ARCHAEOLOGICAL WORKS AT THE PROPOSED KING'S SCHOOL"SPACE" SPORTS HALL SITE, SEVERN STREET, WORCESTER

WCM 101746, WCM 101735, WCM 101762

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CONTENTS

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(with a pottery report by Derek Hurst)

Summary

The present report represents the findings of an archaeological programme of works undertaken by Mike Napthan Archaeology as part of enabling works for the proposed King's School Sports Hall. The site lies opposite the former Royal Worcester Porcelain Factory in Severn St Worcester, and was historically part of the southern defensive circuit of Worcester Castle. The Salmon's Leap Public House part of the site lay on lower ground, representing the castle ditch (and a later mill pond), whilst the upper part of the site represented the castle rampart. The castle ramparts had not been previously subjected to serious archaeological investigation.
The 2009 fieldwork consisted of several elements:
1. A building recording project covering the Salmon's Leap PH, a WW2 Nissen Hut and workshop buildings.
2. A photographic record of the early 19th Century retaining wall between the Severn Street carpark level and the embankment.
3. A watching brief during ground investigations (boreholes).
4. A watching brief during demolition of the buildings
5. A watching brief during piling works, and excavation of the ground beam trench for the new retaining wall
6. Archaeologically controlled site strip down to the base of 18th-19th C deposits
7. Rapid cleaning and recording of the exposed rampart
8. Hand excavation of an evaluation trench 3.8m deep through rampart deposits and underlying subsoil.
9. Salvage excavation of 4 sample areas of rampart amounting to around 160m ² (including an enlargement of the earlier evaluation trench)
10. Watching brief on removal of rampart down to subsoil horizons

The excavated deposits contained little dating evidence, as is usual for earthern ramparts using material upcast from a ditch. Scientific dating is still awaited, but it would presently appear feasible that that the earlier phases of defences were Iron Age on the basis of the very small amount of (unidentifiable) pottery recovered, though a Saxon origin is also possible. Significantly a single pottery fabric type was noted in several contexts that defied dating and appeared to be a new type not previously noted in the region – in three cases this was the sole dating material from contexts. Despite the extent of the project only a total of 85g of this unknown pottery was recovered across the whole of the site. The absence of any Roman material from within or beneath the rampart is considered highly significant in an area of known Roman activity.

The earliest defensive bank exposed was fronted by a timber revetment, there followed a complex sequence of dumping episodes forming a much larger bank. This was then fronted with a palisade based probably on a sole plate, the slot for which could be traced the length of the site. Eventually the rampart was again raised in height and a further palisade or revetment constructed of timber posts on a line similar to the previous construction.

The earliest phases of rampart directly overlay an undisturbed subsoil horizon containing

only prehistoric material – this deposit has yet to be fully excavated. There are plans to build an underground carpark in the area of the castle ditch and rampart footprint, and further archaeological work is planned for 2012.

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1 Introduction

1.1 An archaeological watching brief, evaluation and salvage excavation was undertaken by Mike Napthan Archaeology during enabling works for the intended SPACE sports hall development at the former Salmons Leap Public House, Severn Street, Worcester (NGR SO 8501 5430: Fig 1). The project is based upon a brief supplied by James Dinn (Worcester City Museum Archaeology Section brief 09/3 issued 6th February 2009) The work was commissioned by King's School through their architects, Associated Architects.

1.2 The site is in the Historic core of the Roman and medieval city Archaeologically Sensitive Area and the Historic City conservation area. This part of Worcester Castle is registered on the Worcester City Historic Environment Record as WCM 96017 (castle), WCM 96021 (ditch) and WCM 96023 (curtain wall).

1.3 This report represents the findings of the evaluation, watching brief, building recording and salvage excavation. The present report is intended to inform the process of tendering and project design for the further archaeological works planned for the site in 2012. The findings of the present report should be re-assessed once archaeological work on the site has been completed, and in the light of those anticipated findings the present report should be considered as an interim statement. The project design for the completed works was prepared in accordance with the Standard and Guidance for Archaeological Evaluations issued by the Institute of Field Archaeologists (1994) and Archaeological Guidance Paper 4: Archaeological Watching Briefs: (guidelines) issued by English Heritage.

1.4 All relevant Codes of Conduct of the Institute of Field Archaeologists will be adhered to, as will English Heritage guidelines, notably "Understanding Historic buildings a guide to good recording" EH 2006 .

2 Aims

2.1 The aims of the watching-brief are to gather high quality data from the direct observation of archaeological deposits in order to provide sufficient information to establish the nature of the archaeological resource within a given area or site (including presence or absence, character, extent, date, state of preservation and quality

2.2 These aims will be achieved through pursuit of the following specific objectives:

i) to define and identify the nature of archaeological deposits on site, and date these where possible;

ii) to attempt to characterize the nature of the archaeological sequence and recover as much information as possible about the spatial patterning of features present on the site;

iii) where possible to recover a well dated stratigraphic sequence and recover coherent , ecofactual and environmental samples.

iv) to address the following research objectives;

- the southern Roman cemetery (RP 3.10)
- the southern side of the Roman defensive circuit (RP 3.14)
- the investigation of late Roman activity in the castle area (RP 3.28)
- investigation of the post-Roman survival of the Roman earthwork enclosure (RP 4.7)
- the Anglo-Saxon defensive circuits (RP 4.12)
- Anglo-Saxon activity on the castle site (RP 4.19)

- understanding the development of the castle (RP 5.25)
- Worcester Castle and it's afterlife (RP 7.16)

3 Methodology

The present project was undertaken in several stages:

3.1 *A rapid building recording project covering the Salmon's Leap, Nissen Hut and workshop buildings*. The building recording established the presence of elements of earlier outbuildings including a possible stable/hayloft and former bread oven to the NE of the Salmon's Leap site. The public house itself was almost entirely of 1950s construction, but was of some architectural interest with well crafted details to the public areas, notably fine stained glass windows and original joinery. The Nissen hut appeared to be in situ and largely as constructed. The workshop was of little intrinsic interest.

3.2 *A photographic record of the retaining wall between the Severn Street carpark level and the embankment*. The retaining wall retained little visible pre 20th C fabric, and was mostly of brick from just above the lower ground level. The foundations, and a section at the western end of the site, were however of re-used sandstone. All of the retaining wall proved to be early 19th C or later. Some sections of foundation remain in situ. No significant worked stones were seen.

3.3 *A watching brief during ground investigations (boreholes).* The engineers boreholes gave an indication of the depth of stratigraphy but were not clearly interpretable in terms of the rampart construction. BH2 clipped the edge of a cut feature, which gave a misleading impression of the wider stratigraphy.

3.4 *A watching brief during demolition of the buildings*. The watching brief during demolition gave an opportunity to record some previously hidden areas of the building fabric, and clarified the constructional sequence. The record was primarily photographic.

3.5 *A watching brief during initial ground level reduction prior to creation of a piling mat, removal of most of retaining wall*. The initial site strip (including removal of the foundation slabs for the Nissen Hut and workshop buildings) exposed the top of insitu rampart material, together with a cluster of earlier 20th C foundations pre-dating the Nissen hut. A robber trench at high level may be associated with the known location of the late 18th C Bridewell chapel.

3.6 *A watching brief during piling* The method of piling (Continuous Flight Auger) was not conducive to productive observation, particularly as the archaeological deposits were primarily clean redeposited material, indistinguishable from the upper natural horizons. Monitoring did however establish the absence of masonry structures from within the piling line.

3.7 *A watching brief during removal of piling mat, excavation of ground beam trench*. Removal of the piling mat and excavation of the ground beam trench impinged slightly on the upper part of the in situ rampart deposits, but exposed no further features of significance.

3.8 *Archaeologically controlled site strip down to the base of 18th-19th C deposits*. The site strip produced a number of unstratified finds dating from Roman to early modern date. There was only a sparse artefactual assemblage, and no distinct dumps of waste. Exposure of the rampart showed it to be largely unaffected by later intrusive features, except at the extreme western end of the site where there was a large late 18th or early 19th C extraction feature penetrating all archaeological horizons.

3.9 *Rapid cleaning and recording of the exposed rampart* A photographic and level survey was undertaken of the stripped rampart.

3.10 *Hand Excavation of an evaluation trench 5m (max) wide, 8m long and 3.8m deep through rampart deposits and underlying subsoil*. The hand dug evaluation trench (Trench 1) established that the bank was indeed in-situ rampart material. The sections revealed a complex depositional sequence starting with a subsoil that produced artefacts only of prehistoric date

(flint flakes, burnt stone and possible pottery). This was cut by a line of post-holes apparently revetting an early gravel and sandy loam bank which lay almost entirely behind the pile-line. The posts had subsequently been withdrawn and a further low bank added to the south of the post-line. There were several phases of dumping of re-deposited natural and loamy natural material over the low bank, marking progressive raising of the defences. The presence of possible intermediate turf lines indicate that the defences were raised incrementally over several phases. The defences were subsequently refronted with a probable palisade with evidence of a sole plate trench. The defences were again raised behind this palisade. Subsequently the palisade was removed, or decayed, and there was some slumping of the retained material. Further material was added near the toe of the rampart, possibly material eroded from the upper part of the bank. These later deposits were partially overlain by post medieval deposits on the edge of the castle ditch, the edge of which lay immediately alongside the rampart toe. The level of artefactual evidence from the evaluation trench was very low.

