west wall [52/7, 52/10] and to the west of window W31 in the north wall [48/10; 52/2] (plate 81), while adjacent to the east side of window W30, also in the north wall, there is a stone sink leading to an external spout (S8) set c.1.0m above the floor level [45/2, 45/13]. A fireplace (FP8) with a flat stone lintel is positioned in the centre of the south wall [45/12]; above the lintel, there are four separate pieces of stone joined with joggled joints [52/6], apparently to relieve the lintel (plate 82). The back of the fireplace has been rebuilt at some point using slightly more thinly coursed stonework than the original [51/16-51/18]. There are two small pieces of iron set into the wall immediately to the west of the fireplace, whereas to the east, there are two vertically aligned small rectangular holes set at 1.60m and 1.90m above the former internal floor level; these may have been used to support a wall-mounted scone or candelabrum. There may have been a similar feature positioned mid-way between the windows in the north wall, as there are four vertically aligned circular recesses here, set between c.1.70m and 2.30m above the former internal floor level [48/4-48/6] (plate 81). Recesses at a high level in the north and south walls indicate that the chamber was once crossed by two north-south aligned roof trusses; as there is no clear evidence that the chamber was ceiled, the roof trusses may have been of a decorative form.
- 5.157 At the west end of the chamber's south wall, another doorway (D24) [52/8; 54/8, 54/10] gives access to a short mural passage leading to the second floor chamber (NWT3) of the north-west tower (plate 82). There has been much subsequent alteration, but this passage formed the only original access into this room [53/17]. There was a second doorway (D44) at the south end of the passage, and this is one of the very few areas within the castle to preserve any evidence of an early floor covering, here formed by a smoothed lime mortar [58/12]. The chamber itself measures c.3.00m north-south by 2.20m east-west, and was lit by windows in the west and south walls (W41 and W51 respectively). The west window (W41) is well preserved and situated within a large rectangular recess 2.90m wide, 1.00m deep and 2.20m high (plate 83). The base of the opening is set just above the internal floor level [58/11] and it has a shouldered head, supported on two levels of curved

corbels [60/13]; the corbels to the east side incorporate joggled joints, very neatly cut [2/18; 54/1-54/2]. The south window (W41) by contrast has been almost completely destroyed, leaving a large area of exposed core [58/8-58/9]. Only a small fragment of the west window jamb remains, which is rather crudely chamfered into the stonework here, perhaps suggesting that the original window was somehow modified prior to being destroyed. The remains of a wall cupboard are also visible to the east wall [53/7, 53/18]. The chamber was not equipped with a fireplace and was apparently also without a garderobe.

- 5.158 At the southern end of the west wall there is a doorway D43 [53/8], giving access to a mural stair passage. This passage ascends steeply to reach the third floor chamber (**NWT4**) above [51/12; 53/5-53/6] (figure 41d and plate 84), and this is the only instance within any of the towers where two chambers are linked vertically by a private mural stair. It would also have made the upper chamber one of the most remote spaces from the entrance in the north-east tower (figure 45). At its head, the mural passage is lit by a small single-light window (W86) in the west wall [53/14], while a doorway (D58) in the east wall opens into the chamber [53/3, 53/15]. The chamber itself measures 3.40m north-south by 2.30m east-west, and was lit by two windows, one in the west wall (W39) [51/10; 53/9] and one in the south wall (W50) [51/11]. The west window (W39) is placed within a rectangular opening, the base of which is set c.0.6m above the internal floor level. The south window W50 is of very similar form, the only significant difference being that the base of the window opening is equipped with a centrally-placed stone sink leading to an external spout (S15) [53/13] (plate 86). There is a wall cupboard at the north-east corner of the chamber [2/15; 53/11] and a fireplace (FP17) in the south wall adjacent to window W50 [53/12]. The 1.00m wide fireplace has a flat chamfered lintel and a back formed by thinly coursed reddened stone. It is the only example of such in any of the chambers of the north-west tower but it is clearly a later insertion. A ragged joint can be traced up the south wall in line with the fireplace opening, and at the very top the flue has a curved back profile where it has been cut through wall core. At a high level, plain corbels project from three of the four corners of the chamber [53/1-53/2]. These would once have either supported roof trusses, or wall plates running along the east and west wall faces, which in turn supported the roof structure.

The uppermost levels of the south-east and south-west towers

(figures 24, 25 and 26 (plans); figures 31a-31b, 33a-33b and 34a-34b (elevations); figure 46 (reconstruction))

- 5.159 The original means of access to the uppermost parts of the castle are now in parts uncertain, due to later demolition and collapse, although the detailed examination of the surviving parts undertaken during the 2004-05 conservation works has revealed a great deal more information about them than had previously been known.
- 5.160 Access to the uppermost parts of the castle was in the first instance via the lesser and main newel stair. The latter continued upwards past the lobby leading to the upper hall to provide access to the second floor chamber (**SET3**) of the south-east tower [11/2; 16/16-16/18]. A window (W3) set within a large rectangular recess [30/18] opens off the east side of the newel stair; the recess also houses the doorway (D40) leading into the chamber [23/18] (figure 39k). It actually opens into a very small lobby, equipped with a stone sink set into a small recess 0.7m above floor level and draining to an external spout (S1) in the east wall [16/14; 22/2]. The chamber itself measures 4.25m north-south by 3.25m east-west, and is lit by two windows, W2 in the east wall and W85 in the south wall. The east window (W2) is

set within a rectangular window opening 0.9m long and 0.75m wide, with a shouldered head and joggled lintel over [16/7] (plate 87). The south window (W85) is also placed within a smaller rectangular window opening, although this has only a plain flat head. There is a wall cupboard adjacent to this window in the south-east corner of the chamber, and also a fireplace (FP14) with a flat stone lintel to the south wall [22/4]; the north-west corner of the chamber has completely collapsed, removing any evidence for features that might formerly have been present here. The chamber was provided with an *en suite* garderobe (G6), accessed via a small lobby at its south-west corner. A doorway (D47) led off the north side of the lobby into the garderobe proper [22/5, 22/7-22/8]. Whereas the floor of the garderobe is of core, the ceiling is formed by neatly cut slabs which fan out across the ceiling [22/10] from the south-west corner of the garderobe passage, the only example of such construction noted within the castle, and it was lit by a small window (W78) in the south wall (figure 40c). The remains of the raised seat and square chute are set against the south wall but the exit in the south external elevation is not visible and so must be below ground level.

- 5.161 It appears that the main newel stair rose as far as the third floor (**SET4**) of the south-east tower, although subsequent collapse has obscured the exact means of communication between the two. The third floor chamber itself (**SET4**) [23/4] measures 4.50m north-south by 3.50m east-west, and is lit by two windows, W1 in the east wall and W84 in the south wall. The east window (W1) is set within a tall 2.20m high rectangular window opening with a shallow arched head built from three pieces of stone [16/6; 22/11]. The base of the window opening is set 0.30m above the former internal floor and appears to have been relatively flat. The south window (W84) is also placed within a rectangular window opening with a broad arched head, although this is formed from only two pieces of stone. The base of this window opening was set at a similar height to that of the other and it also seems to have been flat [30/11]. There is a fireplace (FP16) with a flat stone lintel to the west end of the window [23/5] and a doorway (D50) in the west wall leading to an *en suite* garderobe (G8). Shallow sockets, recesses and surviving wooden plugs around all of these features indicate that the interior of the chamber was once panelled [23/16]. There is a full height wall cupboard or recess adjacent to window W1 at the south-east corner of the chamber [22/12-22/14; 23/6], with another recess to the north-east corner; at c.1.80m high, the recess was tall enough to stand in [23/7]. The west doorway (D50) leads into a short passage which returns first to the south and then to the west, so that the garderobe (G8) has a dog-leg plan form. The remains of the raised seat and chute are located at the far west end of the garderobe; the seat has largely been removed, although the chute survives [23/8] (figure 40a). The garderobe was lit by a small single-light window (W75) in the south wall [23/10], which had a stone sink and external spout (S22) [23/12] positioned directly beneath it (plate 85). Within the garderobe, there is also a small recess in the wall opposite the seat, perhaps formerly housing a light.
- 5.162 There are fragmentary remains at the head of the main newel stair which may suggest that it communicated with the wall-walk along the east side of the upper hall [1/5; 8/1; 18/7; 23/13], although this is not certain; the spacing of each turn of the stair, as indicated by the truncated treads [23/17], in particular argues against it. The east wall-walk could also be reached from a doorway in the lesser newel stair at the castle's north-east corner. This was blocked [18/2] when another doorway (D51) was inserted from the lesser stair into the uppermost chamber (**NET4**) of the north-east tower [6/6] (see above). Immediately beyond this doorway, the wall-walk is narrow, some 0.70m wide [8/15; 20/17], and the base is now formed by stepped masonry; this was presumably once leaded, forming a

gutter draining the east slope of the upper hall roof. Beyond the south side of the north-east tower, the wall-walk widens out to 1.25m, with 0.90m of this being formed by characteristic T-shaped (in section) slabs or blocks, which overlay a pair of spouts (S2 and S3) presumably once also draining a leaded gutter [7/14; 18/6; 20/13-20/14, 20/16] (plate 88). At the south end of this wall-walk, there must have been steps to a doorway into the fourth floor chamber (**SET5**) of the south-east tower, although both have since collapsed.

- 5.163 The fourth floor chamber (**SET5**) measures 4.90m north-south by 3.50m east-west and, like the third floor chamber below, was also lit by two windows, one (W83) in the south wall and one (W82) in the west wall. The south window (W83) is set within a small rectangular window opening with a shouldered head [21/5]. The base of the opening is set c.0.20m above the former internal floor level and appears to have been flat. The window opening is flanked by a wall cupboard to the east, in the south-east corner of the room [21/8; 30/2], and there is a fireplace (FP4) with a flat stone lintel at the north end of the east wall [16/5; 21/7] (plate 89). The overall form of the west window (W82) is broadly similar [30/3, 30/5], but differs in that it has a two substantial tiers of corbels over the window and an adjacent lobby, separated by a single ashlar course [21/6; 30/1] (plate 90). It is assumed that the chamber had a shallow pitched roof over, perhaps supported by a pair of north-south aligned roof trusses, although the surviving structural evidence is not clear [15/18; 21/4]. The chamber was provided with an *en suite* garderobe (G10), accessed via the lobby immediately to the north of window W82 in the west wall; the seat is still well preserved [30/7] (plate 91). The lobby has a doorway (D54) in its north side [21/13], leading into a 4.0m long east-west aligned passage [21/14], the walls of which taper inwards towards the western end. There is a sink and spout (S33) [21/16; 22/1; 23/1] set c.0.6m above floor level within a splayed recess at the east end of the north wall. At its west end, the passage returns to the south to form the garderobe proper, which was lit by a small single-light window (W74) in the south wall [21/17-21/18] (figure 40b).
- 5.164 The barrier formed by the roof of the upper hall meant that the upper chambers of the south-west tower could not be reached from the east wall-walk, and so there must have been another route. The doorway (D52) [32/6] at the head of the lesser newel stair led out onto a flight of stone steps behind a parapet wall [32/7; 34/7], and onto the wall-walk running around the roof level of the uppermost chamber (**NB4**) of the north block [37/2] (figure 45). The wall-walk here is 1.10m wide, although the majority of the characteristic T-shaped section blocks have been removed. The wall-walk did not extend along the south slope of the chamber roof as here there was a chamfered string course which threw water off into a presumably leaded gutter [32/5; 37/11; 44/14; 55/1] and through an external spout (S6) [32/8; 44/16] which passed through the south end of the east wall of the north block, with flues emerging from the wall above [44/17; 52/13]. Instead, the wall-walk returned at its north end along the base of the north slope of the roof [44/13], which was drained by further three spouts (S7, S29 and S28) [34/6; 54/17]. Approximately two thirds of the way along this section, there is a substantial void representing the flue of one of the kitchen fireplaces (FP10) (**NB2W**). This flue must once have been smaller, or it would have been difficult to negotiate as part of the wall-walk, and the smoke was presumably carried away by a tall chimney.
- 5.165 The wall-walk continued around the west end of the chamber roof, where some of the T-shaped blocks do survive [37/4, 37/6], as well as a much smaller flue from the second kitchen fireplace (FP6) [55/2] (plate 93). At its south end, the wall-walk may have returned to the east for a short distance, although the available space is very much reduced here by one corner of the north-west tower, also equipped with

a chamfered string to throw water into a gutter and spout (S27) [27/17, 27/18]. Nevertheless, there is a doorway (D32) here which gave access to the west wall-walk of the upper hall [6/3; 52/16, 52/17] (plate 92). However, at only 0.50m wide, the doorway is very narrow and its character suggests more of a mundane function, such as access for cleaning gutters and drains, rather than a route for those wishing to reach the well-appointed upper chambers of the south-west tower. In addition, immediately beyond the doorway, the west wall-walk is again very narrow (c.0.40m wide) [6/2; 18/14], and has more the appearance of a former gutter.

- 5.166 As has been already noted above, there is structural evidence indicating that the top of the lesser newel stair has been truncated, and that it once rose further. In addition, the T-shaped blocks which characterise the castle wall-walks can be found on the top of the wall between the north block and the upper hall [6/13], and also around the top of the north-west tower [8/14; 36/17-36/18; 37/1; 52/18], suggesting an alternative route to the west wall-walk of the upper hall. It is also noticeable that the surviving T-shaped blocks to the west wall-walk commence only at the point where the parapet wall narrows, perhaps at the base of steps coming down from the top of the north-west tower. The west wall-walk is of the same dimensions as the east wall-walk and it was also built over spouts (S16 and S17) [8/5] which drained the west slope of the upper hall roof [7/16-7/17; 8/3, 8/7]. At the south end of the wall-walk, the parapet wall narrows again to form a recess (a passing place?) adjacent to the doorway (D48) [13/6], from which steps lead down into the third floor chamber (**SWT4**) of the south-west tower [11/15].
- 5.167 This third floor chamber (**SWT4**) measures 2.90m north-south by 3.55m east-west, and is lit by three windows, W62 to the north wall, W67 to the west wall and W70 to the south wall, all of differing form. The north and west windows (W62 and W67) are both very narrow (0.15m wide) to the exterior, so narrow in fact that they were not fitted with external iron grilles, although window W67 is provided with a wall cupboard in the south side [13/5]. Window W70 by contrast is placed within a larger window opening or recess (1.40m wide by 0.80m deep), the base of which is set at the former internal floor level; each side of the opening is provided with a small wall cupboard [13/7]. There is a fireplace (FP15) with a flat stone lintel in the west wall [13/4]. The back of this fireplace is reddened, while the flue can be seen to be sooted internally for several metres above the fireplace lintel. The chamber also had an *en suite* garderobe (G7), accessed via a doorway (D49) at the north end of the east wall. The garderobe is approximately L-shaped in plan, and is provided with a very small 'squint' window (W72) at the south end of the east wall [13/1, 13/2]. A small recess adjacent to this houses a stone sink [11/18] draining to an external spout (S23) in the south wall.
- 5.168 Structural evidence indicates that the fourth floor chamber (**SWT5**) of the south-west tower was reached by a flight of external stairs running parallel to the south end of the west wall-walk [1/18; 8/6] (plate 94). The threshold of the 0.55m wide doorway (D9) [11/5] opening into the chamber is noticeably worn, having developed a concave profile through use [11/9]. The chamber itself measures 3.05m north-south by 3.75m east-west, and is lit by three windows, W61 [11/8] to the north wall, W66 to the west wall and W69 [11/6] to the south wall (plate 95). All three windows are of similar form, all being located within rectangular recesses, with windows W61 and W66 having shouldered heads supported on curved corbels, and window W69 having a flat head; the bases of two of the window openings were all set at floor level while W61 was just above it, but each then steps up 0.50m into the opening. The height and width of the steps might be thought to be suggestive of window seats, although the main step is too narrow to

sit on comfortably, and none of the windows have the stone bench form of seat seen elsewhere within the castle. Window W66 also has a wall cupboard to the south side. There is a fireplace (FP18) with a flat lintel in the west wall [11/7], and the back of the fireplace is reddened and quite heavily sooted - the flue emerges as circular opening at wall-top level to the north of the south-west turret [15/3]. The upper parts of the north and south walls of the chamber each retain a pair of opposed quarter-circle corbels [11/3]. These may have directly supported two roof trusses, or alternatively may have supported wall plates from which a common rafter-type roof rose; the wall plates may have been set into recesses placed immediately above the corbels in the north wall. The chamber also had an *en suite* garderobe (G9), accessed via a doorway (D53) at the north end of the east wall. Some graffiti is preserved on the south side of the door, including initials dated '1762'. The garderobe is approximately L-shaped in plan. The raised seat and the chute are located at the south end of the garderobe and are unusually well preserved, the central circular hole to the seat surviving complete [11/13-11/14] (plate 96); the external base of the chute is now buried beneath the exterior ground level. The garderobe is lit by a small window (W73) in the south wall, formerly fitted with an internal shutter hinged on the west side.