3.11 *Salvage excavation of four sample areas of rampart (including an enlargement of the earlier evaluation trench).* The programme of salvage excavation was arranged at very short notice, and had to be fitted into a very tight timetable to enable the school to have use of the new carpark immediately they returned for the new term. Salvage excavation occurred in four areas of the rampart, and consisted of a combination of machine and hand excavation. The excavated areas revealed a broadly similar sequence of rampart development, but there were variations in the detailed stratigraphy of each area. The most notable features were the presence of additional phases of pallisading or revetment in trenches 2 and 3. Area 4 was not fully excavated, but it was subsequently observed that at least one phase of pallisading, that with the probable sole plate, extended into this area. Only surface features were excavated in Area 4. The excavation phase added a significant quantity of artefacts to the assemblage from the rampart, and a number of potential C14 samples were also recovered. The expanded area of Trench 1 was allocated the name "Trench 1x" so that the excavated areas could be distinguished from the evaluation.

3.12 *Watching brief on removal of rampart down to subsoil horizons*. The removal of the rampart occurred concurrently with the archaeological excavation – the upstanding "baulks" falling between the excavated areas were machined out as the archaeological recording progressed. The removal of the rampart was monitored archaeologically, but revealed nothing that appeared significantly different to the adjacent archaeologically recorded deposits. No notable variations in the rampart stratigraphy were noted. The underlying subsoil was retained in situ, and sealed with terram geotextile prior to laying of the temporary car-park. A series of ground anchors was added to the pile wall after completion of the carpark surface – these works were not archaeologically monitored, but are likely to have disturbed significant deposits beneath the Wolfson Block and adjacent buildings.

3.13 An ordered photographic archive covering all elements of the project is included on DVD with print copies of the present report.

4 Archaeological Background

4.1 The present investigation of the site is registered on the Worcester Historic Environment Record as WCM 101746 - watching brief during demolition of buildings, archaeologically controlled stripping, and monitoring of piling works WCM 101735 – hand dug evaluation trench WCM 101762 – salvage excavation of rampart. The southern half of the site was occupied by an area of hard-standing (the public house carpark and beer garden), whilst the north-western part of the site served as a utility area for the school, with workshop and storage buildings and an OTC training room. The former public house occupied the eastern corner of the site. The Cathedral Precinct, and King's School have been the subject of numerous archaeological interventions; those in the area of the main school site have been most recently summarised in Napthan, 2006a. The area has been proven to contain significant deposits and features of Iron-Age and later dates, there being considerable evidence for Roman inhumations and probable habitation, post Roman burials, a Norman castle and the Norman and medieval priory of St Mary, and the buildings of the cathedral precinct. The former perimeter of the Castle site (WCM 96023) is believed to have included the present property, which straddles the line of the former Castle ditch.

4.2 Iron Age activity has previously been identified at School House, only 50m to the north east (Napthan and Jacobs 2006a; WCM 101367, WCM 101368), and this tends to confirm the indications of prehistoric activity reported by Allies and others in the early-mid 19th C (Allies, 1852, Wright 1848) Significant Roman presence has also been identified in the immediate area. Allies reported that the motte of the castle appeared to have been built over a layer of Roman occupational debris (Allies 1852, 16) Roman activity has notably been demonstrated on the higher ground immediately to the south-west of the present site, particularly around Kings School St Albans where a cemetery site (WCM 98613) has been recorded (Brown and Wichbold 1991; WCM 100379, WCM100380), and a pottery kiln was recorded by Binns in the 19th Century (Binns, 1865 pp184-7). Some Roman activity has also been recorded in recent investigations of the Royal Worcester site (Dan Meadows pers comm.).

4.3 Late Saxon or early Norman activity (WCM 96659), including evidence of metalworking, was also identified nearby on two sites in Mill Street (Sherlock 2004). Subsequent excavation at Mill Street produced a small quantity of 10th-12th C pottery, and a possibly early medieval defensive ditch that may relate either to the castle outworks, or more probably to a counter-fort from one of several sieges during the early medieval period (Napthan, 2007; WCM101533 and Napthan, 2008, WCM 101659).

4.4 The King's School main site occupies a large proportion of the former Norman motte and bailey castle site, immediately to the south of Worcester Cathedral, and partially within the Cathedral Precinct. The castle was founded before September 1069, and has long been suspected of earlier origins. Although short-lived as a military installation the Castle saw frequent action. The castle was attacked in 1088 - the Anglo Saxon Chronicle reported that " *the chief men of Hereford and all that shire forthwith and the men of Shropshire with many people from Brytland (Wales) came and harried and burnt in Worcestershire on till they came to the city itself, and would then burn the city, plunder the monastery and win the kings castle into their hands*.". The Castle, presumably still largely in its original timber form, was burnt during a widespread fire of 1113, and attacked again in 1139. In 1140 the Empress Maud took Worcester, but failed to carry the motte or castle. Ten years later, in 1149, Stephen took and burnt Worcester, but was unable to take the Castle. Although regularly besieged he failed to carry it "*being a piece then of marvellous strength, withstood him so as neither his longe seige nor his two castells raised there, and furnished with soldiers against it, could conquer it*". Once again the castle was besieged in 1152 and refortified in 1155 by Hugh Mortimer against Henry II . A stone keep was constructed before the mid 12th C, and expenditure of £20 was recorded in 1157-8. Unusually high recorded expenditure at Worcester occurred in 1172-3 when £35.14.6 was spent. Further extensive work was undertaken during the reigns of Richard I and John. In 1192 work was done on the King's hall, chamber and cellar. In 1198-9 £20.3.0 was spent. A fire in 1202 caused considerable damage. The palisade, King's house and treasury had to be repaired. The castle, according to Beardsmore was active for only 150 years - 1069-1216 (Beardsmore in Carver 1980, 55). Following the disuse of the castle for military purposes in the early 13th Century the site was retained as a prison, the earliest evidence for which is the documented escape of prisoners in 1221 (Hardy, 1833 quoted in Beardsmore).

4.5 By the 17th Century the only surviving buildings (occupied by the prison) were the subterranean dungeon, a gaolers house and a stone built tower. This latter building was clearly not the Gaolers House (which we know from later plans and descriptions to have been on the Precinct Wall, larger and mainly timber framed with a stone basement), so was presumably the other principal structure on the site, marked on the Civil War period "Siege Map" as "Castle Gate" The Siege map shows this building as much larger than the Gaolers' House, so it is possible that only one side of the gate served as a Gaol. By the late 18th the remnants of the gate served as a kitchen for the Bridewell. Later commentators have frequently suggested that Worcester was a timber castle, and that nothing but earthworks survived above ground into the post medieval period, but the documentary sources contradict this assumption, and physical remains, notably the upstanding chamber-block wall and widespread presence of redeposited stonework on the site disprove it. Martin Carver suggested that the castle earthworks might have been created from material excavated from the former Roman settlement (Carver, 1980, 23) but interestingly his hypothesis focuses on the motte (estimated as 6000m³) and does not

mention the ramparts which must have contained at least as much soil.

4.6 It is quite likely that the original Norman fortifications of the castle were without a motte, as mottes appear to be uncommon in castles of the immediate post-conquest period, only coming into fashion once the Norman forces were established. Little is known about the area of the castle motte in the later medieval period, but it is highly probable that it, like the land to the south of site, was in agricultural use. There are references to the land being used for grazing and the "pastures called Digleys" were demised to Thomas Foley of Witley in 1663 – WRO BA 8782/16 ref 899:749). In the late 16th Century complaints were made to the Court of Frankpledge that the populace did water cattle, and dig gravel and saw-pits at the western end of Frog Lane (View of Frankpledge I folio 147 and View of Frankpledge II folio 26).

4.7 A gentleman's residence was constructed in the area of the Knoll or St Alban's before 1678 (when it was occupied by Ffouke Noxon; Meekings et al 1983). The Riding School appears to have been established by 1764 (Green 1764) and the neighbouring Bowling Green by 1781, with pleasure grounds in "Diglis Gardens" a fashionable place of resort in the mid-late 18th Century. Despite these wealthier occupants the central portion of what is now Severn Street appears to have remained resolutely lower class.