The Uppermost Parts of the Castle

(figures 26 and 27 (plans); figures 28a-28b, 29a-29b, 33a-33b and 34a-34b (elevations); figure 46 (reconstruction))

- 5.169 As lofty as the southern towers of the castle were, there were not the highest part of the structure. The uppermost part of the castle, lying between and over the southern towers, could only be reached via an external stair rising over the south end of the upper hall (figure 46). This staircase commences immediately to the east of the doorway (D9) of the south-west tower's fourth floor (**SWT5**), and therefore itself can only have been accessed using the same flight of external stairs that rose to that chamber from the west wall-walk of the upper hall.
- 5.170 The external stair rising over the upper hall is a substantial structure, and its incorporation into the wall here required a great deal of extra construction work, including corbelling [2/1; 8/13; 18/11-18/13, 18/17] (elevation 20) (plate 94). The actual stair itself is barely 0.75m wide [8/2; 15/17], although the remains of two corbelled projections towards its lower end suggest that it may once have been widened slightly above them. There is no surviving structural evidence to suggest that it was ever covered, at least in the sections that were cleared and excavated during the conservation works, or that it was provided with a timber handrail. However, there may have been traces of a parapet wall to the upper hall roof side to the upper half of the stair, although this would have reduced the width of the passage to about 0.50m. At its very upper end, the stair angles to the south-east, and is corbelled out over an area of sloping wall face below [7/18; 8/18]. The overall impression is of a rather precipitous ascent, ascending the stair not being for those without a head for heights, and that it was perhaps best avoided altogether in very windy or wet weather.
- 5.171 The point to the east of centre at which the head of the stair reached the uppermost level of the castle is still clear but unfortunately much else at this level has been lost, and so it is difficult to ascertain exactly how it was structured [7/8, 7/10]. There must have been a means of reaching both of the corner turrets surmounting the southern towers, and perhaps also a structure in between, supported on the machicolations which project outwards beyond the castle's south wall [7/5-7/6; 13/8] (plate 42); there was also a need to drain the uppermost part of the structure, as evidenced by a surviving spout (S21) [7/7].

- 5.172 The south-east corner turret of two levels (**SET6** and **SET7**) has largely collapsed, although illustrative evidence shows it to have been of the same form as the surviving south-west corner turret (see below) [7/12-7/13; 15/14, 15/16]. The lower level (**SET6**) was reached via a doorway (D55) located at the south end of the west wall [1/2]; there is a stone sink/spout (S25) [1/1] set beneath the floor of the turret but this was not draining the turret itself, but the south slope of the roof over the south-east tower. A cruciform arrow loop survives intact in the south wall but that in the east wall is partially collapsed [21/2]. The upper level of the turret (**SET7**) has completely gone, and the only structural evidence for its existence are the remains of external stairs that would have risen to a doorway positioned in the north wall (elevation 41) [20/18; 21/01]. At the base of these stairs is one of the very few surviving examples of a chimney serving a flue originating in the fireplace FP4 in the chamber below (**SET5**). Although much truncated, the chimney is formed from dressed stone sections, pentagonal to the exterior and roughly circular to the interior [7/11] (plate 97); it is assumed that the exterior became fully octagonal once it had risen above the parapet wall here.
- 5.173 The surviving south-west turret stands to just over 6.0m, something close to its original full height [7/2; 15/1-15/2, 15/5] (plate 98). This again was of two levels (figure 36). The lower level (**SWT6**) was reached through a doorway (D56) in the east wall [6/18; 7/1], and like the south-east turret, a spout (S20) below drained the roof of the south-west tower, rather than the turret itself [7/4]. Both levels of the turret are very restricted in plan, measuring only 1.60m north-south by 1.20m east-west internally. The lower level is lit by cruciform arrow loops in the south and west walls, and some fragments of the original flagstone floor paving survive. The west and south walls step back 0.10m at ceiling level, to help support the presumably board floor of the upper level (**SWT7**) [6/15]. This must have been reached via external stairs rising to the doorway (D4) in the north wall [6/17; 15/9], although these have now gone. The interior is lit by cruciform arrow loops in the south and west walls [6/11, 6/14; 15/6, 15/11] (plate 99), as on the lower level. Scarring to the east and west walls marks the former ceiling height of the room, and there must formerly have been a pitched roof over, as the turret walls rise a further 1.45m above the scarring to conceal the roof from external views [6/7-6/9, 6/12].

6 ARCHITECTURAL AND ARCHAEOLOGICAL DISCUSSION AND CONCLUSIONS

Introduction

- 6.1 The work undertaken for the previous 2001 Condition Survey (Dennison & Richardson 2008a) allowed a number of new interpretations of the castle to be made, and also challenged some pre-existing theories. However, the considerable body of new information gathered during the 2004-05 conservation and repair programme has allowed these interpretations to be reviewed and sometimes re-considered. It has also allowed a number of directions for future research to be identified and discussed.

The Pre-castle Landscape

- 6.2 The previous landscape survey and documentary research undertaken in the late 1980s established the presence and possible location of settlements, communication routes and other features within the vicinity of the castle, some of which may be contemporary with it but others are probably earlier (e.g. Moorhouse 1985). It is not known to what extent any of this research has been developed privately since the late 1980s but nothing further has been published. A review of this and other material would be particularly relevant to an understanding of how pre-existing physical and seigneurial boundaries may have influenced the siting of the existing castle. Such a review, particularly for the prehistoric and early medieval periods, lies outside the scope of this present report, and so the following section limits itself to the later medieval period, which is most relevant to the standing building.
- 6.3 The castle quite clearly did not exist in isolation, nor was it set down in a virgin landscape. It is quite possible that the earthworks recorded in 1989 and as part of the current survey (figures 9 and 10) do include features that pre-date the existing building. The 12th and 13th century pottery recovered from the trial trenches dug across some of the earthworks indicate activity, and perhaps settlement, in the area at this date, although the four trenches were very limited in scale and one should not over-exaggerate the conclusions which can be drawn from them.
- 6.4 The 2004-05 conservation works have uncovered no new information that would either support or refute previous suggestions that the 12th/13th century activity suggested by the trenches was associated with the late 13th century manorial complex of Isabell de Fortebus, which has been placed within Harewood township, possibly on the castle site (Moorhouse 1989, 7). The Fortebus complex may have replaced Rougement Castle, itself perhaps the centre of a pre-Conquest estate, as the administrative centre of the manor by this date, although the Rougement site remains understudied and further work which pursued the relationship between the two would be valuable. The Fortebus complex was apparently substantial and included stone buildings and, if the 1356 dower arrangements for Maud de L'Isle refer to the same residence, it remained in use until at least ten years before Sir William de Aldeburgh obtained his licence to crenellate Harewood Castle in 1366. The fact that neither the previous Condition Survey nor the 2004-05 works uncovered any convincing evidence that the castle incorporated part of an earlier structure suggests that de Aldeburgh made a conscious decision to completely replace an existing manorial centre which was in itself already extensive; it is of course possible that some of the pre-existing ancillary buildings were incorporated into the new castle's precinct. The excavations at Ayton Castle in North Yorkshire, undertaken by the Scarborough and District Archaeological Society between 1958 and 1961, demonstrated that the existing c.1400 tower house here overlay a

complex sequence of structures relating to the earlier manorial complex which dated back to the mid 13th century (Rimington & Rutter 1967). Many of these structures were not apparent as earthworks, and it may be that a similar situation exists at Harewood.

- 6.5 It is also possible that all or part of the two parks associated with the castle pre-date it; given the proximity and suggested shape of the small park to the north of the castle, it might have been thought to have been laid out specifically to be visible from it. However, when viewed from the south bank of the Wharfe, it is clear that visually the castle is looking across the short axis rather than the long axis of the park, and conversely the park does not appear well placed to form the focus of any view from the castle, although deciding what constituted the focus of the late medieval viewer is far from straightforward (Richardson 2010). Nevertheless, the presence of the parks and the earlier manorial centre do provide an important landscape context into which the castle was inserted, and pre-existing boundaries associated with these features may have continued to influence the development of the surrounding area long after the castle was built.

The Castle Precinct and Medieval Designed Landscape

- 6.6 Harewood's sophisticated design owes something to its deliberate siting on the steeply sloping valley side (plate 2). The site would have given the building a great deal of prominence from a long stretch of the Wharfe valley and the surrounding countryside; it would, in the phrase Thompson (1991, 23) uses in relation to medieval German castles, have 'nailed the valley' (plate 101). This would particularly have been the case if the exterior was rendered, as the 1698-99 marginal illustration might suggest (plate 4), and perhaps even whitewashed. The slope siting also afforded the inhabitants far-reaching views, particularly from the private chambers over the north wing (**NB3** and **NB4**) and from the wall-top and roof-top walkways. Finally, the slope allows, or necessitates, changes between floor levels from one part of the building to another (figures 12 and 37), which Emery (1996, 342) notes was a favoured feature of the late medieval period.
- 6.7 Harewood Castle was not entirely a self-contained structure, and stables, outbuildings and workshops would have been located in a precinct, outer court or other yard. In this respect, comparisons might be made with other contemporary structures such as the late 14th/early 15th century tower house at Ayton near Scarborough, or the early to mid 15th century castle at Harlsey, both in North Yorkshire (Rimington & Rutter 1967; Matthews & Richardson 2007). As has already been noted, it is possible that the castle may have replaced an earlier and substantial manorial complex on the same site (indeed, this may have been deliberately demolished to make way for the castle) while other associated features in the vicinity such as the parks also wholly or partly pre-date it. The castle was therefore built within a pre-existing manorial landscape, and one which may have had an influence on its layout. The extent of this influence is, at present, not clear; one might equally argue that it was substantial, or conversely, if de Aldeburgh did deliberately and completely demolish a pre-existing complex, that what had gone before mattered little to him.
- 6.8 As has already been described in Chapter 4, the surveys undertaken in 2001/2004 and 2008 have cast doubt on previous interpretations of the earthworks surrounding the castle, including the size and shape of the late 14th century precinct, and access into it. They have also allowed new interpretations to be advanced, such as the possible role of the large ponds ('B' and 'D' on figure 10) as representing boundaries between a precinct/garden area to the south and the park

to the north, and to consider Harewood in the light of the most recent published works on medieval designed landscapes (e.g. Creighton 2009). Nevertheless, many of the questions raised in the previous Condition Survey report (Dennison & Richardson 2008a), regarding the relative date and purpose of elements of the designed landscape surrounding the castle, remain.

The Construction of the Castle: an Earlier Building or a Change of Design?

- 6.9 When considering Bolton Castle in Wensleydale (North Yorkshire), Hislop has noted that, although the general impression given by that building is one of orderliness and coherence of design, the evidence suggests that the finished structure was not conceived as such from the outset, but was rather the result of an evolving approach to a specific site in which many decisions regarding planning and design were made after building had commenced (Hislop 1996, 11).
- 6.10 Such an argument is very relevant to Harewood Castle. As has been discussed in Chapter 3 above, earlier authors such as Jones (1859, 136) suggested that the castle was 12th century in origin, and that de Aldeburgh was responsible for a substantial remodelling or rebuilding of an existing structure. Sometimes the evidence for this statement is given, for example in 1863, when Jones remarked that *"From a drawing which he had seen of windows which at one time existed at the castle, it appeared that the style of architecture was that of the transition Norman period"* (Gentleman's Magazine 1863, 720). As previously noted, documentary evidence shows that a substantial manorial complex with stone buildings was located within the township during the late 13th century, possibly on the site of the existing castle (Moorhouse 1989, 7). However, it has also been noted that the suggestions for any earlier windows or other features at Harewood stem from a misreading of captions to plates shown by King in his 1782 description of the castle (King 1782, 323 & 324). More recent authors have also stated or implied that the castle was built by Sir William de Aldeburgh after 1366, when a licence to crenellate was granted (Black 1968, 339; Emery 1996, 339; Moorhouse 1989).
- 6.11 There are a number of inconsistencies and odd structural features within the castle which might help to answer the questions or theories highlighted above. Many of the inconsistencies are concentrated around the junction of the north wing, the north-east tower and the north-east newel stair. Externally, the chamfered plinth which runs around the north block and the north-west tower (elevations 1, 2, 17 and 18) is clearly overlain by the west wall of the middle (hall) block (elevation 16; figures 17a-17b), and the latter also appears poorly tied into the north-west tower, implying that the west wall of hall block is later in date. Internally, the inner doorway (D5) in the north-east entrance tower (**NET1**) has a complex moulding with stops and a hood mould with head stops. Such decoration is more usually found on an external elevation, perhaps suggesting that this was originally intended to be the main entrance into the structure. In addition, the north and south sides of the north-east tower (elevations 3 and 5) do not appear to be bonded in to the adjacent wall faces, and windows both to the south (W11 and W14, elevation 6) and north (W28, elevation 2) of the tower may be truncated by it (plate 24). The string courses and offsets seen in the elevations to either side of the north-east tower (elevations 2 and 6) are not continued around the tower itself, although the chamfered plinth is. Finally, both the north and south windows of the second floor chapel (**NET3**) in the north-east tower (W18 in elevation 3 and W15 in elevation 5) have incomplete arches set above them (figures 15a-15b). That to the north window (W18) mirrors the rear arch of the internal opening in which the window is set and, as has already been noted, the window itself is not placed

centrally to the internal opening (figure 23). The single surviving voussoir above the south window (W15) also bears less relation to the internal opening. Taken together, the structural evidence may suggest either that different (larger?) windows were originally planned for the chapel, or even that the second floor space was once to have fulfilled some other function. Furthermore, the difference between the incomplete arches in the north and south elevations might also indicate that the north elevation was virtually complete when the decision to change the windows was made, but that the south elevation was still under construction. Given the care taken elsewhere with the castle's external appearance, it is puzzling that the incomplete arches should have remained visible.

- 6.12 Furthermore, the means by which the upper levels of the north-east lesser newel stair are accommodated in the north-east corner of the upper hall appear rather crude, and the scar of the roofline seems to have been cut through part of this angled stonework (elevation 19) (plate 50 and figures 28a-28b). The presence of the lesser newel stair also makes the external angle between the north block and the north-east tower very thin indeed, only one course thick in places (see for example figure 21). Towards the upper part of the staircase, a drain running along the south side of the north block's roof vents into a spout (S6) in the block's east wall. However, to do so, it has to traverse the north-east newel stair, being positioned (and perhaps cut through) the stair's north wall. This again suggests a lack of synthesis between the positioning of the stair and the north block.
- 6.13 Other apparent internal inconsistencies are present in the east and west walls of the middle hall block (**MB2** and **MB3**). Internally, the thickness of the west wall of the upper hall (MB3) appears to be truncating the west jamb of a doorway at the west end of its north wall (D18 in elevation 19) (plate 50 and figures 28a-28b). Below, on the ground floor, the arched doorway (D10, elevation 22) leading from the former west end of the lower hall's screens passage into the north-west tower has what appear to be the voussoirs of a higher arch above it, but again these may be truncated by the north wall of the hall. On the opposite side of the lower hall, the internal sides of the entrance doorway (D5) are misaligned (figure 21). The north side is of approximately the same width as the north block's east wall, while the south side is somewhat narrower; the projected thickness of the north block's east wall lines up with the hall's stone bench here.
- 6.14 Taken together, these inconsistencies could be interpreted as supporting Jones' 1859 statement that the castle was a remodelling or rebuilding of an earlier structure. However, there are a number of problems with such an interpretation. Firstly, there are no obvious architectural features which pre-date the later 14th century and, as has been already noted, earlier references to such features are erroneous. Secondly, the close observation of the castle structure afforded by the 2004-05 conservation works has demonstrated that constructional techniques, architectural detailing and masons' marks were largely very similar throughout the whole building. For example, the trapezoidal relieving pieces over fireplaces, windows and elsewhere can be found in all the different parts of the castle. In addition, the most commonly occurring examples of the 475 masons' marks identified during the 2004-05 works (i.e. the 'asterisk' and 'X-form'; see figure 13) have a fairly even distribution throughout the castle, although the distribution of others suggests that they represent individuals or groups of masons who worked in more limited areas of the upper parts of the castle as it was nearing completion (see Appendix 2). It is therefore considered more likely that the various structural inconsistencies represent one or more substantial modifications of design during an extended period of construction, perhaps as a result of de Aldeburgh changing the requirements for his residence. This is similar to what Hislop proposes at

Warkworth Castle in Northumberland, where structural inconsistencies are “*a matter of structural sequence within the late fourteenth century scheme rather than an indication of the incorporation of an earlier building*” (Hislop 2007, 45).

- 6.15 On current evidence, it is suggested that Harewood Castle might originally have been intended to take the form of a large tower house, comprising what is now formed by the north block and the north-west tower. This would have been c.15m square (externally), somewhat larger than the late 14th/early 15th century tower house at Ayton in North Yorkshire (Dennison & Richardson 2008b, 25), perhaps of three storeys and partly terraced into the base of a slope; the cellar or basement (**MB1**) beneath the north end of the lower hall seems to project some 1.20m beyond the plinth running around the north block and north-west tower (figure 20). Might this cellar represent parts of a planned tower house’s south side, already cut into the slope? Rather than infilling the space, the excavated area was instead converted into the cellar of an enlarged building.
- 6.16 This interpretation also begs the question of how far construction had progressed when the design was changed. For example, it would be possible to interpret some of the structural inconsistencies associated with the north-east newel stair and also the apparent circulation pattern at wall-walk level with the need to accommodate a building that was almost complete and three storeys in height into a much enlarged castle. However, such a sequence of events would then imply that a major dismantling of the tower house’s south wall would have needed to take place, and the 2004-05 works found no evidence to support this.
- 6.17 Exactly when and why such a change of design may have taken place would be difficult to establish given the present state of historical research but, as has been outlined in Chapter 2 above, the closeness of Balliol’s death (1364) and de Aldeburgh’s licence to crenulate (1366) may be significant. It is not yet known at what stage the licence was granted in relation to the construction of the castle (i.e. before, during or after), but it must have been fairly early on as de Aldeburgh only obtained the manor of Harewood in 1364. It may be, therefore, that de Aldeburgh benefited materially from Balliol’s estate in or around 1364, thus providing him with the funds from which to construct the castle. On the other hand, perhaps these funds did not become available until after construction had progressed to some extent, meaning that de Aldeburgh was only able to revise the scale of his proposed residence at a later date. It is also noticeable that all of the surviving shields commemorating Balliol and Aldeburgh lie outside those parts of the existing castle proposed above to represent the more modest tower house. Again, further research into the precise relationship between Balliol and de Aldeburgh may help to clarify these issues.
- 6.18 The planned presence of a tower house would also have implications both for the interpretation of the earthworks around the castle, the form of the windows in the north block’s north elevation, and the wall-walks around the upper parts of the castle; the former two subjects are discussed further below. Regarding the latter, it is highly likely that the north-east lesser newel stair once rose higher, and that there was a wall-walk across the top of the wall shared between the upper hall (**MB3**) and the uppermost chamber of the north block (**NB4**). This wall-walk appears to have run around part of the top of the north-west tower and then descended via a flight of steps to a further wall-walk along the west side of the upper hall (**MB3**) (figures 25 and 46). This provides the only access to the upper two chambers of the south-west tower (**SWT4** and **SWT5**). While it is possible that the convoluted route required to reach these chambers may have had some symbolic or social meaning (see below), it may also have resulted from the need to

incorporate an earlier tower house and to go around the barrier to east-west movement created by the upper hall roof.

- 6.19 Two other instances of more minor structural changes were noted in the castle, of the type that might reasonably have been thought to have occurred as a result of either errors or modifications made during the construction process but after the overall design had been decided. In the upper part of the external face of the south wall of the middle (hall) block (elevation 11), there is single small chamfered window (W74) sited at a higher level, lighting the garderobe (G10) of the uppermost chamber of the south-east tower (**SET5**). Approximately 0.50m to the west of this, a blocking of the same proportions as the window can be seen, which presumable represents W74 having originally been constructed in the wrong place (figures 19a-19b). In addition, on the west return of the south-east tower (elevation 7), the lower off-set is cut as if it should have once returned to the north, across the wall face (elevation 6) to the north. However, its course is blocked by a shallow projection housing a mural passage.

The Form and Structure of the Castle

- 6.20 Harewood Castle is a well-preserved example of an elaborately designed, partially fortified, medieval house, which can only be termed a 'castle' in the very broadest sense, a point made by Kitson as early as 1912. Indeed, categorisation of the structure is difficult, for as Johnson has noted (Matthew Johnson, *pers. comm.*), Emery refers to Harewood as 'a many-windowed fortified house', 'an elongated tower-house' and 'not a tower-house but a fortified house built in vertical form' (Emery 1996, 339-334). Nevertheless, Harewood's plan, which is essentially four corner towers arranged around a hall (figure 21), can be compared to a number of other contemporary residences both regionally and nationally.
- 6.21 Emery makes comparison with the houses at Acton Burnell in Shropshire (c.1280s), and Langley in Northumberland and Nunney in Somerset (both mid to late 14th century). Langley forms a particularly interesting comparison and contrast. Most probably dating to the period c.1340 to 1360 and built by Sir Thomas Lucy, perhaps incorporating part of an earlier building (Emery 1996, 113), its plan form of an elongated central block with four corner towers and entrance tower is very similar to Harewood. There is the same somewhat exaggerated vertical emphasis, compact plan and generous fenestration to the hall, although the latter is very different to that at Harewood. However, there are also other significant differences, principally the addition of a lower (north) block at Harewood, used to accommodate the kitchen, domestic offices and service areas, and also the siting; although highly articulated, the roof line at Langley does not have the stepped profile seen at Harewood. At Langley, the majority of the garderobes were located within a garderobe tower, whereas at Harewood each of the upper chambers in the south-east and south-west towers had its own garderobe; the tower chambers at Harewood were also better lit than those at Langley, particularly on the third and fourth floors. A comparison between the circulation patterns through Harewood and Langley also raises some interesting contrasts, and these are discussed further below.
- 6.22 Harewood can also be compared to its Yorkshire contemporaries at Castle Bolton (Trueman & Neil 1992) and Sheriff Hutton (Dennison 1998; Wright & Richardson 2005), both of which comprise an inner rectangular court with corner towers and, although Harewood is clearly on a much smaller scale, there is enough in common to indicate shared intentions. Hislop cites Harewood as perhaps having had an influence on the internal planning of Bolton Castle in Wensleydale and, although

he admits this is open to question, he quite rightly states that its form is “*symptomatic of the general thrust of domestic planning in the late fourteenth century*”, i.e. towards a compact and integrated internal design (Hislop 2007, 23). Given de Aldeburgh’s background, one might usefully search further afield for influences upon Harewood’s design, beyond northern England, perhaps into Scotland and even France; Emery notes that the mullioned and transomed windows at Harewood are at the forefront of contemporary design and comparable with later 14th century work in northern France (Emery 1996, 340) - perhaps the closest regional parallel are the windows in the gatehouse at Whorlton Castle, North Yorkshire, which date to the second half of the 14th century (Emery 1996, 413).

- 6.23 As noted in the architectural description (Chapter 5 above), numerous aspects of Harewood’s design indicate a passing concern for defence, for example, the portcullis, the narrow loop windows on the north side of the single entrance (W20 and W21, elevation 3), and the machicolations over the south wall. However, other details favour aesthetics or convenience. Although a purely military interpretation of buildings such as Harewood Castle would now be considered to be insufficiently nuanced, the degree to which such residences, particularly those erected during the later 14th century, were designed to provide security against for example local or regional insurrection is still hotly debated (for example, see Coulson 2007; Platt 2007b). Unfortunately, detailed coverage of what might be termed the ‘nuts and bolts’ of security such as drawbars to doors or window grilles remains rather limited and is mostly to be found in works written over 40 years ago (see for example Douglas Simpson 1966, 72-74; Allen Brown 1954, 182-183). As a result of the 2004-05 conservation works, it was noted that of the 87 windows surviving at Harewood, 45 preserve evidence for bars. Of the remaining 42 windows, nine are very narrow (c.0.10m wide externally), 13 are now completely destroyed (quite possibly as a result of bars being pulled out) and so their original form is uncertain, and the remainder are badly weathered, removing evidence for bar sockets. Based on this distribution, it is reasonable to suggest that all windows over 0.15m wide externally, regardless of their position, were originally fitted with bars. There is structural evidence to suggest that they were not used to secure glazing nor were they placed only where people might be thought to be at risk of falling out, and the only reasonable conclusion is that they were fitted for reasons of security. Such barring is not restricted to Harewood, and it appears to have been very common at other late 14th century Yorkshire castles such as Bolton and Sheriff Hutton. The implications of the provision of such window barring to the viewing of designed landscapes and the wider attitudes of the late medieval elite to late 14th century society has been considered in detail elsewhere (Richardson 2010).

Original Circulation Patterns and Functions within the Castle

- 6.24 A planning diagram produced for Harewood by Emery in 1996 (Emery 1996, 343) was remarkably accurate, given that most parts of the castle above ground level were then inaccessible. During the course of the previous Condition Survey, at least one major amendment was noted, the lack of an original doorway from the lesser newel stair to the uppermost chamber of the north block (**NB4**) (Dennison & Richardson 2008a). The 2004-05 recording work has allowed Emery’s circulation plan to be refined and expanded (figure 44), most especially in the highest parts of the building, and these amendments are highlighted in the following text.
- 6.25 Any original late 14th century circulation plan was tightly controlled, allowing for the separation of different elements of the household, visitors and guests, and the graduation of access to the lord and his family (Dixon 1996, 47-57; Brears 2010).

The only original access point to the interior of Harewood castle was through the base of the north-east tower (**NET1**), presumably after passing over a wooden bridge which spanned a ditch or dry moat running along the east side of the castle ('J' on figure 10). After passing through the outer doorway (D2), which was fitted with a pair of inward-opening doors secured by a pair of drawbars, one accessed the entrance passage at the base of the north-east tower (figure 21). This passage also contained a portcullis and a second doorway (D5) at the west end, also fitted with double doors that could be secured with a drawbar. The importance of securable doors in controlling circulation throughout the building should not be underestimated, and by comparison with other late 14th century castles such as Wressle and Sheriff Hutton, it is highly likely that many of the doors would have been fitted with locks. The control of the keys to these locked doors would have been entrusted to one or more of the higher household officials. Most of the mural passages have doors at both ends, even those passages which are relatively short, and this could indicate a higher degree of security- although it could also relate to the provision of a greater degree of privacy or indeed the need to retain heat within a space.

- 6.26 The second doorway (D5) from the entrance passage opened into a screens passage at the lower (north) end of the lower hall (**MB2**). The large central recess or cupboard in the north wall of the passage may have housed a basin and perhaps also towels, so that those of sufficient status entering the castle, perhaps guests returning from the hunt, could wash their hands; Wilson ascribes a similarly situated screens passage cupboard in the Upper Ward at Windsor for this purpose (Wilson 2002, 33). From this point in the screens passage, one could either turn right into a chamber (**NB2E**) in the north block, go straight ahead into a servery with a dresser hatch (**NWT1**), perhaps forming the only access to the kitchen (**NB2W**), left into the lower hall (**MB2**) itself, or access a small landing at the base of the lesser newel stair.
- 6.27 The chamber to the right (**NB2E**) is suggested to be a large buttery by Emery, but it could have served other purposes. There is no area adjacent to the entrance in the north-east tower that could have functioned as the equivalent of a porter's lodge, allowing visitors to be greeted and checked before they were allowed further into the building. The position of this chamber (**NB2E**) would have made it well suited for this purpose, although it was rather large and so could also have been the room where provisions destined for the kitchen or associated spaces could be checked and accounted for. Records could have been stored in the curious two-level cupboard in the south wall, and the room might even have fulfilled some of the functions associated with a pantry. Furthermore, the lesser newel stair to the immediate east of the chamber provides access to several areas of the castle, including the large chamber (**NB3**) on the second floor of the north block (described by Emery as the 'Steward's chamber') and the chamber (**NET2**) over the entrance passage that appears to have housed the portcullis mechanism and ultimately the roof wall-walks; again, one would have expected access to the lesser stair to have been controlled from the point at which it was entered i.e. on the ground floor by means of doorway D12 adjacent to chamber **NB2E**, rather than when the first floor was reached. In this respect, the screens passage was also acting as a sorting area, with those concerned with the day-to-day business of the household turning right or going straight ahead, and guests/visitors and other members of the household turning left in the lower hall.
- 6.28 The curious projecting base of the window (W35) in the north wall of chamber **NB2E** might be taken to be a storage area, possibly for provisions destined for the kitchen to the north (**NB2W**) (plate 45). However, given that the only access to the

kitchen may have been through the ground floor chamber (**NWT1**) of the north-west tower, an alternative function can be suggested; the castle's nursery. Such spaces are known, from documentary references, at other late medieval castles (e.g. Wressle - Brears 2010, 78-79), but surviving structural evidence is rare. The form of the projection, with its front slot for a plank partition, would have allowed small children to be 'housed' within it, away from harm while still allowing them to be observed by adults in a busy area given over to the day-to-day running of the household. The fixed glazing to the rear window let in light but was much safer than a wooden shutter, and the interior of the projection could have been lined with blankets and cushions to make it more comfortable. However, it is still curious that it lies 0.5m above the floor level of the chamber - perhaps it was to make children easier to see inside and/or easier to lift them in and out. Although the chamber as a whole was unheated, it was close to the kitchen, which would have contributed some heat, and was therefore also convenient for the preparation of food for the children (Erik Matthews, *pers. comm.*).