4.8 The site of the proposed new building lies between the former Porcelain Works Insitute and the King's School theatre block, its northern edge abutting the King's School Wolfson building. The site faces the ornate facade of the former Royal Porcelain Works to the south. The Severn Street porcelain factory (WCM 96186), subsequently the Royal Worcester Porcelain factory, now under redevelopment) was established in 1788 on a site almost directly opposite the "Salmon's Leap", and the site expanded until it included almost all of the land in the area between Severn Street, Mill Street and the north bank of the canal between locks 2 and 3. The Porcelain works ceased production in 2007 and closed as a retail outlet in 2009. The 1884 Porcelain Works Institute served as an educational institute and dining room for the Porcelain Works for most of the 20th Century, with a brief period of wartime dual function as a Home Guard base (WCM92131) It was converted to an art school in 2006. The SPACE site itself contains four buildings; the oldest being a brick built outbuilding to the NE of the "Salmon's Leap", possibly adapted from a stable. The other buildings (a WW2 Nissen Hut, The Salmon's Leap, and a workshop were all of 20th C date.

4.9 Severn Street (formerly Frog Lane), originated as a lane from the Edgar Tower (WCM 96351) down to the river immediately downstream of Worcester Castle (WCM 96021) It passed through Frog Gate at the end of the City Wall. The position of this gate (WCM 96129) cannot now be determined with certainty but is thought to be close to the boundary between the former St Peters School (built 1843) and the 1890s museum building to the west. The gate survived until the late 16th Century as the gatehouse was granted to Thomas Broke for 12 years in 1581 (City Chamber Order Book)

4.10 From at least the late 16th Century there were tenements encroaching on the former Castle ditch in "*the little lane leading to Worcester Castle"* (*ie* the upper part of Frog Lane, within the gate - Hughes, 1990, 237). The castle ditch, within the city walls at least, had therefore been infilled by that date. Outside the walls the ditch remained at least partially open as the water from Frog brook had been channelled along the City ditch to flow into the Castle ditch at Frog Gate, and thence to a mill-pond which lay apparently within the present SPACE site. The tenant of the land next to the Frog Gate (possibly also the miller) had to covenant "*that the water course shall once in the wylle be turned alonge the towne wall to Frog Gate when anye one of the occupants of the garden or grounds adjoining shall require it, if necessities of the weather so require*" (City Chamber Order Book 23 June 5 Eliz (1563). There was a long standing problem with the stench from the ditch, which also served as a sewer and dumping ground, hence the need for it to be regularly flushed out. The mill (WCM 96024) and its appurtenances were the property of Christ Church Oxford in the early 17th Century, but there was some agreement with the City Council who sub-let the mill to Thomas Spooner in 1638. In 1643 the mill was demolished for the purposes of defence. Attempts were made by the miller to have the building reinstated after the Civil War, but this was strongly opposed by adjoining landowners including William Berkeley. It is clear from documentary sources (Christ Church Estates Ms 100 ff 127, 128 and 129) that the water source to the ditch and mill

had been discontinued after the Civil War, and that permission to create a new watercourse across private land had been refused (Hughes, 1990, 238). In 1645 the City Council granted the then mayor, Thomas Hackett land outside the Frog Gate with the provision that he bestowed £40 in building within three years. This parcel of land, on which he built five tenements ("decayed" by 1697), lay partly across the former mill-pond and equated roughly with numbers 20-28 Severn Street (immediately to the north-east of the present Salmon's Leap site), over the line of the earlier Castle Ditch. Houses in Frog Lane were burnt in an accidental fire in 1657. In 1667 the northern part of the present property was developed with four further tenements built by Richard Salwey (Hughes, 1990). These buildings appear to have lain under the present street-line and pavement, as Severn Street was widened in the mid-late 19th Century. Following the researches of Pat Hughes the relevant entries for the present property can be identified in the 1678 Hearth Tax returns (Meekings et al 1983). From north to south the tenants were Thomas Stone Jr and Thomas Stone Snr., Thomas Hatchcocke, William Scott and Robert Strayne. Each tenement had only one hearth, reflecting the comparative poverty of the area.

4.6 As the ownership was uncertain an enquiry was made in 1704 to establish who owned the properties in Frog Lane, it was concluded that Christchurch Oxford still owned three properties, including the area adjacent to the Frog Gate, and the site of the former mill. A number of cottages fronting the street are shown on Dohartys map of 1741.

4.7 By 1779 a riding school had been built (near Ffouke Noxons house recorded in 1678) close to the present Kings School swimming-pool, and this was subsequently joined by a bowling green to the west (now Kings' St Albans - Napthan 2001a; WCM 100856). The development of the street and riding school is clearly visible on Buck's Prospect of 1732, and is also visible in an engraving of 1782. There were numerous encroachments on the former Castle lands in the late 18th and early 19th Centuries, and these included gardens to houses in Frog Lane. Henry Seward reported to the Crown in 1819 that "*Messr Chamberlain* [the porcelain manufacturers] *have erected part of their present buildings to the amount of £200 at least on Crown Land*" (Letter referring to the Plan for dispensing of the Worcester Castle Estate, 20th May 1819 in Cathedral Library).

4.8 The encroachments mainly seem to have been to the north of the boundary between the later Art Block and No 28 Severn Street, as various 19th C sources show the retaining wall stepping back at this point. The area which now includes the terrace of houses from No 28 northwards was certainly within Kerr and Binns [the porcelain manufacturers] property by 1856. The City Plans book of circa 1824 shows the property immediately to the north of the present site to be occupied by "messuages, buildings and a yard" in the occupation of Sarah and George Jenkins. The buildings lay towards the street frontage. The property was still in the hands of a Mr and Mrs Jenkins in 1856 when the former castle site was surveyed by Henry Webb (Cathedral Library Plan 70).

4.9 The position of the Castle boundary is shown on a number of late 18th and early 19th C maps, but the extent of subsequent development and limitations of scaling of the older maps makes precise location of the boundary very difficult. The earliest of the more accurate large scale plans appears to be that, probably by Samuel Mainley, and datable by internal evidence to 1822 (WRO BA866/22 f899:38). Both Mainley and other surveyors identify a culvert running along the base of the boundary wall, and one of the last professional tasks of Mainley before he died was a survey of this culvert, dated January 1825 (WRO BA5369 ref 009:1 36). The detailed plan of the Gaol and bridewell (?circa 1822) (Cathedral Library Map 69) shows a number of small outhouses straddling the culvert line, and it is probable that these were privies (all about 5ft square).

4.10 The alignment of the southern side of the street has also changed since the late 18th Century. The present frontage of the former Porcelain Factory to the west of the factory entrance dates to the 1890s (Jones 1993). A cruck framed building, once the Porcelain Works Inn - (WCM100035) stood on the corner of King St and Severn St until circa 1895 (Jones 1993 - Plate 37). The inn stood forward of the present museum frontage, mostly within the present pavement area.

4.11 Archaeological observations in Severn Street have occurred fairly frequently in recent years - the most recent investigations have included a number of archaeological interventions on the former Porcelain Works site (both building recording and below ground investigations), but the most pertinent observations for the present site have almost all occurred on the King's School properties, which occupy parts of the former castle defences. The earliest investigation of the rampart area occurred in 1989 when two small holes were excavated, one between the Salmons Leap and the Nissen Hut, and the other SW of the Nissen Hut. The trenches encountered later 19th C dumping layers over what were assumed by the excavator to be natural soil deposits. The report concluded that the deposits "*did not reflect the survival of the rampart*", and that the difference in levels was attributable to a natural slope (Edwards, 1989; HWCM530). The first site to be investigated in detail was the site of the former Porcelain Works Insitutute (now King's School Art block) The below ground observations on this site were limited, but did confirm the presence of the suspected massive defensive ditch, and also provided some dating evidence for the former retaining wall which formed the southern and south-eastern boundary of the castle property in the 19th C. The wall proved to be of early 19th C date (Napthan 2006b, WCM 101460 WCM 101499). A watching brief during gas-main trenching in 2004 (Napthan 2005; WCM101270) identified the existence of a substantial layer of re-deposited red clay or marl and gravel immediately to the south of the King Street junction, undated but suggestive of a defensive bank. A small quantity of sandstone rubble was also noted in the suspected vicinity of the former medieval Frog Gate. Neither observation was conclusive due to the restricted size and depth of the observed trenches.

4.12 The only previous investigation of deposits beneath the roadway was an attempt to identify the position of Frog Gate by radar survey (Stratascan, 1996; WCM 96130) this survey proved to be inconclusive, but was of very small scale. It did however suggest the probable position of the City Ditch at Frog Gate (WCM 96133). A watching brief was undertaken at the rear of 18/20 Severn St and this recorded the presence of deeply stratified deposits - probably within the Castle ditch (Mundy 1993; WCM100208. A further watching brief was also undertaken by Charles Mundy at the Potters Wheel PH (latterly the Salmon's Leap) (Mundy; 1993 WCM 100637).