- 6.29 The other ground floor and basement spaces of the north block were also given over to service functions. Emery describes the chamber on the east side of the basement (**NB1E**) as the 'guard room' although, as it is provided with both a fireplace (FP9) and a garderobe (G1), one wonders if it was actually accommodation for those working in the service spaces and domestic offices. The chamber to the west (**NB1W**) beneath the kitchen presumably acted as a provision store associated with the kitchen itself, and perhaps also as a wine cellar, and contained the castle well. The use of the ribbed vaulting in this space, which occurs nowhere else in the castle, is interesting. There is no greater weight exerted on this part of the structure than, for example, the chamber to the east, and it is possible that, given the presence of the kitchen above, it was thought that a ribbed stone vault was necessary as a form of fireproofing. The kitchen above (**NB2W**) was also equipped with two large fireplaces (FP6 and FP10), one of which may have also housed a boiler, and a baking oven, and a recess in the north-west corner contains evidence for a windlass or winding drum over the well shaft.
- 6.30 Returning to the screens passage, the visitor, guest or household member turning left entered the lower end of the lower hall (**MB2**) (figure 21). As Emery notes, this was not subsidiary to the upper hall but formed the principal reception chamber of the house, elaborately decorated to demonstrate its owners' status (Emery 1996, 342-343). It had basement or cellar storage (**MB1**) beneath the north (lower) end, perhaps an ale cellar, which was accessed via a doorway (D17) and mural stair in the west wall. The lower hall could clearly have been used for communal dining and accommodating large numbers of people, as demonstrated by the presence of stone benches and seating in the window openings, in addition to any moveable or temporary wooden seating that may have been present. The upper end of the hall was provided with a dias, lit by a window in the west wall (W60) that was later removed. The dias area was heated by the large fireplace (FP1) in the south wall, which would also have acted to frame those sitting in the dias area as well as warming their backs. The status of the dias area was further enhanced by the presence of the elaborate buffet in the west wall, and there may have been a further wooden fitting positioned at the very south-east corner of the dias area which was connected with service to those dining here.
- 6.31 The doorway (D14) to the main newel stair of the castle is set towards the south-east corner of the lower hall (**MB2**). This provides the only access to the upper hall (**MB3**), but before this, after almost a full turn of the newel, a doorway (D20) led off to the south into the lowest chamber (**SET1**) of the south-east tower. On gaining the level required to reach the upper hall, there is a small landing where another

doorway (D16), equipped with a drawbar, provided the entrance to the upper hall (figure 23). Immediately adjacent to this doorway is a small ogee-headed recess - this is the only such example noted anywhere in the castle and it may possibly have been used to accommodate a vessel or bowl for ritualised hand washing, prior to entering the upper hall and meeting de Aldeburgh or other family members (Peter Ryder, *pers. comm.*).

- 6.32 The visitor or guest entering the upper hall (**MB3**) did so at its lower (south) end, passing beneath a structure partly supported on corbels (**MB4**). Emery suggests that the upper hall may have been partitioned beneath this structure, and that it formed something like a mezzanine (Emery 1996, 342) but it is considered more likely that it comprised a gallery or balcony of some kind, perhaps to accommodate musicians. There is no access to this gallery from surviving mural passages within the castle walls, and so it must have been reached from a wooden stair or steps perhaps positioned beneath. The gallery was lit by two windows (W76) and (W77) in the south wall; these now appear large but were formerly much narrower, in order to accommodate two garderobe chutes (from G8 and G10) within the stonework of its deeply splayed plan (figures 24 and 39b). The existing access from the west window (**W76**) into one of the chambers of the south-west tower (**SWT3**) is a later insertion created from a wall cupboard (figure 39c). The shallow recesses in the south wall over the gallery are a puzzling feature. The way that the recesses are cut, particularly to the insides of windows W76 and W77, suggest that they are later additions, designed for timbers to be slid into place between the two walls; they may represent the remains of a canopy over the balcony or gallery, or might relate to a later, post-medieval alteration (see below).
- 6.33 Emery and Brears rightly characterise the upper hall (**MB3**) as more private than the lower hall, and essentially part of a private or chamber suite, with tightly controlled access, but still able to service the needs of substantial numbers of people. For example, the doorway (D21) beneath the gallery at the hall's southern end leads to the garderobe (G4) shared with the first floor chamber (**SET2**) in the south-east tower (figure 23) - a low opening cut through the west end of the south wall into the garderobe (G3) forming part of the first floor chamber (**SWT2**) in the south-west tower is a later addition, and there is no structural evidence for an original door here. The shared garderobe (G4) is the only one that might be said to be available for communal use from the upper hall, and interestingly it is the only one in the castle to have a sunken trough or sink in the floor to the front of it, suggesting that a higher volume of use was expected. In some of the mural passages leading from upper hall windows to the various chambers in the south-west tower, there are sinks set at approximately waist height which drain out through the external walls. One wonders if these are the equivalent of the 'pyssinge places' located below stairs and noted by Wilson at Windsor Castle (Wilson 2002, 30), designed for the discrete use of servants or lesser household members attending to those in the upper hall?
- 6.34 Emery also comments on the unusually small fireplaces (FP3 and FP2) in the upper hall. However, as a result of the information gathered during the 2004-05 works, the changes to the heating of the upper hall can now be described in more detail. The only original surviving fireplace (FP3) is that located beneath the gallery at the hall's south end (figure 23). The fireplace in the east wall (FP2) is a later insertion, perhaps associated with the later sub-division of this space (see below). It seems very unlikely that this large space would have been totally without heating, and the most likely position for a large fireplace is in the north wall. There may once have been a fireplace within the body of the wall itself, or alternatively it may have been set to the front of the wall and covered by a large firehood; the

disposition of the doorways (D18 and D19; see figure 28b) at either end of the north wall surely indicate that a substantial feature was once present in the centre.

- 6.35 The upper hall provided the only direct access to the first floor chamber in the south-east tower (**SET2**), the first and second floor chambers in the south-west tower (**SWT2** and **SWT3**) and the first floor chamber (**NWT2**) of the north-west tower, while the main newel stair provided access to the ground, second and third floor chambers in the south-east tower (**SET1**, **SET3** and **SET4**) (figure 44). The fact that the latter three rooms can be reached from the main staircase, whereas the others required entry into the upper hall itself is surely of significance. Once one had passed into the upper hall, one had entered the suite of rooms (11 in total) or 'chamber' occupied by de Aldeburgh himself and his immediate family (figure 45). By inference therefore, the upper rooms of the south-east tower (**SET3** and **SET4**) accessed from the main stair, which were both heated and provided with private garderobes, may have been allocated for important guests or family members of lesser status; the uppermost room (**SET4**) shows evidence of having once been panelled. In this sense, Harewood resembles more closely what has been described as a 'subordinate lodgings castle', i.e. one where there was not a number of separate ranked households such as at Bolton Castle, but rather a small central household surrounded by subordinate lodgings, allowing greater flexibility when the status and nature of the groups requiring accommodation was unpredictable (Morley 1981; Fairclough 1992, 357).
- 6.36 Once within the de Aldeburgh 'chamber' or suite of 11 rooms organised around the upper hall, subtle variations within the layout of the accessible rooms suggests differences in function and status, based on the provision of various facilities or decorative detail. For example, the chamber in the north-west tower (**NWT2**) is without a garderobe or fireplace, a common characteristic of all chambers in this tower (the fireplace FP17 in the third floor chamber (**NWT4**) is a later insertion), although all are well lit. According to an access analysis (figure 45), the third floor chamber (**NWT4**) is the space lying 'deepest' within the castle, i.e. that most difficult to reach from the entrance in the north-east tower. It is accessed via a mural stair rising from the room (**NWT3**) below, these being the only two rooms in any tower which are directly linked vertically via two doors (D43 and D58). This remoteness, together with the fact that the third floor chamber was provided neither with a garderobe nor an original fireplace, indicates a non-residential function; use as secure storage, perhaps as a treasury or muniments room, might be suspected.
- 6.37 The provision of washing facilities is also of importance, both in the approach to the de Aldeburgh 'chamber' and elsewhere within the castle. As has been noted above, the ogee-headed recess in the main newel stair adjacent to the doorway (D16) to the upper hall may have contained a bowl or other vessel, so that those entering the upper hall could ritually clean their hands before coming into the presence of de Aldeburgh and his family. One might also ascribe a similar purpose to the sink and stand in doorway D40 leading to the second floor chamber (**SET3**) in the south-east tower, and this might mark out this chamber as perhaps being occupied by someone of high status, although as already described, according to the access analysis it lies outside the de Aldeburgh 'chamber'. The 1.75m high recess in the south-east corner of the first floor chamber (**SWT2**) in the south-west tower is also of interest in regard to washing. It is both tall enough to stand up in and was provided with a drain in the base leading to an external spout (S30). This feature could be interpreted as a urinal, but given that it occurs in a space already provided with a garderobe, it might represent a space in which a person could disrobe and wash in the comfort of a heated chamber. Another tall

recess, this time c.1.80m high, is present in the third floor chamber (**SET4**) of the south-east tower, although this did not have a drain, and so may have been a private dressing space within this heated and perhaps also panelled room. More detailed consideration of these variations in accommodation, and differences in facilities offered by rooms of very similar size, could facilitate the gendering of parts of the castle, for example, the recognition of a sub-division in the main household between William de Aldeburgh and his wife.

- 6.38 At the upper (north) end of the upper hall, one finds the chapel (**NET3**). This space was highly decorated but rather small, and Ryder suggests that if large numbers of people were expected to worship at one time, then the upper end of the hall might have been pressed into service, perhaps acting somewhat like the nave of a church with the chapel as the chancel (Peter Ryder, *pers. comm.*); a two-part chapel comprising a 'nether chapel' or nave and chancel was present at Wressle (Brears 2010, 79-80). Ryder further suggests that the chamber (**NET4**) over the chapel, which was also formerly only directly accessible from the upper hall via a mural passage and not the lesser newel stair, might have been used as a priest's chantry.
- 6.39 As has already been noted, the large chamber (**NB4**) on the uppermost floor of the north block was not accessible from the lesser newel stair as had been previously thought by Emery, but was reached via a mural passage from the upper hall. In terms of access analysis therefore, it forms one of the 'deepest' spaces within the building, i.e. that most difficult to reach from the principal entrance (figure 45). This supports an interpretation as some kind of 'inner chamber' (Emery 1996, 343), and reinforces the idea of the second floor of the north block functioning as part of a private suite or 'chamber' for the de Aldeburgh family. There are however several features of this chamber that merit further mention. There is no indication that the uppermost chamber of the north-west tower (**NWT4**), only accessible through NB4, ever gave access to the roof. Chamber NB4 therefore has no direct or easily accessible private mural stair leading to the extensive roof level wall-walks of the castle, what McNeil has termed elsewhere 'leisured access' (McNeil 2006), and this is significant when attempting to understand the importance to its occupants of the views from the chamber windows. Related to this is the wider difficulty of deciding exactly what the focus of any late medieval view from the chamber's large windows was (Richardson 2010).
- 6.40 The character of the uppermost room in the north block (**NB4**) is also apparently non-residential. In contrast to the inner chamber at Langley Castle, which was provided with an associated tower chamber with a garderobe (Emery 1996, 111), the route to the nearest garderobe from the Harewood chamber was convoluted; one would have to cross the entire length of the upper hall and either ascend a mural stair to the garderobe (G4) shared with the first floor chamber **SET2** in the south-east tower, or go down the main newel stair and across the lower hall to the garderobe (G2) in the first floor room in the north block (**NB3**) (figure 44). This may explain the presence of a low-level sink in this chamber (figure 23), which could have been used as a urinal or perhaps more likely to dispose of the contents of a commode provided for the occupants of the chamber. The overall form of the uppermost chamber (if not its overall position within the castle's circulation plan), i.e. a large undivided space with large windows, well lit by natural and artificial means, and possessing a semi-symmetrical layout but lacking residential features, suggest that it would have functioned as an audience chamber. It has something in common with the 13th and 14th century glories discussed by Ashbee (2004, 17-40), all of which had views from window seats but not necessarily an association with a garden, and also perhaps shares something with the 'great

chamber' at Bodiam Castle (Faulkner 1963, 233) or the 'paradise chambers' seen at Wressle, Leconfield and Petworth (Brears 2010, 97-98).

- 6.41 With the advantage of access afforded by the scaffolding, it is at the wall-walk level where the greatest amount of new interpretation has been possible as a result of the 2004-05 recording. A detailed description of the circulation routes around the upper parts of the castle is given in Chapter 5 above, while the implications of these routes as to what could be seen from the wall-walks is dealt with elsewhere (Richardson 2010). Of particular significance is the new information gained regarding the truncation of the lesser newel stair, the ways in which the uppermost chamber of the south-east tower (**SET5**) and those of the south-west tower (**SWT4** and **SWT5**) were effectively isolated from the rest of the circulation plan, and details of the south-east and south-west corner turrets (figures 36 and 44). This has allowed new ideas to be developed regarding seasonal usage of certain parts of the castle and how the wall-walks may in some way have foreshadowed the separation of servants and family without restriction of access to either group, as is seen in the 19th century country house (Richardson 2010).

Later Occupation History

- 6.42 The previous EDAS Condition Survey drew attention to the fact that while considerable attention has been given to the medieval castle, in particular the de Aldeburgh occupancy, the effects of the far longer joint occupancy by the Ryther and Redmayne families remain under-researched and almost certainly underestimated (Dennison & Richardson 2008a, 83-85). It is likely that both the interior of the castle and its immediate landscape were substantially altered during the 15th, 16th and early 17th centuries, and evidence for some of these alterations still survives. For example, the many shields of arms in the chapel (**NET3**) are associated with the Ryther and Redmayne families, and these can only have been inserted during their occupancy, demonstrating that they wished to make their mark upon the structure but at the same time retaining the shields relating to de Aldeburgh and Balliol; they do not appear to have attempted to erase past ownership, as de Aldeburgh may have been doing if he completely demolished the earlier de Fortebus manorial complex.
- 6.43 The area of the castle where alterations were most clearly undertaken when it was still an occupied structure is the upper hall (**MB3**). Although, as discussed above, Emery suggests that it may have been partitioned when first built, it is considered more likely that sub-division took place at a later date, perhaps in the later 15th or 16th centuries. The evidence for this sub-division is mainly based around fireplace provision, although as yet it is difficult to be certain to what extent any of the changes described below were contemporary. It appears that the large fireplace located in or against the north wall at the former upper end of the hall was removed, and a new fireplace (FP2) was inserted towards the north end of the east wall. The flue of this new fireplace interrupted the mural stair leading from the upper hall to the possible priest's chantry (**NET4**) over the chapel, and so a new doorway (D51) had to be cut from the top of the lesser newel stair (figures 25 and 39j). The opposite window (W53) in the west wall was also radically altered. Emery suggests that this was once an oriel window but there is little structural evidence to support this, and similarly little reason to believe that it was not once of the same form as the adjacent window (W54) to the south. The north splay of window W53 was heightened and rebuilt, and indeed the whole opening heightened and provided with a shallow arched head, rather crude when compared with those of the late 14th century originals. The head was pierced by one (or perhaps two) small square structures, apparently flues, which ran upwards at least

to the level of the wall-walk along the west side of the upper hall (figure 25). It is therefore possible that the window was converted into a fireplace, although why it was done in this form is not clear. Taking all the structural evidence together, it is thought that the most likely reason for blocking up or removing a large fireplace in the north wall of the upper hall was that the use of the space, or the perception of it by its users, had changed, and that there was a requirement for it to be used in a different way. If the hall was sub-divided, then the north wall fireplace may have simply been too large for the new, smaller, space that was created, hence its removal and the insertion of a smaller fireplace in the east wall. One might even argue that the inserted fireplace, and the second fireplace apparently created out of window W53, indicate that the northern half of the hall was further partitioned into two rooms, each one perhaps served by the earlier doorways D18 and D19 in the north wall.

- 6.44 There are other alterations which were almost certainly made when the castle was still an occupied structure i.e. before the early-mid 17th century. A substantial building, perhaps timber-framed, with a pitched roof was built against the south end of the castle's east side (elevation 8) and provided with an inserted doorway (D1) to connect it to the main newel stair (figures 14b and 23). This building had been demolished by 1699 as the roof scar and doorway are visible on the c.1698/99 marginal illustration of the castle (plate 4). Another structure of unknown form was built against the north end of the west elevation (elevation 18), again provided with an inserted doorway (D3) linking it to the mural stair formerly connecting the second floor chamber (**NWT2**) in the north-west tower and the upper hall (**MB3**) (figures 17b and 22). Both of these inserted external doorways have crude semi-circular heads, rebated to the exterior. The same feature can be seen to the inserted doorway (D51) in the lesser stair described above, as well as to the external face of the enlarged window (W56) at the south end of the west elevation (elevation 16). This characteristic might perhaps indicate that all are contemporary. It is also possible that a new fireplace (FP7) was inserted into the highest room of the north-west tower (**NWT4**) at the same time, along with the creation of the crude but impressive mural passage which runs north from window W13 (via D15) in the lower hall, which is literally tunnelled through the wall thickness, and which appears to have given access to the first floor room in the north-east tower (**NET2**) and perhaps the north part of the upper hall (**MB3**).
- 6.45 So why were these alterations made? One possible explanation is coparceny (i.e. joint occupancy by two families). Some antiquarian sources allege that the Ryther and Redmanyne families occupied the castle alternately, but there is no evidence for this and it is quite possible that they occupied it together. Although Dixon and Borne concluded that Aydon Castle in Northumberland was not designed from the start for joint ownership as had been previously proposed, they did concede that capital messuages were occasionally physically subdivided between coparceners and provided an example in Belford manor house, also in Northumberland (Dixon & Borne 1978, 234-238). In such a scenario, Harewood Castle may have been divided between the two families, each division perhaps based around one of the halls and one or more of the towers; there may even have been a need to create separate entrances and perhaps also to add the structures formerly abutting the east and west elevations. Of equal interest is what might have been *removed* during a period of coparceny; such alterations would have done away with the tightly controlled late 14th century circulation plan and perhaps also some of the more convoluted wall-walks. In such a case, the upper chambers of the south-east and south-west towers (**SET5**, **SWT4** and **SWT5**), which were only accessible from the wall-walks, could have fallen out of use completely.

Post-Occupation History

- 6.46 There are also a number of other alterations to the castle that appear to post-date its use as a fully occupied building, but which are difficult to date closely or indeed to which it is difficult to ascribe a purpose.
- 6.47 As was noted in the previous Condition Survey, one possible cause of some of the later interventions is that they are the result of the dismantling of the interior after the mid 17th century. Although various sources suggest that the castle was slighted during the English Civil War (e.g. Jones 1859, 149), there seems to be no firm evidence to support this, and the surviving structural evidence points to a careful dismantling rather than a demolition. Rakoczy has noted that the corbels formerly supporting the floor beams of the upper hall (**MB3**) are missing alternately and at one end of each beam only (figures 28a-28b and 29a-29b; plate 54), a pattern she suggests results from the desire to slide the timbers out and remove them whole, rather than sawing them up *in situ* and perhaps reducing their resale value (Lila Rakoczy, *pers. comm.*).
- 6.48 This could then lead on to other propositions. Given the location of the enlarged opening (W60, elevation 16) in the west wall of the lower hall at the end of the terraced walkway ('S' on figure 10) created in the early 19th century, it is tempting to ascribe this opening to the same period. However, it was present in the early 1780s when described by King (1782, 330; see figure 4) and so pre-dates the creation of the surrounding Castle Pleasure Grounds. Similarly, the two large openings created out of former smaller windows in the south elevation (W76 and W77) are also shown on Dall's painting of the 1770s (plate 5), and so these also pre-date the creation of the Pleasure Grounds; the presence of the two chutes in the eastern window (W77) clearly shows that the garderobes above (G8 and G10) were out of use when the openings were created! Might not these openings have originally been created to assist with the removal of large timbers and other items from the interior of the castle? The crude nature of some of the other alterations, for example the low opening broken through the west end of the south wall of the upper hall into the garderobe passage (G3) and the access from the west window (W76) into one of the chambers of the south-west tower (**SWT3**), are suggestive of demolition rather than alterations for occupation. Similarly, the demolition of the north wall of the ground floor chamber in the north-west tower (**NWT1**) might be associated with the removal of materials out of the adjacent kitchen area. All of these works could have taken place as a result of the 1656 sale of the castle (see Chapter 2 above), and not as a result of any kind of Civil War involvement whatsoever.
- 6.49 Any putative programme of controlled dismantling that did take place after the mid 17th century was not followed by re-occupation. The 2004-05 works uncovered no convincing structural evidence that the proposed c.1770s conversion of the castle to a malting house with living accommodation was ever carried out. There are places where the structural evidence might match what is proposed on the plans (figure 3), for example, in the basement store (**NB1W**), the two lines of recesses between the ribs of the vault and the apparent truncation of the vault itself might be taken to indicate that the drying kiln shown on one of the plans was actually built. But there is no widespread evidence for the scheme having been undertaken and, given its suggested 1770's date, there is no mention of it in King's account of 1782 or in the various paintings which pre-date King's account.
- 6.50 The earliest repairs to the castle's fabric in the post-medieval period, such as those recorded to the chamfered plinth of the north-east tower (elevations 3 and 4;

figures 15a-15b), appear to have taken place at some point in the early 19th century and may be associated with the creation of the Castle Pleasure Grounds. It may also have been at this point that the large openings in the south wall (W76 and W77) were turned into windows, and these may have been associated with an internal viewing structure and/or canopy as indicated by the sockets running across the tops of the openings (figure 39b).

- 6.51 The 2004-05 works have provided additional information on how the surrounding pleasure grounds may have been structured, but their exact extent and internal organisation remains to be defined, and would be a subject worthy of further research, particularly into other surviving examples of James Webb's works.
- 6.52 It would also be valuable to determine when the castle stopped being used solely by the Lascelles family and their guests as a part of the pleasure grounds, and when it became more 'open' to the public; for example, the majority of the recorded graffiti dates to the 1880s. This may also have had an effect on the distribution of the historic graffiti. For example, how did people access the upper parts of the south-west and north-west towers to carve their initials and do their marks represent people with a more 'daredevil' attitude and if so, why is their graffiti hidden away in garderobes and mural passages - were these illicit visits?

7 ECOLOGICAL AND RELATED SURVEYS

Introduction

- 7.1 Additional ecological surveys were undertaken on the site, namely an extended Phase 1 habitat survey, a breeding bird survey, a bat survey and a lichen survey, to augment that previously carried out for the 2001 Condition Survey (Dennison & Richardson 2008a, Appendices 2 & 3; Holloway 2000; Gouldsborough 2000). The methodologies employed in the various surveys are discussed in Appendix 10 of this report, and the following text is a summary of the respective specialist reports (Holloway 2010 & Holloway 2011; Gouldsborough 2009); the full unedited survey reports can be found in Appendices 5, 6 and 7.

Phase 1 Habitat Survey

- 7.2 A total of eight locations were chosen for the 'target notes' (figure 47), which provide supplementary information on species composition and structure, evidence of management, habitats too small to map and transitional or mosaic habitats within the expanded survey area. These defined the vegetation of selected areas more precisely in terms of its plant communities.

Target Note 1 (broadleaved plantation – NVC W10 woodland)

- 7.3 Early mature trees of sweet chestnut *Castanea sativa*, sycamore *Acer pseudoplatanus* and pedunculate oak *Quercus robur* co-dominated the canopy of the woodland in this locality. The understorey included semi-mature silver birch *Betula pendula* and beech *Fagus sylvatica* as well as several saplings of the canopy trees and very occasional hawthorn *Crataegus monogyna* and elder *Sambucus nigra*. Carpets of bluebell *Hyacinthoides non-scripta* covered c.40-60% of the field layer whilst broad buckler fern *Dryopteris dilatata* occupied c.5%. Both nettle *Urtica dioica* and bramble *Rubus fruticosus* were only sparsely recorded. A range of mosses, including *Mnium hornum* and *Rhizomnium punctatum*, occupied c.30% of the ground layer together with patches of bare earth, leaf litter and clumps of fallen twigs and branches. Finally, stumps were frequently recorded within the field layer and this was indicative of previous woodland management.
- 7.4 As noted in the previous ecological survey report (Holloway 2000), it is very difficult to classify this woodland community according to NVC standards due to previous silvicultural treatments and modification of the canopy. Nevertheless, the abundance of bluebell *Hyacinthoides non-scripta* in the field layer is a characteristic element of a W10 *Quercus robur*-*Pteridium aquilinum*-*Rubus fruticosus* (bluebell) woodland.

Target Note 2 (broadleaved plantation – NVC W10 woodland)

- 7.5 A mixed aged canopy of semi-mature and early mature sycamore *Acer pseudoplatanus* and sweet chestnut *Castanea sativa* co-dominated the canopy. However, two of the sweet chestnut *Castanea sativa* trees were fully mature and had trunk diameters of 110cm and 120cm (estimated to be c.140 - 150 years old). Several dead standing trees were also recorded. Occasional mature holly *Ilex aquifolium* occurred in the understorey together with frequent semi-mature elder *Sambucus nigra* and occasional semi-mature holly *Ilex aquifolium* and hawthorn *Crataegus monogyna*. Sapling sycamore *Acer pseudoplatanus* was also a frequent feature in the understorey whilst beech *Fagus sylvatica* and silver birch *Betula pendula* were occasional.

- 7.6 Carpets of bluebells *Hyacinthoides non-scripta* covered c.65% of the field layer, and these were interspersed by clumps of broad buckler fern *Dryopteris dilatata* (15%) and fallen branches and twigs (15%). Other very sparse plants recorded in the field layer included nettle *Urtica dioica*, red campion *Silene dioica*, ground elder *Aegopodium podagraria* and seedling elder *Sambucus nigra*. Leaf litter occupied most of the ground layer (90%) where occasional rocks and boulders were exposed. Mosses, such as *Mnium hornum* and *Marchantia polymorpha* spp., were generally sparse (c.4%). Finally, several large stumps were recorded within the field layer and these were, once again, indicative of previous woodland management. Several fresh rabbit burrows were recorded. The abundance of bluebell *Hyacinthoides non-scripta* in the field layer is a characteristic element of a W10 *Quercus robur*-*Pteridium aquilinum*-*Rubus fruticosus* (bluebell) woodland.

Target Note 3 (Broadleaved plantation – NVC ?W14 woodland)

- 7.7 Semi-mature beech *Fagus sylvatica* occupied the belt of land between the northern boundary of the Ha-Ha and the adjacent path. Other trees recorded were sweet chestnut *Castanea sativa* and Scots pine *Pinus sylvestris*. This narrow belt of trees was too small to categorise into an NVC type but it most resembled the W14 *Fagus sylvatica*-*Rubus fruticosus* woodland described in the previous ecological survey (Holloway 2000).

Target Note 4 (Young conifer woodland - Norway spruce)

- 7.8 A block of young Norway spruce *Picea abies* had been planted at this location and all the trees were between 10m-12m high. No other plants were recorded in the deeply shaded ground beneath the closely-spaced rows of trees. However, bramble *Rubus fruticosus* was a frequent feature along the edge of the woodland block and other species recorded included a young sweet chestnut *Castanea sativa* and pedunculate oak *Quercus robur*. Occasional elder *Sambucus nigra*, nettle *Urtica dioica*, broad buckler fern *Dryopteris dilatata* and rare male fern *Dryopteris felix-mas* were other edge species that were recorded in this locality.

Target Note 5 (Scots pine plantation – NVC W10 woodland)

- 7.9 Most of the trees within this mature Scots pine *Pinus sylvestris* plantation were more than 20m tall and the distance between each tree varied between 2.5m-4.5m, which allowed some light into the field and ground layers. Regeneration of this woodland, however, was extremely sparse and only a few saplings/semi-mature specimens of pedunculate oak *Quercus robur*, silver birch *Betula pendula* and sycamore *Acer pseudoplatanus* were noted in the understorey.
- 7.10 The field layer was dominated by broad buckler fern *Dryopteris dilatata* although a few saplings of silver birch *Betula pendula* were also noted together with a small clump of rhododendron *Rhododendron ponticum*. Occasional other plants recorded included wood sorrel *Oxalis acetosella*, foxglove *Digitalis purpurea*, bramble *Rubus fruticosus*, soft rush *Juncus effusus*, Yorkshire fog *Holcus lanatus* and creeping soft grass *Holcus mollis*. A mix of bare ground and pine needles, however, generally covered the ground floor. Fallen trunks, branches and twigs occupied c.5% of the field layer. Occasional small springs and shallow puddles were recorded within the woodland where a mix of tall ruderals and hydrophilic plants had collected. These included tufted hair-grass *Deschampsia cespitosa*, marsh thistle *Cirsium palustre*, marsh cudweed *Gnaphalium uliginosum*, spear thistle *Cirsium vulgare*, nettle *Urtica dioica*, creeping buttercup *Ranunculus repens*,

bittersweet *Solanum dulcamara*, wavy bitter-cress *Cardamine flexuosa* and lady fern *Athyrium filix-femina*.

- 7.11 The establishment of Scots pine *Pinus sylvestris* as the dominant canopy tree within this plantation once again makes it is very difficult to classify it according to NVC standards. Nevertheless, the abundance of broad buckler fern *Dryopteris dilatata* in the field layer is indicative of a W10 *Quercus robur* - *Pteridium aquilinum* - *Rubus fruticosus* woodland.