4.13 Recent archaeological works on the north side of Severn Street have been focussed on the former Salmon's Leap site (during the planning stages of the SPACE project), and prior to and during the construction of a new boat-house at the extreme western end of the street. The boat-house ground investigations were comparatively shallow, consisting of two phases of evaluation trenching and a limited auger survey (Napthan M, 2010a and 2010b, WCM 101800 and WCM 101808). The trenching revealed the remains of several late 18th to early 19th C houses, the foundations of which contained a remarkable collection of re-used worked stone, believed to be residual from a former stone-mason's yard in the area. Little was seen of the Castle ditch fills, the upper elements here appeared to be 17th C or later. The stone built retaining wall (a continuation of that which was seen at the rear of the King's Art Block), was demonstrated to be early 19th C in date, re-using material from the demolished castle. Subsequently a watching brief was undertaken during building works, but little usefull additional information was gained other than an indication through augering that the probable ditch fills were approximately 5m deep (Webster et al, 2011 WCM 101843 and WCM 101861). Investigation of the present site began with evaluation trenching in 2007 (Napthan 2007b, WCM 101573). Archaeological trenches were dug in three locations. The first was a small hand-dug "test-pit" excavated within the existing cellar of the public house. A machine dug trench was cut into the steep bank that separates the original King's School property from the recently acquired Salmons Leap beer garden, this trench was cut through the retaining wall and was intended to clarify the relationship of the suspected rampart and the Castle ditch, which was known to run under the Severn Street property. A further trench was excavated at the western end of the property to determine the possible location of the medieval "Frog Mill".

4.14 The earliest, and most significant, deposits present were located within the cellar of the Salmon's Leap. The eastern edge of the castle ditch was revealed as a substantial cut into the underlying natural red marl. This edge of the ditch had not previously been closely located due to its position under the buildings fronting Severn Street. Of particular interest was the presence of a narrow, steep sided, slot, cut parallel with the line of the ditch. This slot appeared to relate to former timber revetment of the outer edge of the ditch. The fills of the

"slot" point to a 12th or 13th C date for the removal or decay of the revetment. The survival of such early fills on the side of the ditch was considered a little suprising, as it might be expected that the ditch was regularly scoured during the life of the Castle. A series of deep hand-augered boreholes were undertaken across the line of the Castle ditch, and these demonstrated that the bulk of the fills were water-lain silty clays, indicating a long and gradual sequence of decline of the ditch as a defensive feature. Whilst boreholes can never be conclusive evidence, it would appear unlikely that there was systematic or widescale dumping or infilling of the ditch prior to the early post-medieval period. The upper 2-3metres of ditch fill (from modern ground surface) were, in contrast found to consist entirely of dumped material, primarily soil containing artefacts of later post-medieval to early modern date. During the 2007 project it was not possible to define any evidence for Civil War period recutting of the ditch, and it would appear that the existing silted ditch would have remained a major defensive feature without substantial re-working. The original dimensions of the ditch at this point would appear to be 17 or 18m wide and circa 7m deep at the centre. It should be noted that these dimensions may possibly reflect the presence of a former millpond at this point, and might not be typical of the ditch as a whole.

4.15 Despite expectations, no clear evidence for the former Castle rampart was recovered in 2007. The existing bank running parallel with Severn Street proved to consist of at least 4.5 metres of post-medieval to recent dumped soils, none of which were of characteristic rampart material (previously observed as a tan-brown sandy clay). Excavation horizontally into the bank was restricted by the presence of the Nissen hut, but horizontal augering, and observations of the angle of tipping suggested that the rampart lay at least 4 or 5m behind the line of the retaining wall. The previous observations of medieval floor levels within the main "Castle Court" area (Napthan 2003; WCM 100996) suggest that there is a sudden rise in the underlying topography in the immediate vicinity of the Wolfson Building. On the basis of the 2003 and 2007 interventions it was considered (Napthan 2007b) that the centreline of the rampart (or the reduced rampart) was located under the north-western corner of the Nissen hut and the eastern quarter of Wolfson. Settlement cracks in the southern elevation of Wolfson may relate to the presence of the rampart. It is of some note that silty clay deposits were recovered from a bore-hole to the north of the retaining wall, suggesting that the Castle ditch actually extended well to the north-west of the line of the retaining wall. The only structure of note uncovered during the works was the retaining wall foundation running along the former boundary of the School premises. This wall foundation was almost entirely built with re-used stone. The wall could not be closely dated, but the inclusion of occasional bricks in the structure indicates that the foundation was probably of late 18th or early 19th Century, and the supervening brickwork is mostly of early-mid 19th C date, though incorporating much re-used 18th C brick .

4.16 The trench at the western end of the site encountered no evidence of any structures relating to Frog Mill, it did however locate a mid-late 19th C brick-lined well measured at 8.3m deep below current ground levels, and holding water over 4m deep. The well appears to have related to the poor quality housing that lined this part of Severn Street in the later 19th to mid 20th Centuries. Comparatively few artefacts of note were recovered. Both Roman and medieval pottery were surprisingly sparse compared to previous assemblages from the Castle site. It is probable that this indicates that the bulk of the 18th-20th C dumping on the site was of imported material from elsewhere in the City. Small quantities of medieval and post-medieval pottery were recovered, but the later fills generally were dateable mainly by the building materials which they contained (Napthan 2007a; WCM 101573).

5 Standing buildings

5.1 *Nissen hut*

5.1.1 The Nissen hut followed the typical form of the well known mass-produced wartime design, being of light metal framing and clad in corrugated iron (Figs 3 and 28). The floor-slab was a thin (circa 100mm) spread of concrete over brick hardcore. The framing consisted of sectional arcs of "T" profile rolled steel rail approx 50x55mm, bolted together with four hole fish plates. The lateral stiffness was provided by the corrugated steel sheet skin. The building was separated into three compartments by blockwork walls. The end walls were of planked timber framed construction, the inner walls of 3" or 4" block or brickwork plastered.

5.1.2 The building had suffered some alteration, notably the insertion of a wider door at the west

end, and some window replacement, but was largely intact at the time of survey, retaining an original internal door and architraves together with a number of standard ministry of works style electrical fittings, including enamelled metal lampshades on braided pendants. The internal wall at the west end had a blocked former opening, and the floor slabs had in places been over-screeded. The chimney flue and cowl of a central stove remained, but the stove itself had been lost. Within the central bay there was one unusual, possibly original, feature – on each of the side elevations at just above waist height a horizontal bar had been bolted to the principal frames. Each of the opposing bars was provided with a pair of substantial hooks welded on towards the ends of the bars. It is possible that the hooks were intended to hold fire-buckets, but more probable from their positioning that it was intended to stretch something (cables?) across the width of the building. No other features that might relate to the original use of the structure were noted.

5.1.3 There was no evidence that the building had been relocated from elsewhere or dismantled and re-assembled, and the corrugated cladding retained almost all of its original bolting and typical square external washers. Most of the original unpainted fir window frames survived in excellent condition, a tribute to the preservative powers of creosote. The eastern end elevation had been over-clad, but the original tongue and groove boarding appeared to be in good condition beneath. Overall the building remained remarkably well preserved and watertight, despite being designed as a "temporary" structure and have received scant maintenance during nearly 70 years of service.

5.2 *Workshop building*

5.2.1 The workshop building (Figs 3 and 28) consisted of a concrete base slab with shallow brick footings around the periphery. The walls were of brick externally, and lined with hollow ceramic block. The windows were restricted to the side walls, and consisted of three twelve-paned metal framed casement windows to each elevation. The doorway was centrally placed in the eastern gable end. The metal roof trusses were of lightweight steel "T" profile sections welded together. The truss components had been pre-drilled prior to assembly, apparently to facilitate the fixing of a roof lining and partitions, not used in the present structure – this indicates that they were almost certainly mass-produced "off the peg" trusses. The roof was of asbestos-cement profiled sheeting.

5.2.2 Whilst the character of the building is strongly reminiscent of military buildings of wartime and the immediate post-war period the use of a hard fired brick cladding and welded rather than bolted truss sections indicates a slightly later date (possibly 1950s or early 1960s?). Such structures were widely used on industrial sites (eg locally the "Three Springs Industrial Estate"), and it is probable the present structure was built either as an OTC facility or as workshop accommodation. The building was photographically recorded prior to and during demolition.

5.3 *Salmon's Leap Public House*

5.3.1 The mid 20th Century former public house was recorded photographically as the original 1950s Planning Application drawings were known to survive (Fig 4). The building followed these drawings in most details (Figs 5 and 28) but at the time of demolition had a larger cellar extending further to the east, and accessed through a cellar passage extending to the eastern edge of the building. It is possible that these were later alterations. The windows at first floor level, and to the rear had been recently replaced with modern plastic "Everest" double glazing with applied imitation "leading". The ground floor widows however retained very fine stained glass leaded lights set into a combination of timber and metal sub-frames. The stained glass extended to the door surrounds of the inner lobbies. Whilst typical "brewery corporate style" the original glazing was well executed and of considerable character, complemented by the quality oak doors executed in a nostalgic "mock tudor" style. The fabric was mostly brick with some use of hollow block, and concrete upper floors. Externally the building had a tiled roof and extensive matching hanging tile cladding. The ground floor had detailing in Cotswold stone and reconstituted stone. Some original features survived internally, notably a number of fire surrounds, but the bar area had been substantially altered, and the living quarters modernized. It was of interest to note that the first floor was of solid concrete construction, presumably intended to restrict noise transmission from the bar to the residential quarters above.