Target Note 6 (ill-drained pasture – NVC MG10 rush-pasture)

- 7.12 The water-logged, slightly acidic soils here were co-dominated by tussocks of soft rush *Juncus effusus* and a mixture of tall grasses. The latter consisted of Yorkshire fog *Holcus lanatus*, creeping soft grass *Holcus mollis* and common bent *Agrostis capillaris*. Other more occasional grasses and herbs were greater bird's-foot-trefoil *Lotus pedunculatus*, lesser stitchwort *Stellaria graminea*, tufted hair-grass *Deschampsia cespitosa*, oval sedge *Carex ovalis*, smooth meadow-grass *Poa pratensis*, heath bedstraw *Galium saxatile*, tormentil *Potentilla erecta*, broad buckler fern *Dryopteris dilatata* and bramble *Rubus fruticosus*. The combination of plants were characteristic of MG10 *Holco-Juncetum effusi* rush-pasture.

Target Note 7 (narrow belt of larch)

- 7.13 A belt of larch trees fringed the western edge of the Scots pine *Pinus sylvestris* plantation. A sparse understorey consisted of occasional semi-mature/sapling sycamore *Acer pseudoplatanus*, silver birch *Betula pendula*, pedunculate oak *Quercus robur*, rowan *Sorbus aucuparia* and elder *Sambucus nigra*. Broad buckler fern *Dryopteris dilatata* dominated the field layer and occasional other herbs and grasses recorded were wood sorrel *Oxalis acetosella*, bramble *Rubus fruticosus*, heath bedstraw *Galium saxatile*, Yorkshire fog *Holcus lanatus*, tormentil *Potentilla erecta* and foxglove *Digitalis purpurea*. A small patch of Himalayan balsam *Impatiens glandulifera* was recorded at the northern edge of this woodland, adjacent to the path.

Target Note 8 (Ha-Ha)

- 7.14 The ha-ha was generally very silted up although the maximum water depth recorded was c.14cm. Vegetation colonising parts of the wall included hart's tongue *Phyllitis scolopendrium* and broad buckler fern *Dryopteris dilatata*. Occasional trees such as sweet chestnut *Castanea sativa* were recorded growing from the walls.

Evaluation of the Results

- 7.15 None of the plantations within the expanded study area were ancient and therefore not considered to be of either 'national' or 'county' ecological value. Nonetheless, the mosaic of habitat types that were recorded were together considered to be of 'parish' ecological value.

Future Management Recommendations

- 7.16 An outline management plan for the woodland communities in the vicinity of Harewood Castle was described in the previous ecological survey report (Holloway 2000). Additional substantial thinning measures for the Norway spruce *Picea abies* and Scots pine *Pinus sylvestris* plantations described in Target Notes 4 and

5 are also recommended in this report. In each case, the aim would be to open up the canopies to allow for the regeneration of native saplings and seedlings and to allow a more diverse, and species-rich, field and ground layer to develop.

- 7.17 A major potential nature conservation threat to the study area was the recorded patches of non-native rhododendron *Rhododendron ponticum* and Himalayan balsam *Impatiens glandulifera*. These plants were located in the centre and north-west corner of the Scots pine plantation respectively (Target Note 4, see figure 47) and, if unchecked, they are likely to eventually dominate the local native flora and cause significant reductions in their diversity. Indeed, for Himalayan balsam *Impatiens glandulifera* the amended Wildlife and Countryside Act 1981 (amended 2010) makes it illegal to allow the spread of these weeds on to neighbouring land. In addition, all soil containing roots/rhizomes of this plant is now classed as controlled waste which must be disposed of at a licensed landfill site. Thus, it is recommended that the patches of rhododendron *Rhododendron ponticum* and Himalayan balsam *Impatiens glandulifera* located in the Scots pine plantation be permanently removed.
- 7.18 It is further recommended that the short-turf communities representative of U1 acid grassland and much taller tussocks of MG10 soft-rush pasture (Target Note 6) are maintained. To this end, any encroaching tall ruderals (bracken and bramble) should be controlled as and when appropriate.

Breeding Bird Survey

Results

- 7.19 A total of 21 bird species were recorded by the survey, namely:

Blackbird	Blue Tit	Buzzard
Carrion Crow	Chaffinch	Chiffchaff
Coal Tit	Goldcrest	Great Spotted Woodpecker
Great Tit	Jackdaw	Jay
Mallard	Nuthatch	Pheasant
Robin	Song Thrush	Stock Dove
Treecreeper	Wood Pigeon	Wren

- 7.20 A red kite was also recorded flying over the study area during the extended Phase 1 Habitat Survey, which brings the total number of birds recorded within the study area to 22.

Evaluation of the Results

- 7.21 Although none of the 22 recorded bird species are rare, one (the song thrush) nevertheless qualifies as a 'Red List' bird of high conservation concern. A further two birds (red kite and stock dove) qualify as 'Amber List' birds of moderate conservation concern.

Future Management Recommendations

- 7.22 Active measures to enhance the potential of birds breeding in the study area include the erection of at least ten bird boxes on trees within the existing plantations and woodlands to provide further roosting opportunities. In addition,

the recommended diversification of the existing woodlands and retention of the existing grasslands (see above) would provide further breeding and/or feeding opportunities for a range of birds.

Bat Survey and Monitoring

Results of 'Bat Roost' Crevices Survey

- 7.23 A total of 30 dispersed bat roost resting places were recorded within the stonework of the castle (figure 48). These occurred in the vertical crevices within the stonework of the walls or internal ceilings, where the mortar had fallen out between adjacent stones. In most cases, a single Pipistrelle *Pipistrellus spp.* bat was recorded in each crevice (plate 102). Each 'bat roost' crevice was retained during the restoration and consolidation works, and post-restoration monitoring work indicated that these crevices continued to be used by bats. The only exception was the crevice in the ceiling above the buffet, although this was seen to be used at a later date.
- 7.24 In the majority of cases, the taping off of specific areas of the castle to prevent disturbance from the consolidation works proved to be successful. For example, a single bat was first recorded in the window recess of W35 (Elevation 28) on 19th October 2004, it had disappeared by 3rd November 2004, reappeared by 10th January 2005, and continued to be hibernating at this location on 14th February 2005. A number of crevices considered potentially suitable for roosting bats (and also within the vicinity of confirmed bat roosts) were also deliberately left unfilled by the conservation works. Some of these latter crevices were later confirmed to be bat roosts during the post-restoration monitoring period.
- 7.25 The post-restoration monitoring work was necessarily restricted to the ground level of the castle. Several Pipistrelle *Pipistrellus spp.* bats (maximum eleven bats) were regularly recorded hibernating in the same 'favoured' crevices within the internal stonework in the lower levels of the castle, in the north-west corner. Thus, two to three bats were often recorded within the stonework of the well, between the ceiling blocks above the passageway to room NB1W, adjacent to the internal serving hatch, and within the recess of window W46. At the approach of summer, however, these bats invariably 'disappeared' from the constant temperature, relatively sheltered, 'cold', roosts.
- 7.26 It is not known where most of the bats moved to roost during the summer months. However, one possibility is that at least some of the over-wintering bats simply moved to roost in suitable crevices within the stonework at higher, and hence warmer, levels within the castle during the summer months. For example, several records for summer roosting single bats were collected within the stonework over 4m above ground level and several further records of summer roosting bats occurred between 14m-17m above ground level.
- 7.27 In addition to the 'favoured' winter and summer roost locations, there was also evidence to suggest that some 'favoured' crevices were used all year round by bats. For example, a single bat was recorded in the recess of window W35 throughout the year.
- 7.28 Finally, clusters of bat droppings (between 18-45 droppings) were recorded in sheltered corners 'behind' the lintel stones of windows W3 and W9 in the south-east tower. The droppings were relatively large (>2mm wide and >8mm long) and

were preliminarily identified as belonging to Brown Long-eared bats *Plecotus auritus* and/or Natterer's bat *Myotis nattereri*.

Results of the Dawn Survey

- 7.29 The results of the dawn survey, undertaken on 29th May 2008, can be summarised as follows:

<i>Time</i>	<i>Species</i>	<i>Activity</i>
03.54	Pip sp.?	One bat seen flying through D10 into the NW tower (not recorded).
04.00	Pip 55	Very faint echo-location heard (bat not seen).
04.01	Pip 45	Very faint echo-location heard (bat not seen).
04.03	Pip 45	Three passes - one bat seen flying around the upper walls of the main block.
04.04	Pip 45	Two passes (bat not seen).
04.07	Pip 45 Pip 55	Two very faint passes. Nine passes heard – two bats seen flying around the upper walls of the main block.
04.09	Pip 45	Two passes.
04.13	Pip 45	One pass.
04.19	Pip 45	Four passes.
04.20	Pip 45	Eleven passes.
04.22- 04.27	Pip 45	At least 20 passes heard and two bats seen at any one time flying around the upper walls of the main block.
04.28	Pip 45	Two passes (bat not seen).

- 7.30 Evidence from the dawn survey indicates that Common pipistrelle *Pipistrellus pipistrellus*, and to a lesser extent Soprano pipistrelle *Pipistrellus pygmaeus*, bats roost in crevices within the stonework at Harewood Castle during the summer.

Monitoring of Bat Boxes

- 7.31 No signs of bats were recorded in Box 1 between 10th January 2005 (when it was erected) and 26th May 2006. Unfortunately, the box was vandalised soon after the latter date and was therefore removed. Three bat droppings were first recorded in Box 2 on 20th February 2006, indicating that at least one bat had roosted temporarily in the box at some point between the summer of 2005 and the winter of 2005-06. No further activity in this box was recorded between 2005 and the spring of 2008. However, on the final monitoring visit on 4th September 2008, many bat droppings occurred both inside the box and on the ground below, indicating regular occupation by bats.
- 7.32 Two bat boxes which had been erected on 23rd May 2005 in the nearby oak tree showed signs of bird activity within them in the following summer (5th May 2006). Unfortunately, ladders were not available to undertake further inspections of these particular boxes during subsequent monitoring visits. Similarly, bird activity was recorded in the winter hibernation box the year after it was erected; unfortunately this box was also vandalised soon after the monitoring visit of 26th May 2006 and was therefore removed.

Interpretation and Evaluation of Monitoring Results

a) Bat population size class assessment

- 7.33 A total of 30 dispersed bat roost resting places were recorded within the stonework at the castle during the restoration and consolidation period of 13th February 2004 to 23rd May 2005 (figure 48). These were preliminarily identified as mostly Common pipistrelle *Pipistrellus pipistrellus* bats. Additional bats thought likely to

occasionally roost within the castle stonework were Soprano pipistrelle *Pipistrellus pygmaeus* bats. There was also a very small amount of evidence, in the form of a few clusters of bat droppings, that Brown long-eared bats *Plecotus auritus* and/or Natterer's bat *Myotis nattereri* may also very occasionally roost within the castle walls.

- 7.34 At any one time a maximum of eleven bats were recorded but, as the castle could not be comprehensively searched in any single inspection, this number is thought to be an under-estimate of the total population resident at Harewood Castle. Nevertheless, it is concluded that a small (rather than medium or large), non-breeding, dispersed, bat population resides within the stonework of the castle throughout the year. This assessment takes into account the reasonable feeding habitat in the immediate vicinity and in the surrounding area, the condition of the castle, and the results of the inspections together with the bat roost potential.

b) Mitigation strategy

- 7.35 The implementation of the mitigation strategy was, overall, considered to be successful:
- Ensuring that the scaffold was not sheeted in or fitted with debris nets allowed the bats continuous access to crevices within the stone walls of the castle.
 - The high number of site inspections undertaken both during and after the restoration and consolidation works ensured that all 30 bat roost resting places were each recorded and retained.
 - Delaying the start of work to the north-west tower until April 2005 ensured the safety and security of the hibernating bats within this part of the castle. Post-restoration monitoring inspections indicated that this part of the castle continued to be an important hibernation area.
 - Potential bat roost crevices were also retained within the stonework during the restoration and consolidation works. Post- restoration monitoring inspections indicated that at least some of the potential crevices were used by bats well after restoration works had been completed. This particular mitigation measure was, therefore, fully justified.
 - Bat boxes were erected both within the castle walls and on an adjacent tree to enhance the bat roost potential of these areas. However, subsequent vandalism meant that two of the bat boxes had to be removed. Nevertheless, evidence of bat use was recorded in the single bat box that remained within the castle.

Future Monitoring

- 7.36 Further bat monitoring work at Harewood Castle is recommended should any future restoration and consolidation work, or change of use (for example public access), to the castle be considered in the future.

Lichen Survey

Results

- 7.37 The castle contains a modest lichen flora, and a consolidated list of the recorded species is set out below. No lichens were recorded inside the south-east and south-west towers, as light levels were too low to support growth in these areas.

Ref	Species	Location (elevations)	Frequency	Characteristic appearance
1	<i>Baeomyces rufus</i>	External W 18, 16, 14 & 10	Rare	Greenish-grey, granular
2	<i>Caloplaca citrina</i>	External N 1, 3, 7 & 15; External E 2, 4, 6, 8 & 12; External S 17, 5, 13, 11 & 9; External W 18, 16, 14 & 10; Internal N 30, 25 & 20; Internal E 29, 26 & 22; Internal S 28, 24 & 19; Internal W 27, 23 & 21	Frequent	Yellow, powdery
3	<i>Caloplaca decipiens</i>	External E 2, 4, 6, 8 & 12	Rare	Light yellow to orange brown; lobes indistinct and irregular
4	<i>Candelariella aurela</i>	External S 17, 5, 13, 11 & 9	Rare	Mustard yellow granules with dirty yellow fruits
5	<i>Candelariella vitellina</i>	External S 17, 5, 13, 11 & 9	Rare	Mustard yellow to brownish; cauliflower-like surface
6	<i>Dirina massiliensis f. soorediata</i>	External N 1, 3, 7 & 15; External E 2, 4, 6, 8 & 12	Rare	White to brownish-grey, with light brown rim
7	<i>Lecania erysibe</i>	External N 1, 3, 7 & 15	Rare	Yellowish-grey to brown, granular or cracked surface
8	<i>Lecanora albescens</i>	External N 1, 3, 7 & 15; External E 2, 4, 6, 8 & 12; External W 18, 16, 14 & 10; Internal S 28, 24 & 19; Internal W 27, 23 & 21	Rare	Closely packed fawn fruits with white rim, white thallus
9	<i>Lecanora dispersa</i>	External N 1, 3, 7 & 15; External E 2, 4, 6, 8 & 12; External S 17, 5, 13, 11 & 9; External W 18, 16, 14 & 10; Internal N 30, 25 & 20; Internal E 29, 26 & 22; Internal S 28, 24 & 19; Internal W 27, 23 & 21	Frequent	Pale greenish grey/brown fruits less than 1mm dia
10	<i>Lepraria incana</i>	External N 1, 3, 7 & 15; External E 2, 4, 6, 8 & 12; External S 17, 5, 13, 11 & 9; External W 18, 16, 14 & 10; Internal N 30, 25 & 20; Internal E 29, 26 & 22; Internal S 28, 24 & 19; Internal W 27, 23 & 21	Abundant/ Dominant	Grey/green, fluffy granules with no distinct margin

11	<i>Leproloma vouauxii</i>	External N 1, 3, 7 & 15; External E 2, 4, 6, 8 & 12; Internal S 28, 24 & 19; Internal W 27, 23 & 21	Rare	Green-white, puffed-up crust, with distinct margin
12	<i>Leproplaca chrysodeta</i>	External E 2, 4, 6, 8 & 12	Rare	Powdery; deep mustard to brownish-orange
13	<i>Ochrolechia paralla</i>	External N 1, 3, 7 & 15	Rare	Smooth to warted; grey to green-grey
14	<i>Opegrapha calcarea</i> *	External N 1, 3, 7 & 15; External E 2, 4, 6, 8 & 12; External S 17, 5, 13, 11 & 9; External W 18, 16, 14 & 10; Internal N 30, 25 & 20; Internal E 29, 26 & 22; Internal S 28, 24 & 19; Internal W 27, 23 & 21	Frequent	White, with elongated black fruits, often in heaps
15	<i>Phlyctis argena</i>	External N 1, 3, 7 & 15; External E 2, 4, 6, 8 & 12; External S 17, 5, 13, 11 & 9; External W 18, 16, 14 & 10; Internal N 30, 25 & 20; Internal E 29, 26 & 22; Internal S 28, 24 & 19; Internal W 27, 23 & 21	Abundant/ Dominant	Thin, smooth, pale green-white or grey-green
16	<i>Tephromelia atra</i>	Internal S 28, 24 & 19	Rare	Light to medium grey; black fruits with grey margin
17	<i>Verrucaria macrostoma</i>	External E 2, 4, 6, 8 & 12	Rare	Chestnut-brown, larger fruits than <i>V. nigrescens</i>
18	<i>Verrucaria nigrescens</i>	External N 1, 3, 7 & 15; External E 2, 4, 6, 8 & 12; External W 18, 16, 14 & 10; Internal N 30, 25 & 20; Internal S 28, 24 & 19; Internal W 27, 23 & 21	Occasional	Black, fissured crust
19	<i>Xanthoria calcicola</i>	External N 1, 3, 7 & 15; External E 2, 4, 6, 8 & 12; Internal N 30, 25 & 20; Internal S 28, 24 & 19	Rare	Deep orange, contorted lobes
20	<i>Xanthoria parietina</i>	External E 2, 4, 6, 8 & 12	Rare	Bright orange, orbicular, marginal lobes, orange fruits

* = previously known as *Opegrapha saxatilis*.

- 7.38 The locations of the lichen species on the internal and external elevations are shown in figure 49 and the specialist report (see Appendix 7), while plate 103 provides illustrations of some of the examples recorded. It is worth noting that wall tops of ruins often provide habitat for lichen species which may not thrive on wall-faces; such habitats can have a higher moisture content, and higher nutrient level than the remainder of the wall.

Analysis

- 7.39 The significance of the recorded lichens at Harewood Castle was assessed in the regional context in a number of ways: by relating the recorded species to the known species distribution in Yorkshire; by identifying any recorded species which are known to be in decline or at risk of becoming extinct; by relating the recorded species to known zones of atmospheric pollution; by investigating the correlation between the frequency of the recorded species and their pollution tolerance; and by comparing the 2004 results with the previously recorded examples (Gouldsbrough 2000).

a) Distribution

- 7.40 The best correlation between the frequency of the Harewood species and their wider distribution in Yorkshire is for Species 6 (*Dirina massiliensis* f. *sorediata*), 10 (*Lepraria incana*) and 13 (*Ochrolechia paralla*). Species which are more frequent at Harewood Castle than might be expected are Species 11 (*Leproloma vouauxii*), 14 (*Opegrapha calcarea*) and 15 (*Phlyctis argena*). Conversely, species which are significantly under-represented at the castle are Species 4 (*Candelariella aurela*), 5 (*Candelariella vitellina*) and 20 (*Xanthoria parietina*). Species 17 (*Verrucaria macrostoma*), rare in Yorkshire, has a greater frequency than would be expected, although in real terms there is just one recorded individual on the castle.
- 7.41 Of all the species recorded, two are known to be scarce in Yorkshire, namely Species 6 (*Dirina massiliensis*) and 14 (*Opegrapha calcarea*). What is significant for this study is that *Opegrapha calcarea* is one of the frequent (i.e. 25 to 36 occurrences) species at Harewood Castle. *Verrucaria macrostoma* (Species 17), on the other hand, is both scarce regionally, and could be considered to be in decline.

b) Habitat and substratum

- 7.42 The Millstone Grit sandstone from which the castle is built tends to have a lower surface pH than limestones, and lichens are known to be sensitive to substratum pH levels. Some prefer alkali surfaces, while others prefer (or tolerate) a more acidic environment. Lichens will grow on a variety of substrata, including trees, shrubs, mosses, soil, rocks and stone. Of the species which normally colonise stone, some will thrive on sandstone, and others on limestone, assuming critical factors such as air quality and illumination levels are optimised.
- 7.43 It is worth noting, therefore, that of the 20 species recorded at Harewood by the 2004 survey, 11 of them are normally associated with calcareous substrata; they normally occur on limestone. Only five species (*Baeomyces rufus*, *Candelariella vitellina*, *Lepraria incana*, *Ochrolechia paralla* and *Tephromelia atra*) are normally associated with acidic substrata, but *Lecanora albescens* will live on acid or alkali substrata. In the absence of pH levels measured for the stone of Harewood Castle, one possible explanation is that the natural acidity of the stone has been neutralised by run-off from the lime mortar used to bed and joint the stone. Lime mortar 'cures' to calcium carbonate which binds the aggregate, usually sand. Calcium carbonate is relatively soluble in water (Drever 1994), and, in solution, can be absorbed into the pore-spaces of the sandstone (see below). The result is that Harewood Castle provides a habitat for species of lichens which would not be expected to occur on naturally occurring rock and stone in this region.

c) Atmospheric pollution and weathering

- 7.44 The species of lichen which thrive in any particular location is influenced, partly by levels of atmospheric sulphur dioxide, and other pollutants such as particulates, ozone and nitrogen compounds, fluorides and aromatic hydrocarbons (Richardson 1992). Some species of lichens are tolerant of such pollutants, and others are not. Hawksworth and Rose (1976), based upon earlier work by Gilbert (1968), have established the link between lichens and atmospheric sulphur dioxide pollution, and have identified the degree of tolerance of 'indicator' species. Ten zones of atmospheric sulphur dioxide pollution have been defined; Zone 1 is the highest level representing mean winter SO₂ levels of greater than 170 µg/m³ (micrograms per cubic metre), while Zone 10 indicates clean air.
- 7.45 The frequent/dominant species recorded at Harewood Castle are associated with pollution zones 1, 2, 3 and 5, but this does not present a very clear picture of likely pollution levels. Only one species (*Lecanora dispersa*) is associated with Zone 1, and this is also one of the most frequently occurring species in Yorkshire, so perhaps this species can be considered to be skewing the results. One of the dominant species (*Phlyctis argena*), and one of the frequent species (*Lepriloma vouauxii*) are both associated with Zone 5, so perhaps an inference can be made that the pollution level is now likely to lie further towards Zone 5, rather than Zone 1 or 2.
- 7.46 The Millstone Grit of the castle is particularly susceptible to attack by soluble salts. These salts can originate from the ground, from the stone itself, or, most commonly, indirectly from the atmosphere from chemical reactions involving sulphur dioxide. Sulphur dioxide, either wind-blown or in the form of acid rain, can react with the calcium carbonate in the mortar joints to form gypsum. Calcium sulphate is more soluble in water than calcium carbonate, and it can migrate into the pore structure of sandstone where the expansive forces exerted as it crystallises can exceed the tensile strength of the stone (Price 1994). Examples of such damage to sandstone can often be seen where rainwater run-off from limestone onto sandstone below occurs. Paradoxically, this is also the process which can alter the pH of the stone and provide a less acidic substrata, which has, in this case, enabled the normally calciculous to flourish.
- 7.47 In any event, lichen species which are tolerant to sulphur dioxide pollution may, in fact, be giving a measure of protection to the monument by helping to maintain a relatively constant moisture content in the stone, preventing soluble salts from crystallizing. However, it has yet to be proved whether lichens have a significant influence on the moisture content and moisture movement in, and out of, stones on which they grow (Gouldsborough 2000).

Comparison with Previous Survey

a) Stratigraphic analysis of species

- 7.48 The previous (2000) lichen survey of the castle (Gouldsborough 2000) noted 12 species in total from ground level. Comparing the old and current frequency data sets, it can be seen that the two most frequently occurring species at up to 2m above ground level are Species 10 (*Lepraria incana*) and 14 (*Opegrapha calcarea*), while on the upper parts of the walls the dominant species are Species 15 (*Phlyctis argena*) and 2 (*Caloplaca citrina*). This demonstrates how lichen species occupy niche habitats which are the result of differing illumination and nutrient levels. It can be seen that there are two dominant species on the castle,

Species 10 and 15. The former, *Lepraria incana*, favors shaded acid rocks and has a high tolerance to atmospheric sulphur dioxide pollution (Dobson 2005, 242; Smith *et al* 2009, 538). The latter, *Phlyctis argena*, prefers well-lit, nutrient-rich surfaces, including acid rocks (Dobson 2005, 335; Smith *et al* 2009, 696). From this, it can be seen that an analysis of the species composition of a monument recorded just from ground level could provide misleading data.

b) Atmospheric sulphur dioxide pollution

- 7.49 The pollution zones for five of the species recorded by the 2000 survey have been updated; the data was originally taken from Dobson (1992), and this was subsequently updated in 2000 and 2005. The revised 2000 data indicates a pattern of species pollution tolerance similar to that recorded by the 2004 survey. The dominant species recorded in the 2000 survey was *Lepraria incana*, but this was also one of the two dominant species recorded in 2004 and is associated with pollution zone 2; however, *Phlyctis argena* was the other dominant species recorded in 2004, but this species is associated with pollution zone 5. This once again demonstrates that data gathered by recording species from ground level alone may provide misleading results.

Conclusions

- 7.50 The lichen survey has shown that, although Harewood Castle supports only a modest lichen flora, it provides an important habitat for species which are relatively scarce in Yorkshire, as well as species which may not occur on natural stone outcrops of the same type of stone in the surrounding countryside. Some of the recorded species are in decline or at risk and, as lichens cannot at present be permanently cultured, or artificially grown, stored or maintained (Gilbert 1977), their survival is determined by natural conditions in the field. Despite the modest number of species recorded, it may well be that with the future clearance of the trees in the vicinity of the castle and the consequent increase of illumination levels, more species may flourish.
- 7.51 Although some lichen species such as *Candelariella aurella* and *Lecanora dispersa*, both recorded by this survey, have been identified as being responsible for the discolouration of light-coloured buildings in urban areas (Brightman & Seaward 1977), it can also be argued that lichen cover, along with other forms of plant life on Ancient Monuments, particularly ruins, enhances the structure and gives an added sense of age, and of time passing (Piper 1947). Under these circumstances, it can be argued that the value of lichens exceeds any intrinsic value from a botanical, ecological or nature conservation point of view, and 'adds' value to the historic monument, and their presence should be positively encouraged. No evidence was found during the survey to suggest that lichens were damaging the historic fabric.

Ion-chromatography Test

- 7.52 An ion-chromatography test was carried out on a white residue identified under the ivy on the north external elevation of the castle (elevation 1). This work was carried out by the Proteomics and Analytical Biochemistry Laboratory at the University of York, under the guidance of Peter Gouldsbrough, with a view to determining whether the ivy hastened or hindered subsequent weathering of the castle fabric.

- 7.53 The tests demonstrate that the residue is calcium sulphate, and it is known that ivy produces this substance from its leaves. The residue is, therefore, a by-product of the metabolic process of the ivy, and calcium sulphate is known to be a significant cause of weathering to those types of stone which are vulnerable to the effects of soluble salts. However, the gritstone of Harewood Castle is not one of these types of stone, and the condition of the masonry demonstrates that the calcium sulphate produced by the ivy has not been a deteriorating factor.

8 SUMMARY OF REPAIR PROGRAMME

Introduction

- 8.1 The following text provides a summarised account of the repair programme undertaken to the castle. It is largely drawn from records kept by the contractors, Historic Properties Restoration Ltd (HPR) and EDAS, and has been supplemented by observations made by EDAS and by the project architect Peter Gaze Pace.
- 8.2 As noted in Chapter 3 above, an Architectural and Archaeological Condition Survey of the castle was undertaken in 2001, and the resulting report included recommendations for consolidation (Dennison & Richardson 2008a, 86-102). Both the condition survey and the recommendations drew on previous assessments of the castle's fabric undertaken between 1988 and 1994 (Goom and Cunnington 1988; Derek Latham and Associates 1989; Hume 1994). The condition survey found that the majority of the standing remains were in relatively good condition. Nevertheless, it was equally clear that some parts of the castle were suffering from decay and neglect, mostly as a result of natural erosion, with some additional damage caused by vegetation growth, structural instability and water egress. A series of recommendations was therefore discussed and prioritised in detail.
- 8.3 In line with current practice, the recommendations aimed only to consolidate the monument with a view to reducing current erosion and fabric deterioration, i.e. 'consolidate as found'. Where possible, all previous interventions to the fabric were considered to constitute part of the historic structure (including graffiti), and so were subject to the same archaeological considerations and recommendations as other parts of the monument. However, exceptions were made where such interventions were shown to be detrimental to the fabric, for example where the removal of load-bearing elements had weakened parts of the structure, or where the application of cement-rich mortar has been used in re-pointing.
- 8.4 The extent of the 2004-05 conservation and repair works were defined by a detailed specification produced by the project architect (Pace 2003), which utilised the results of the previous survey work. The bulk of the conservation and repair work was carried out by HPR between February 2004 and July 2005, with lesser works, primarily concerned with making the conserved building secure to prevent vandalism, undertaken in 2008. The main body of the work was carried out continuously but in phases, i.e. one part of the castle was scaffolded and conserved before the scaffolding was moved and re-erected on the next area. In the main, the work commenced at the southern, highest, exterior of the building, and progressed around the east, north and west sides. The scaffolding was then moved to the interior and this was conserved, again generally from south to north.

Conservation Philosophy

- 8.5 The principles of repair and management for the castle as a whole were outlined in the previous Condition Survey (Dennison & Richardson 2008a, 92-95), while the subsequent architect's specification set out the approach that was to be adopted (Pace 2003, 13-29).
- 8.6 The conservation philosophy for the castle as a whole can be summarised as follows:

- the principle of 'consolidate as found' would be followed, in accordance with best practice, with any rebuilding or replacement kept to an absolute minimum to preserve the historic integrity of the remains;
- any interventions, e.g. new mortar or stonework, would match the existing as closely as possible, with fallen stone etc being utilised as appropriate;
- previous interventions would be respected where they are not harmful to the long-term well-being of the remains;
- new pointing would be undertaken only where necessary, i.e. no repointing where the original mortar is in a good and stable condition;
- there would be minimal intervention to the plant, lichen and other vegetation growth, i.e. only those items causing damage to the fabric (e.g. saplings and ivy) will be removed;
- additional soft topping of walls and surfaces would be carried out, both to protect the structures below and to encourage the expansion or establishment of new colonies of plants and animals;
- architectural and archaeological recording would be carried out prior to, during and after the conservation work, as necessary.