5.4 *Salmons's Leap PH Outbuilding*

5.4.1 To the north-east of the 20th C building there remained a former outbuilding of mid-late 19th Century brick (Fig 5). This building was not shown on the 1950s planning application drawings, presumably because there was then an intention to demolish it. In the event the new public house was built up against the south west corner of the earlier structure, and the former doorways of the outbuilding blocked and repositioned accordingly (Fig 5). The outhouse was of two storeys, the upper floor being a hayloft lit by a window on the northern elevation and accessed via a hatchway in the floor at the southern end. There had formerly been a window or small loading bay door at first floor level on the western elevation, this was blocked with mid 20th C brick The hayloft floor structure was of whitewashed machine sawn softwood joists and appeared to be of late 19th C date. The ground floor was a recent concrete slab. The front wall, facing Severn Street was rendered externally, as were the western and northern elevations. Only on the eastern wall was the external brickwork exposed. Internally the walls were not plastered, but painted at ground floor level. Patches of brick infill representing former door openings were noted on the southern and western walls. The double doorway to Severn Street appeared to be a modern alteration of an earlier opening.

5.4.2 The inner face of the northern wall of the outbuilding had areas of blocking relating to a small fireplace and an arched bread oven opening, with corresponding arched firebox opening below. No sign of these openings was visible on the exterior, but the remains of a chimney shaft were visible in the corner of the lean-to pool room.

5.4.3 It is very probable that the outbuilding served as a small, two stall, stable, with a pair of stable doors facing west. The northern end of the ground floor was divided off by a partition, a scar of which remained. The small separate area appears to have served as a tack-room and brewhouse/bakery served by a separate door from the rear yard, but may have been a residence accessed from the court to the NE. The building is of interest as the last surviving relic of the former (pre 1950s) buildings, which were cleared for road widening.

5.5 *The retaining wall*

5.5.1 The retaining wall proved to be of very mixed character. Previous archaeological interventions on the present site and the neighbouring site to the east (Napthan 2006b WCM 101460 and WCM 101499) had demonstrated the retaining wall to lie over deposits of late 18th Century date, and the alignment itself is probably early 19th Century. The wall does however contain much re-used stone, particularly within the foundation, and the stone may relate to the medieval castle buildings and other historic structures. During the present project the upstanding parts of the retaining wall were photographically recorded where possible (parts were obscured by the outbuildings of the Salmon's Leap PH) prior to demolition). Other than a short section of stone walling towards the western end of the site the majority of the visible fabric was of brick of mixed date. Below ground most of the fabric appeared to be stone, as the lowest visible part course contained much more stone than the remainder. The foundations of the wall were not examined in the present project, and remain largely *insitu*.

5.5.2 The western section of wall stood approximately five stone courses high (max 1.07m visible), and extended for around 7m to the east of the lobby of the school theatre block. This section was all of re-used stone of various sizes, and the stone proved to be only a single skin thick, backed by a dump of mortar and brick. The upper part of the wall had been capped in modern brick. This section of walling was probably of late 18th-early 19th Century date. The next section of wall to the east, extending as far as the present property boundary of the Salmon's Leap, was of cast concrete, capped in modern brick. The section of retaining wall corresponding with the northern boundary of the carpark/beer garden of the public house was above ground almost entirely of early 19th Century brickwork, incorporating some reused 17th and 18th Century bricks.

5.5.3 Just to the west of the public house the walling changed to 1960s brickwork, with just occasional glimpses of stone in the exposed top of the foundation. The remaining wall to the site boundary was all of a common mid 60s character, excepting a small section of earlier 20th C brickwork corresponding with the northern wall of the lean-to "pool room" in the north-eastern corner of the site.

6 The Rampart

6.1 *Removal of the later rampart deposits*

6.1.1 The later rampart deposits had previously been tested by evaluation (Napthan 2007b), and found to be a series of substantial dumping events dating from the 18th Century onwards. The

material dumped was largely artefact free, and therefore considered archaeologically insignificant. To facilitate evaluation trenching in the area of the rampart it was necessary both to demolish the existing workshop and Nissen hut buildings and to clear the remaining tree stumps. An engineers borehole survey was undertaken at this time (Figs 2 and 28), which confirmed the previous hypothesis (Napthan 2007b) that the rampart material was sealed by 1 to 1.2m of relatively recent deposits on its "top" adjacent to the Wolfson building. It also indicated the presence of a substantial depth of re-deposited natural-derived material overlying marl. Following this the area was partially stripped to provide level ground for a piling raft of imported hardcore. Limited monitoring of the piling operation to create a new retaining wall produced little meaningful data as the uprisings were very mixed and largely natural-derived material, which in the circumstances may have derived from the rampart or the underlying natural deposits. The prime purpose of the monitoring was to ensure that any hardspots of masonry foundations were identified at the earliest opportunity. None were found.

6.1.2 The creation of the continuous pile wall along the entire northern edge of the site, and part way along the eastern side (Figs 2, 28, 29) produced a large amount of upcast material (at least 300m³). Removal of this upcast involved a lot of double handling before it was loaded onto lorries, and the extent of the earthmoving disturbance lead to some loss without record of the deposits overlying the rampart proper. The disturbed material was, however periodically observed, and there were no indications that archaeologically significant deposits were being removed.

6.1.3 Following completion of the piling operation the temporary piling raft was removed, and the upper part of the rampart area further reduced in level (to approx 1m below existing ground levels on the crest). The initial stripping revealed an indistinct shallow trench, apparently a robbed out foundation line, compatible with the known position of the 18th Century Bridewell chapel south wall. Whilst this was photographed, it was not possible to investigate or record in detail prior to further stripping.

6.1.4 Excavation of the capping beam trench had minimal additional impact on significant deposits as this area was already extensively disturbed by the piling operation.

6.1.5 The bulk of the deposits removed during the main stripping phase were dumps of redeposited dark loamy topsoil with very occasional ceramic tile and brick fragments. There was very little domestic waste in these deposits, and the material present was dated from Roman to 19th Century. Almost all of this material was in sloping tip lines apparently post-dating the early 19th Century retaining wall, some had built up against a metal railing fence on top of the retaining wall, the total depth of 19th C and later dumping being in excess of 3m in places along the line of the retaining wall. Dumping episodes appear to have occurred principally in the early-mid 19th C and again in the mid 20th Century. The latest (post 1960s) deposits were the only horizons to be artefactually rich, apparently the result of rubbish dumped by the school including large amounts of broken window glass, metal items and fragments of asbestos cement sheeting.

6.1.6 Foundations of two possibly three probably early –mid 20th C structures were noted to the west of the Nissen hut – one consisted of a platform of unmortared early 20th Century brick, approximately 3x4m and a later concrete foundation was noted in the north west corner of Trench 2. All appear to have been levelled and sealed by the deposit of brick rubble and imported material that was used as a base for the Nissen hut, so it is likely that these structures were demolished in or before 1940. It is likely two were sheds of some form, and one possibly a small retaining wall, as no permanent structures are thought to have preceeded the Nissen hut.

6.2 *Archaeologically excavated rampart deposits*

6.2.1 Trench 1(Figs 2, 6-14, 30 and 31)

6.2.1.1 The earliest deposits in evaluation Tr1 consisted of a layer of light greenish brown tinged sandy subsoil. This horizon was of variable depth, up to 0.35m over an irregular natural gravelly marl. The upper surface of the subsoil was very smooth with a slight fall to the south. The material was compact and almost entirely stone free. It contained very few artefacts, but those which were present consisted of burnt stone and flint flakes (Fig 35), strongly suggestive of some prehistoric activity in the area. Only a very limited area (less than 4m²) of the subsoil was hand excavated under archaeological conditions, and therefore it is not possible to determine whether the sample excavated was representative of the site as a whole. The hand excavated element of this context was (102), which was then further exposed in plan across the remainder of the base of Tr1x, and seen to extend across the whole length of the site in

Trenches 2 and 3 (contexts (217), (317)) and Area 4, where it was only properly exposed when the main contractor levelled the site – context (411). The subsoil was of a very homogenous nature, and had a characteristic pale greenish tinge throughout, though the proportion of sand and clay varied slightly from area to area.

6.2.1.2 The horizon is interpreted as a subsoil due to both its homogeneity and its stratigraphic location between the underlying natural gravelly marl and the overlying man-made soil horizons. The characteristics of the material suggest that it was formerly open grassland (there being no observed indication of tree-roots) and un-cultivated. The presence of artefacts within this horizon may be explained by natural worm mixing of material deposited on the surface. No indications of turf or ard marks and similar cultivation characteristics were seen, though it has to be considered that much of the surface area of this deposit was exposed by mechanical means rather than archaeologically excavated. Despite some truncation of the upper surface of the subsoil during the excavation and construction of the temporary car-park it appeared that the subsoil presently (Feb 2010) still survives across the whole of the site area north of the castle ditch.