Protection of Archaeological Remains and Ecological Areas

- 8.7 The bulk of the archaeological recording detailed in Chapter 5 above was carried out from the scaffolding erected for the repair and conservation works, prior to these works being carried out (plate 104). A period of approximately one week was allowed for the recording work on each elevation, although this was shortened or lengthened as necessary; for example, the recording of the insides of the south-east, south-west and north-west towers took longer as there was no previous photogrammetric survey data to work from - these elevations were therefore drawn by hand. A watching brief was also maintained during the works to record items that were uncovered by the repairs, particularly around the wall tops where vegetation had to be removed to facilitate the necessary rebuilding and repointing. As noted in Chapter 5 above, the clearance, limited rebuilding and consolidation of the wall-tops around the main block meant that important details relating to the original drainage of the roof and wall-top walks could be recorded. The size and complexity of the conservation works meant that the contractors were able to work in adjoining areas if additional time for archaeological recording was required, and there were few delays to the overall programme.
- 8.8 The scaffolding was also utilised for ecological surveys prior to the start of conservation works. This allowed sensitive ecological areas (e.g. areas of important plants or lichens) to be identified before the start of work, so that there was minimal delay to the overall project programme. However, as already noted in Chapter 7 above, the presence of hibernating bats identified in the north-west tower meant that the start of work here had to be delayed until April 2005. The scaffolding was also not sheeted or fitted with debris nets, to allow the bats continuous access to crevices in castle fabric, and a number of crevices were deliberately left open to maintain existing, or encourage new, roosting sites. Wherever possible, and in line with the conservation philosophy noted above, there was minimal intervention to the plant, lichen and other vegetation growth.

Site Compound and Access Route

- 8.9 The contractors' site compound was established in the former parking area, which already comprised an area of hardstanding, adjacent to the entrance to the site from the A61 road and in the north-east corner of the original area of survey (figure 10). Although some way from the castle itself, this location was best suited for deliveries etc, and it meant that a compound need not be created within the more archaeologically sensitive area of earthworks adjacent to the castle.
- 8.10 A new temporary access route was then created across some of the earthworks. In order to avoid as much damage as possible, this took a southerly direction along trackway 'G1', then curved south-east through the area of 'F3', and then ran north-east along the north side of the ha-ha to a point close to the north-west corner of the castle. The access route was formed by a 100mm depth of crushed stone hardcore laid on geotextile sheeting, held in place by thin pieces of timber pegged along the sides of the track (plate 105). On completion of the project, the roadway was removed, with no damage to the underlying shallow earthworks.

Summary of Fabric Repairs

- 8.11 The fabric repairs undertaken to the castle comprised four main conservation activities, namely repointing, selective rebuilding, the insertion of structural ties and the removal of vegetation (Pace 2003). For the most part, the methodology detailed in the previous Condition Survey (Dennison & Richardson 2008a, 95-99) was followed, although some alterations and amendments arose from being able to view the fabric close up from the scaffolding, for example when determining the amount of repointing required, and the number and position of structural ties.

Removal of Vegetation

- 8.12 As conservation works progressed, and in keeping with the ecological recommendations made as part of the 2001 Condition Survey, intrusive or damaging vegetation was removed. The majority of this was done as part of the conservation of the wall tops and wall-walks, and involved the removal of grasses, weeds, and some small established hawthorn/ash trees [8/14; 11/2] (plates 42, 106 and 107). However, the majority of the vegetation removal was concentrated on the ivy adhering to the north and west external elevations of the north block (elevations 1 and 18). This was deliberately planted from c.1782 to emphasise the romantic ruin. However, photographs taken in 1918 show the castle as largely devoid of ivy (plate 15), and so that which remained prior to the conservation works was of more recent origin.
- 8.13 Although plant growth is often considered to be detrimental to ruined structures, there are situations where vegetation proves beneficial, and smaller plants and grasses can be encouraged. Indeed, recent work has established that ivy often has a beneficial effect on masonry, as it modifies extremes of temperature and the effects of frost, and helps to shed water from the wall face (Peter Gouldsborough, *pers. comm.*). Ideally, the larger areas of ivy around the north block would have been retained to maintain the impression of a romantic ruin cultivated since the late 18th century. However, in order to facilitate repair and consolidation to otherwise hidden openings and surfaces, it was necessary to cut back and carefully remove the ivy by hand [15/18; 16/5]. Nevertheless, the stumps and roots of the larger stands were retained so that it will eventually grow back again over the consolidated faces. In most cases, there was minimal intervention to the plant, lichen and other vegetation communities, and numerous examples of pellitory-of-

the-wall *Parietaria judaica* etc and other lichens were retained amongst the consolidated fabric (plate 108).

Repointing

- 8.14 Several samples of the original mortar at the castle were subjected to analysis in order to establish their composition (Sandberg 2004). This revealed that the mortar used at the ground floor of the east elevation of the lower hall (Elevation 21) was a mix of magnesian lime and natural sand in a ratio of 1:2, that the mortar in the middle of the south-west tower was a mix of moderately hydraulic lime and natural sand in a ratio of 1:1, and that the mortar at the top of the south-west tower was a mix of moderately hydraulic lime and natural sand in a ratio of 1:2½. The new mortar mix for the repointing work comprised 1 part soft sand, 1 part grit sand, ½ part grit aggregate (5mm down) and 1 one part moderately hydraulic lime; NHL 3.5 hydraulic lime was used in all areas, apart from the walls tops where NHL 5.0 was used. Once a test area of repointing had been approved by the project architect, repointing commenced across all elevations (internal and external) of the castle from the scaffolding.
- 8.15 As a general rule, areas of original pointing which had failed or decayed away were cut back to a depth equivalent to 1½ times the width of the joint, but never less than 40mm from a solid face [16/2] . Where cavities of loose material of depth more than 100mm were found, replacement mortar was built up by deep tamping. The new mortar was applied flush to the face and then allowed to dry for a period of c.2-4 hours before being roughened with a stiff bristle brush using a stippling motion to create an uneven weathered appearance capable of shedding water; the new mortar would take several years to fully harden but it was initially protected from wind, rain and frost for some two weeks by damp hessian or canvas sheeting. Very fine joints were repointed with a fine building sand or lime putty.
- 8.16 The percentage of repointing applied to each elevation and to differing parts of the same elevation varied according to local requirements, but it was usually between 40% and 100% of any given area; large areas of the elevations were required to be 100% repointed but some localised internal areas previously protected from weather and erosion needed only 25%-30% repointing. Some localised areas of earlier repointing were also left untouched on archaeological advice, and some joints and crevices were left open for bats. Details of the precise areas which were repointed on each elevation are shown on the 'as-built' drawings produced by HPR, copies of which are contained in the EDAS project archive.
- 8.17 Examples of the completed repointing work can be seen in plates 30, 35, 81, 82 and 98.

Rebuilding

- 8.18 A considerable amount of rebuilding was required at the castle to maintain its structural integrity, albeit often in fairly localised areas. This rebuilding varied from repairs to the exposed corework and the replacement of missing stones, to the resetting of the upper courses of most wall-tops which were in some places very unstable. Where new or replacement stone was needed, this was recovered from fallen material found inside and outside the castle, or by re-using loose corework which had been removed.
- 8.19 The wall-tops received the most attention for rebuilding work, although this was generally confined to resetting *in situ* stones rather than physical rebuilding (plate

109). The wall-tops of the main block and the north block received the most intervention, with up to five or six courses having to be reset in places. Areas of more limited building included the bases of the south-east and south-west turrets (plate 98), the upper west side of window W37 to support the string course above and around the base of window W33 (both elevation 1), and the bases of windows W23, W24 and W27 in the north block (elevation 27). Fallen stones recovered from outside the castle were rebbed at the base of windows W57 and W58 (elevation 16). Some larger areas of collapse or erosion were rebuilt with stone slips [8/11], so that it was easily identifiable as a modern repair but remained in keeping with the original medieval stonework. Examples of the latter include the sides of windows W59 and W57 (elevation 22). The partially collapsed cruciform arrow-slit at the top of the east side of the south-east turret was also re-bedded using salvaged pieces [21/2].

- 8.20 Once again, the areas of rebuilding are shown in detail on the 'as-built' drawings produced by HPR and on some field drawings marked up by EDAS.

Structural ties and other supports

- 8.21 A large number of stainless steel structural ties and shorter stone restraints were utilised in the repair and conservation works, to pin overhanging masonry and secure individual stones to more solid stonework behind. Where used, 12mm diameter holes were drilled through the stone using a rotary percussive machine and the new void filled with a polyester resin mortar. Stainless steel rods or dowels, 6mm diameter and up to 2.0m long but typically between 0.6m and 0.8m long, were then inserted into the resin, the hole temporarily sealed and the rod left undisturbed for 24 hours (or longer depending on the temperature) (plate 111). Once secure, the temporary seal was removed and the top of the hole filled with stone mortar or a stone slip to match the existing. This technique was used to avoid the need to build up any new supporting stonework, or where the heads of door, fireplace and window openings had decayed or were unstable [59/8-59/12]. The shorter ties typically measured 40mm long, and were inserted in the same way [29/7; 31/1], in some cases into the core [61/9, 61/11, 61/13].
- 8.22 The longer ties were almost exclusively used on the interior of the castle, particularly on the unsupported masonry on the north side of the north block around fireplace FP6 (elevation 28), around the opening between the north and main blocks (elevation 30) and above fireplace FP6 (elevation 29). Shorter ties were used around the unstable top of window W29 (elevation 27), the top of fireplace FP6 (elevation 29), along the top of the stairs (elevation 30), above window 51 (elevation 33), and around the tops of windows W60, W53 and W56 (elevation 16). Smaller ties were used around the unstable window opening W53 (elevation 22), in the tops of windows W76 and W77 [16/8, 16/10-16/11] (plate 38), door D21 and fireplaces FP1 and FP3 (all elevation 20).
- 8.23 Fireplace FP6 in the north wall of the north block (elevation 28) required additional support, over and above that which could be provided by structural ties. An 'H'-frame of tubular stainless steel, painted light grey, was therefore erected to support the overhanging side of the chimney and the underside of the west splay of window W36. The legs of the frame, which measured 4.50m and 3.20m long, were pinned into the stable stonework above and below the structure [63/1; 64/5] (plate 48 and 110). Although initially thought to be a fairly intrusive structure, the frame has weathered well and it presents an 'honest' attempt to stabilise the surrounding overhanging fabric, and is certainly much less intrusive than the amounts of rebuilding that would otherwise have been required.

- 8.24 Finally, three stainless steel rods were placed horizontally across the intra-mural passage running north from the inside of window W13. These were bedded into the corework on either side, and help to secure the passage and prevent any structural movement across it.

Stone cleaning

- 8.25 There was generally little attempt to clean the fabric under repair, particularly in areas of ecological sensitivity. However, the various shields within the former chapel of the north-east tower (NET3) and above the main entrance (elevation 4) were subject to specialist attention. An initial assessment by Hirst Conservation (2004) reported that the shields were degrading due to erosion, soiling, staining and crust formation, biological growth, salt contamination, scaling and flaking, and fractures, and a number of recommendations to prevent or slow down this deterioration were made. This work, which include cleaning, desalination and consolidation, was subsequently carried out and reported on (Hirst Conservation 2005). Both specialist reports appear as Appendix 8.

Post-Consolidation Maintenance

- 8.26 After the repair and consolidations works had been completed in July-August 2005, it became clear that unauthorised public access to the castle was still continuing. Bat boxes were vandalised, fireworks were let off up the chimney (FP1) in the lower hall, and damaging graffiti appeared on the buffet. Therefore, while decisions were on-going regarding formal authorised public access to the monument, it was considered appropriate to take interim measures to prevent unauthorised access.
- 8.27 A number of grilles, doors and shutters designed by the project architect were erected across the openings on the ground floor of the castle (namely windows W48, W21, W29 W57, W58, W60, W12, W13, W71, W80 and W81); these grilles were set back slightly from the external face to create an overhang at the lintels. The grille on the main entrance on the west side (W60) incorporated an 1m wide lockable opening. The grilles were fabricated from 50mm diameter hollow section steel tubing, painted black; the verticals were at 150mm centres and the horizontals at 265mm centres (plate 112). The new frames were mortared into new and existing sockets in the openings. The grilles resemble, but do not reproduce exactly, the iron grilles which would have originally been fitted to all window openings in the castle over 0.15m wide externally.
- 8.28 It was felt that something more sturdy was required at the main entrance to the castle (door D2, elevation 4), and so a substantial 'portcullis' structure was fabricated from 100mm x 75mm green oak half lap joints secured with galvanised coach bolts. This structure, which also had a smaller lockable opening doorway in the centre, was positioned in the original portcullis slot (plate 113).
- 8.29 In addition to the 'portcullis' structure, a new oak canopy or shelter was fabricated to go over the top of the buffet in the lower ground floor, to protect this important element from further erosion. The shelter took the form of a narrow sloping roof of 'terne' coated stainless steel secured on oak rafters with supports utilising the existing sockets around the buffet (plates 114 and 115).
- 8.30 Finally, the consolidated wall-tops were subject to 'soft capping', to both protect the fabric below and to encourage the expansion or establishment of new colonies of

plants and animals. Soil, turf and other plants salvaged from the vegetation clearance were returned to the wall tops to create a 100mm-150mm depth of topsoil with turfs laid on top [15/12; 27/14-27/15] (plates 116 and 117). In the event, it was sufficient to redistribute the salvaged soil and turf around the walls, and no new peat and soil were required to be brought in. The turfs were secured using 'geo-jute' or similar bio-degradable textile and wooden pegs. Subsequent visits to the castle showed that this had worked very well, and there was a good level of vegetation growth on the wall tops (plate 118). Small amounts of soil were also placed in prominent sockets and along wall breaks in the south-west and south-east towers to encourage vegetation growth [31/13] (plate 119).

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10 ACKNOWLEDGEMENTS

- 10.1 The programme of archaeological and architectural survey and recording was instigated by the Harewood Estate Office, and was funded by English Heritage and the Harewood Estate. The work was undertaken Ed Dennison Archaeological Services Ltd (EDAS) of Beverley. The help and advice offered during the project by Mr Christopher Ussher, Resident Estate Manager of the Harewood Estate, and Dr Keith Emmerick, Mr Neil Redfern, Mr Giles Procter and Ms Nikki Brown of English Heritage is gratefully acknowledged.
- 10.2 Thanks are also due the main contractors, Historic Property Restoration (HPR), specifically John Gibson, Peter Higson and Charlie Higson, for their considerable help and cooperation during the archaeological survey work. Other members of the project team included Peter Gaze Pace (architect), David Fotheringham (of Turner & Holman - quantity surveyors), Tony Wood (structural engineer) and Keith Appleyard (Pearce Bottomley – planning supervisor), and thanks are also extended to them. Kate Papworth of West Yorkshire Archives also provided information relating to the currently un-catalogued Harewood archive.
- 10.3 The initial photogrammetric survey was undertaken by Photarc Surveys of Harrogate, and the photographic targets were surveyed in by Benchmark Land Surveys of Leeds. Benchmark Land Surveys also undertook the topographical site survey, which was augmented with further on-site recording by Ed Dennison and Shaun Richardson. The updated architectural description and drawings were produced by Shaun Richardson and Ed Dennison, and Stephen Haigh took the black and white photographs. The ecological survey was completed by Dr Madeline Holloway and Dr Peter Gouldsborough undertook the lichen survey. Additional support and advice on various aspects of the recording work was provided by Professor Matthew Johnson, Erik Matthews, Dr Lila Racokzy, Peter Ryder and Tim Tatlioglu.
- 10.4 The final survey report was produced by Ed Dennison and Shaun Richardson, and any errors or inconsistencies remain the responsibility of Ed Dennison of EDAS.