6.2.1.3 Along the northern edge of T1 and Tr1x there was a slightly irregular row of shallow postholes cut into the subsoil (102). Unfortunately the northern edge of this posthole alignment had been cut in places by the augered concrete piles of the new retaining wall. It appeared from the west facing section of Tr1x that the postholes represented a revetment line retaining a deposit of light brown sandy gravel at least 0.8m deep. This latter deposit was almost entirely outside the trench area, but appears to have been the southern face of an earthern bank or rampart. The post alignment was cut through the subsoil, but the bases of the posts did not appear to have cut the more compact gravel, this suggests that they may have been driven in along a shallow prepared slot rather than placed into excavated post pits. The cuts consisted of a groove or slot [136] and postholes [176],[177], [178], [179], [181] the fills of most of the postholes were indistinguishable one from another – context (180), and barely distinguishable from (137) the fill of [136]. None contained artefacts. One posthole [178] did, however have a distinct charcoally layer adhering to the north side of the cut, probably derived from the carbonised tip of the post. The fill of this posthole was sampled (context 180). It appeared that the posts had been removed by rocking, as the upper margins of the individual holes were very indistinct.

6.2.1.3 Overlying fill (180) and the other postholes was a substantial dump of reddish brown material (103) varying locally between sandy red brown gravel and reddish brown sandy gravel mixed with marl. All of this deposit appeared to be redeposited natural from the immediate locality. The material had been dumped as a sloping deposit substantially (circa 1m deeper at its northern visible extent between the piles), and tailing away to nothing at its southern edge. Where (103) overlay the subsoil it lay directly on the flat surface without any indication that the subsoil had been disturbed – this strongly suggests, together with the tip lines, that the material was thrown down from the earlier bank to the north. Context (103) represents the earliest bank/rampart deposit to be meaningfully exposed in Tr 1/Tr1x. In places it was overlain by a thin layer of grey clayey loam, possibly a turf line, this in turn was overlaid by context (105), a sloping tipline of compacted mid grey sandy clay loam. The angle of inclination of the rampart face at this point was around 25°.

6.2.1.4 Over context (105) there were two more sloping horizons of dumped material, contexts (107)/(108) in the west facing section of Tr1. Similar sequences were apparent in the east facing sections of Tr1 and west facing section of Tr1x. In the east facing section of Tr1x the dump sequence appeared more complex with more thin tip lines. It is likely that this area had seen historic disturbance as the deposits were less ordered. Context (108) had the appearance of a possible turf line, being a fairly compact and homogenous mid grey brown slightly loamy sand. Over (108) there was a deep sloping dump of brown redeposited natural sand and gravel, context (109). In the less disturbed sections this appeared to be a single dump of material on the earlier rampart face, bringing the rampart slope up to an angle of around 35-37°. To the rear of this dump contexts (110) and (111) sat on the counter-slope. Both these contexts were distinct shallow layers of constant thickness, and it seemed possible that they might reflect some form of lost angled timbering, perhaps bracing to the top of the palisade. They had been sealed by context (112) a deep dump of crumbled redeposit natural marl. Over these horizons was the well bedded layer (115) which appeared to reflect a turf line or at least a stabilised rampart face at around 37°. The toe of this context overlaid cut [104], but this is likely to reflect slumping of material downslope on withdrawal or collapse of the palisade.

6.2.1.5 A small low bank of sandy and gravelly material (167) possibly equivalent to (116) was noted

to lie between the rampart and the castle ditch cut. Tip lines within (150) also seem to reflect a bank at this point. The purpose of this bank is unclear – possibly it was material upcast from a scouring of the ditch sides.

6.2.1.6 Apparently some while after the deposition of (112), and probably after (115) a slot [104], approximately 0.5m wide, with a flat bottom was cut into the subsoil (102). This slot was observed to run the full length of the site, as a relatively straight feature, curving slightly northwards as it approached the north east corner of the site. This feature appears to have been cut along the front toe of the rampart as it then stood, and appears to have contained a timber revetment or free standing palisade. The latter is perhaps more probable as it would appear from the subsequent tip lines (most notably in Tr 2) that material was dumped behind and against a vertical structure now lost. It is important to note that no sign of individual post-holes was seen in the slot, context [104] (equivalents [216] and [304]). This suggests the former presence of a sole-plate into which the vertical members were presumably morticed and pegged. Whilst more labour intensive to construct this would have a defensive advantage that any intruder would be unable to pull posts individually from the palisade to create openings. The northern edge of the slot was undercut in places, but this almost certainly reflects the gradual settlement of the rampart deposits into the softer fills of the backfilled slot [104]. The settlement of earlier deposits over the line of the palisade slot has caused a number of stratigraphic anomalies where earlier deposits physically overlie later contexts.

6.2.1.7 Soil was then dumped behind the palisade, possibly as a separate operation. The sequence is most clearly seen in the east facing section of Trench 1x. Context (117) was evidently dumped against a vertical structure to the south, and has a fairly level top surface in contrast to the sloping horizons below. The subsequent dumps (eg (119) were also level and stopped on the line of the palisade, now clearly serving as a revetment. The former back edge of the palisade line is visible clearly as a vertical break in stratigraphy in a number of drawn sections, but not detectable in others. This tends to suggest that some parts of the retained bank survived as a standing face when the palisade was destroyed (eg the east facing sections of Trs 1/ 1x and west facing Tr1x), whist others collapsed on withdrawal or decay of the vertical elements of the palisade (eg Tr 1 west facing section). Again this has led to a number of stratigraphic anomalies.

6.2.1.8 The deposits post-dating the removal/collapse of the [104] palisade in trenches 1/1x are characterised by their patchy and unstructured nature. It seems possible that this section of the rampart was augmented by some small scale dumping of mixed materials after the palisade was removed, but it is more probable that the mixed material gradually built up as a combination of tumble from the upper slopes of the rampart and deliberate small scale tipping. There was also some indication that the upper deposits had been affected by tree root activity, particularly along the ditch edges.

6.2.1.9 At the southern toe of the rampart there was a distinct linear ditch cut [134] in the subsoil, and this cut was parallel to the rampart face. The cut was overlaid by some of the latest rampart material (possibly tumble), but there was no distinct stratigraphic relationship between the ditch and main body of the rampart. It would appear that whichever came first the ditch originally lay a little in front of the rampart, with a flat berm between. The later, enlarged, rampart occupied the area of the berm, and possibly the ditch was widened bringing the ditch edge to the rampart toe. The ditch had been previously established (2008 Evaluation Trench) to be of very substantial size and to contain deposits of medieval to post-medieval date – it was not further explored in the present project as it was largely un-affected by the temporary car-park works.

6.2.1.10 The later deposits in this area had been largely machine-stripped, and only the base of one post medieval pit [160] was seen in plan, just to the west of Trench 1. This pit fill (161) included post medieval pottery, mortar and window glass. The later deposits appeared to be of largely 19th Century date, consisting primarily of redeposited topsoil forming a sloping bank retained by a retaining wall mainly of brick but incorporating some reused sandstone blocks. There were also clear indications that the area had been deliberately raised to a near level surface during the 1930s or 1940s by dumping of more topsoil mixed with building debris and domestic rubbish. This latter dumping episode substantially increased the steepness of the bank to the north of the retaining wall, and movement of the retaining wall appears to have occurred as a result. The Nissen hut was constructed on this levelled up platform, and it is likely that the area on top of the rampart was purposely raised to accommodate this building circa 1940. During the latter 20th C the bank was used for more dumping, and this material was retained only by the metal railings along the top of the retaining wall. The sequence of

later dumping here was recorded in the 2007 trench section.

6.2.2 Trench 2 (Figs 2 and 6, Figs 15-19, Fig 32)

6.2.2.1 The trench was not stripped to natural gravel, therefore the earliest context encountered was (217), a greenish tinged stone free sandy subsoil. Only the upper surface of this horizon was exposed, and none was hand excavated, therefore it was not possible to determine if this horizon contained any artefacts. In all other respects it appeared identical to context (102).

6.2.2.2 Because of a forward projection of the pile wall Trench 2 did not extend quite so far north as Tr1, and therefore no evidence of any northern revetment line equivalent to [136] etc was seen. The earliest deliberate deposit encountered was (215), a low bank of reddish brown sandy gravel, near identical to context (103). A sloping layer of grey green tinged sandy clay (214) overlay (103) and formed a tip line at a similar slope to the deposit beneath. To the south of the toe of this deposit was a low bank of light reddish brown sand, gravel and marl (221) overlying a slight ridge in the subsoil (possibly redeposited subsoil). The stratigraphic relationship is uncertain but it it is possible that this low bank of material represents upcast from a linear "slot" cut along the toe of (214). It is also possible that the slot was cut through the low bank as either scenario would leave similar evidence. The "slot" context [216] proved on the eventual clearance of the site to be continuous with cut [104] in Tr1. The slot continued unbroken in a broadly straight line between the two excavated areas. Within Tr2 however, there was a short "gap" approximately 1.8m wide where the slot was interrupted before apparently recommencing westwards as context [245]. The fills of [245] and [216] were near identical reddish sand and gravel, and although only a very short length of [245] had escaped truncation by a later extraction feature sufficient survived to identify it as a probable westwards continuation of the palisade slot. There was no indication in the area between [216] or [245] of any reason why the palisade might have been interrupted, nor sign of deepened terminals to the slot as might be expected had there been a gateway.

6.2.2.3 Context (223) lay immediately to the south of (221), but its stratigraphic relationship with the adjoining layers was such that it was not possible to determine whether it was near contemporary with (221) or significantly later.

6.2.2.4 Cut [216] was similarly difficult to stratigraphically place, as it appeared to be part filled by context (213), a layer of crumbled red marl and gravel overlying (214). It appears very likely, however that [216] cut (213), and that the loose material on the toe of (213) subsequently tumbled into the "slot" either as the palisade posts were inserted or as they were withdrawn. On comparison with the sections of the other trenches it was apparent that the "beam slot" [216] had been cut substantially later than the deposition of context (213), and indeed that contexts as late as (207) may have been cut by [216] but subsequently collapsed or settled across the line of the cut as the palisade timbering was withdrawn or shortly thereafter. This theory is supported by the way that a number of the layers forming the rampart body stop short at the palisade line and extend southwards only as thin irregular tip-lines. Context (218) appeared to be deposited within the void left by the withdrawal or decay of the original palisade timbers. It had been cut by a number of discrete postholes irregularly placed close to, but not directly over the earlier beam slot. These postholes were near contiguous and formed a distinct "step" cut into the earlier rampart deposits. It is likely that there were more postholes than were individually identified under salvage excavation conditions, as the "step" continued towards the west. This post alignment may represent either a further phase of palisade or a timber revetment. The identified line of post-holes were cuts [236] to [240] filled by context (204), a dark and moderately loamy fill. The disturbed area above the postholes was filled by contexts (211) and (210) and partially overlaid by material derived from (207). The extent of disturbance in these deposits is suggestive of the later palisade or revetment being deliberately pulled out, and like the earlier "beam slot" feature there is no indication of timbers having rotted in situ.

6.2.2.5 A sequence of later tip lines (222), (224), (225), (241), (227 and (228) appeared to be material dumped on top of the rampart toe. As none of these deposits contained material indicative of a medieval or post medieval date it is likely that they represent material thrown down from the upper part of the rampart. A vertical cut [226] possibly represents the line of a former retaining wall, although no trace of walling remained in Tr 2. The fills of this cut to the east of Tr2 did contain some small Lias blocks and occasional sandstone fragments, possibly derived from a retaining wall. The line of [226] corresponded with the edge of the former Castle ditch fills, but a vertical cut, as seen in the west facing section of Tr 2 is an improbable ditch edge, as it would not have stood more than a few days without support. As the ditch was not excavated in the present project the date of its fills at this point cannot be confirmed, but the latest fills

appeared to be post-medieval, and cut [226] is therefore a post-medieval or later modification of the ditch edge.

6.2.2.6 The deposits seen in the east–facing section of Trench 2 were of a completely different character to the remainder of the trench. The edge of a very large cut feature extending the length of the trench and beyond was seen in plan as the eastern perimeter of an irregular pit cut from a high level. The sides of this cut [203] proved to be near vertical, and extended to below the base of the excavated trench. The pit fills (201) and (233) contained moderate quantities of 18th and 19th C material including clay tobacco pipe and brick. The feature appears to have been a large sand/gravel extraction feature of probably early 19th Century date. This was the only substantial "post-castle" feature seen to truncate the earlier rampart deposits, which otherwise were remarkably well preserved.

6.2.3 Trench 3 (Figs 2 and 6, Figs 20-24 and Fig 33)

6.2.3.1 The earliest deposit seen in Tr3 was the subsoil, context (317). This deposit was a similar greenish brown tinged homogenous sandy layer to that recorded in Tr1 as (102) and Tr 4 as (411). In Tr3 the subsoil sloped up markedly to the north, and it is possible that part of this horizon had been banked up deliberately to form the basis of the subsequent rampart. The upper surface of the subsoil was overlain by some patches of material, apparently shallow lenses (the lower horizons were beneath anticipate carpark makeup level and not excavated), but generally overlaid by a substantial banked deposit of reddish brown sand and gravel, contexts (318), (344) and (329). This material was up to 0.75m deep at the northern edge of the trench (along the line of the pile wall), but tailed off to nothing within 2.8m. The characteristics of this bank were very similar to (103) and (215) allowing for slight local variations in the redeposited natural used to form it.

6.2.3.2 The early bank had been cut by a discontinuous "slot" [340]/[337]. The western part [340] was slightly further south, and showed no indications of separate post-holes in plan, though a probable post pipe was visible in the western trench section. In contrast the eastern element of the slot [337] had distinguishable post imprints and lay 0.45m further north. The gap between sections was just over 1m. Whilst physically distinct the two slots shared a common stratigraphic position and appeared to be part of a contemporary post alignment, apparently revetting a substantial earthern bank to the north. The depth of the cut slot was not clearly distinguishable from [125] a secondary cut apparently related to removal of timber uprights from [340]. If the east facing section is representative then the posts within [340] retained a bank at least 2m high and were set into the ground at least 0.6m. The west facing section was in a more disturbed area, and the relevant evidence did not survive.

6.2.3.3 The bank apparently retained by this revetment consisted of contexts (329), (328), (327) and (326). The layers up to and including (327) were of a similar character to those seen elsewhere in the rampart, but the uppermost layer (326) was distinguished by the number of thin greyish sandy tip lines and lenses, clearly indicating the tipping of individual loads of material as part of a single substantial bank-raising exercise. The tip lines tip both to north and south suggesting that this area was then close to the crest of the rampart. Regretably none of these horizons produced any datable artefacts.

6.2.3.4 Context (313) partially overlay the revetment slot [340] and appears to have been deposited immediately after the posts were withdrawn. The earliest rampart context to produce a potentially dateable assemblage was an irregular cut or hollow [349] filled by (301). This large feature (approximately 3.5m in diameter; not all excavated and extending eastwards beyond Area 3) had something of the appearance of a tree-throw hole in that its sides were poorly defined and irregular. Its fill contained scorched and burnt clay, charcoal, and a single pottery rim-sherd, with external smoke blackening (Fig 35). This sherd is unfortunately of a form and fabric previously unrecorded in the county, though its fabric suggests a reasonably local origin (see pottery report Appendix 1). A substantial dump of red-brown sand mottled with grey sandy patches immediately over lay (313). This material, context (324), strongly suggested a disturbed dump of material very similar to (326), and it is likely that it represents material collapsed or deliberately thrown down from the top of (326) after the removal of the revetting. As the grey sandy lenses of (326) were broken into much smaller patches in (324) it is more probable that the material was deliberately cast down – had it slipped naturally the lenses would have remained intact but distorted. The upper surface of (324) had a distinct stepped profile. This is unlikely to represent steps per se, and is more likely to be sheep terracing, possibly indicative of a period of disuse and neglect. Contexts (322) and (323) were of loose sandy material that may have accumulated as hill wash over the probable terracing. They restored the sloping face of the rampart to an angle of natural repose. Subsequently context

(312) contained both clay flecks and charcoal flecking, and appears to reflect renewed activity in this area of the site. Probably broadly contemporary with (312) was the cutting of a further palisade slot [304]. This slot marks the toe of a number of layers, and it is not possible to determine with certainty which layers were cut by the slot, and which were deposited against the inner face of the vertical timbers that it apparently contained. Given that a vertical timber structure would need to be toed into the ground at least 0.5m it is almost certain that [304] cut (312). The slot [304] could be traced visibly as a line of darker material cut into the subsoil westwards to slot [104] in Tr 1 once the site had been stripped down to temporary carpark level – this feature which proved to be continuous across all of the excavated areas therefore is a crucial link between the stratigraphic sequences of the four discrete excavated areas.

6.2.3.5 At this point the evidence of Tr 2 suggests that the vertical timbers in [304] were a free standing palisade or pale rather than a revetment. The material above (312) was a substantial dump of reddish brown silty sand and marl (307), which spread across the line of [304] and appeared to be a widespread dump of redeposited natural material relating either to a partial levelling of the rampart or final strengthening episode. If the latter it might conceivably have been retained by the palisade and eventually collapsed or was thrown down across the palisade line. The evidence either way is ambiguous, but the lack of stone, mortar or tile traces in (307) would tend to indicate that it was deposited during the early medieval period or earlier.

6.2.4 Area 4 (Figs 2 and 6, Figs 25 and 26, Fig 34)

6.2.4.1 This area was in the north-eastern corner of the site. The line of the rampart here curves sharply towards the north, and the purpose of examining this section was to determine, if possible whether the change in alignment was marked by a tower or similar strengthening work. Due to time constraints it was agreed that this area would not be fully excavated, but subject to surface cleaning and recording of the cut features apparent in the cleaned surface.

6.2.4.2 The earliest deposit seen in Area 4 was the subsoil (411), very briefly exposed in plan during the machining away of the rampart at the end of the project. It appeared at this time that the line of the palisade or revetment "slot" context [104], [216] and [304] continued across this area, and had started to curve with the line of the super-incumbent rampart.

6.2.4.3 On the southern edge of the cleaned area context (411) appeared to be overlaid by a localized patch of charcoally material (404) in a slight hollow. Context (404) was cut by a small pit [402] with a mid grey sand loamy fill (405) containing occasional fragments of mortared stone. The relationship with the fills of the castle ditch [414] was unclear, and it is likely that [402] might represent a small tree-pit or similar.

6.2.4.4 To the north of [402] another, and much smaller cut feature [406] was excavated, the fill contained a number of small animal bones (406), and it is possible that this feature was an animal burrow.

6.2.4.5 As the bulk of the rampart material was not excavated little distinction could be made between the layers of which it comprised, or the sequence in which they had been deposited. The division of the two layers (408) and (410) was therefore somewhat arbitrary.

6.2.4.6 Towards the top of the sloping face of the rampart there was a linear cut, following the curvature of the main rampart bulk. This cut, context [413] appears to have formed an irregular "ledge" , subsequently infilled with material of post-medieval date in at least two stages (contexts (401), (412) and (409). The base of the cut was irregular, but the back edge was steeply cut. It is possible that this feature represents some form of temporary pallisading, but no clear evidence of individual post settings or similar was seen.

6.2.4.7 The castle ditch cut, [414] and its fills were not examined in any detail. The earliest exposed fill was context (403), which directly overlay the edge of the subsoil. Context (403) notably contained a fragment of flat ceramic tile with a cruciform stamp impression, lying directly on the edge of the cut (Fig xx).

7 The artefactual and ecofactual assemblage

7.1 The vast majority of artefacts recovered during the project were recovered from the material overlying and post-dating the rampart. Much of this material had clearly been imported and dumped since the early years of the 19th Century, and therefore is of little significance or relevance in determining the development of the present site. Whilst there is some intrinsic interest in the five sherds of Roman pottery, and the small quantity of medieval pottery (including a possible yellow glazed roof finial fragment) it cannot be assumed that they relate to activity within the "SPACE" site boundaries.

7.2 Very few of the stratified contexts relating to the pre-19th C occupation of the site contained artefacts or ecofacts (Appendix 2). With the exception of some late features (of 17th or 18th C date) in Area 4, and a 19th C backfilled extraction feature [203] on the western edge of Trench 2 the bulk of the rampart appeared to be nearly devoid of artefacts and ecofacts. The contexts which produced dateable artefacts in Trench 1 were (102), (106) and (109). There was worked flint in (102) and (106), and (106) and (109) also produced very small quantities of decayed (unidentifiable) bone. All three contexts produced very small fragments of a pottery form and fabric that has not previously been recognized in the County, and is not presently identifiable (Appendix 1). The consensus of opinion is that the fabric appears to be either iron age or possibly Saxon (the two periods of pottery both reflect very similar production techniques). The presence of very small quantities of burnt stone in context (102) in association with worked flint and potentially prehistoric pottery is highly suggestive that this layer (which immediately preceded the construction of the outer edge of the rampart) was laid down or disturbed by occupation during the late prehistoric era. The worked flint flakes were not particularly diagnostic, and may relate to either later bronze age or iron age activity, more likely the latter.

7.3 Trench 2 produced no closely dateable artefacts from the rampart – a very small amount of burnt clay was recovered from context (217) – the sub-soil beneath the rampart, and a little bone from (204). Context (202), fairly late in the rampart sequence produced moderate charcoal and bone, burnt stone and shell and gave the impression of a soil derived from an area of habitation, but frustratingly contained no dating evidence. The only artefactually rich feature in this trench was context (201) which appeared to be a 19th C sand or gravel extraction pit backfilled with a near random assemblage of artefacts intermixed with soil, most probably deriving from the castle and later Bridewell sites

7.4 The vast majority of finds from Trench 3 (still a tiny quantity) were located in three contexts – (301), (302) and (303). These contexts were characterised by the frequency of charcoal and burnt clay flecks, which contrasted with the bulk of the rampart material which was devoid of charcoal or signs of burning. Contexts (301) and (303) were associated with a single feature [349] which appears to have been a tree-throw hole or similar subsequently used as a hearth-pit. Context (301) produced the only rim sherd from the whole of the rampart material, and this sherd was again in the unrecognised fabric previously recovered in Trench 1 and dateable only to the iron age or Saxon periods. The very simple rim form (Fig xx) was not diagnostic, but it is possible that the sooting on the sherd might provide a C14 date. As the sherd does not derive from one of the earliest phases of the rampart it cannot unfortunately do more than provide a date by which the rampart was in use. The frequency of burnt daub (possibly from an oven or burnt structure) in situ scorching and burnt stone in association with is sooted sherd suggests that the sherd was contemporary with the probable use of the pit as an impromptu hearth. A very small quantity of bone was also recovered from (301). Context (302) also produced a further small sherd of the unidentified prehistoric or Saxon pottery.

7.5 Area 4 was not fully excavated and therefore artefacts were generally only recovered from the latest contexts. There were few significant artefacts, the most notable of which was a medieval stamped roof tile, with a cruciform stamp, on the very edge of the ditch cut and overlying context (411) – the subsoil. The tile appears to have been deposited whilst the ditch was freshly re-cut. Such stamped tiles are only rarely found in the City, and the present example **resembles .....**Four pieces of burnt daub were recovered during machining out of the rampart – these possibly derived from the NE edge of the large disturbed area recorded as cut [349] in Trench 3 as it was seen to extend under the baulk between Tr3 and Area 4. The remainder of the finds in this area appear to derive from 17th-18th activity, and context (407) appeared to represent the partial remains of a small animal ? rabbit or rat that had died in its burrow.

7.6 In total only 85g of the unidentified prehistoric/Saxon pottery was recovered from the site – two sherds having been recovered from contexts where it was clearly residual. This pottery appears, however, crucial in understanding the dating of the rampart, and the uniqueness of the pottery to the present site may reflect on the identity and geographic origins of the original builders of the fortification. The pottery appears to be a relatively local fabric, and it is likely that other examples will come to light in due course and throw greater light on the question. Recovery of further sherds from the subsoil beneath the rampart during the planned

completion of excavation at Easter 2012 may provide a larger and more recognizable sample of this pottery and/or the opportunity for scientific dating

8 Discussion

8.1 It was clear from the results of the 2007 evaluation that the postulated rampart was very likely to survive (despite the conclusions of the 1989 evaluation), and the likely profile and position of the rampart and supervening deposits were in 2007 predicted with some accuracy (Napthan 2007b figure 2). Failure of the 1989 evaluation to identify the presence of the rampart was largely down to the small size and inappropriate positioning of the trenches (the trench positions being dictated by the then site constraints as the Salmon's Leap property was still in separate ownership). The 2007 trench into the bank of retained soil was excavated from the southern side of the retaining wall, and therefore the larger, deeper trench permitted a better observation of the tip lines within the later dumping, and these (with the benefit of greater familiarity with the stratigraphy and topography of the area) revealed the likely presence of the underlying rampart deposits, even though these still lay inaccessible beneath the Nissen Hut. Subsequent exposure of the rampart by removal of the over-burden of later dumping therefore produced few surprises, though it was notable that the rampart was far better preserved than had been anticipated. It was also rather unexpected that the early phases of the rampart/bank appear to overlie deposits only containing prehistoric material. At present it has not been possible to fully excavate the soils beneath the rampart, but they were exposed briefly in plan when the rampart/bank was removed and appeared to be undifferentiated subsoils, without discrete cut features other than those relating to the rampart construction. On the basis of present knowledge it would appear that the buried soils are subsoils into which small prehistoric artefacts (and possibly ecofacts) have been incorporated by cultivation, root or animal activity. The relatively high density of worked flint in the very small area hand excavated to date is suggestive of some prehistoric occupation in the vicinity.

8.2 There is a clear physical demarcation between the rampart/bank deposits and the underlying subsoil, but no signs of a turf-line. The initial phases of the bank construction are devoid of dateable finds, and this may be very significant. Whilst a paucity of artefacts might be expected on a site newly occupied in the Saxon period, it would be unusual in the case of a site known to be in an area of fairly intense Roman activity. The present site lies in an area that regularly produces residual Roman material, and stratified Roman burials are known from the immediate vicinity of Severn Street, particularly in the area of King's St Albans site. Both Roman pottery and iron slag are near ubiquitous in excavated deposits in this area of the City, and their absence in the rampart/bank (traditionally considered to be of late Saxon or Norman origin) is extremely suggestive that the rampart/bank could be pre-Roman. The bulk of the rampart core is formed of material that was probably quarried close-by – the adjacent ditch to the south would at present seem to have been the most likely source, though it has not yet been proved that the ditch and bank were contemporary. Should the quarrying have occurred in the later Saxon or Norman period it would be expected that material related to the known Roman cemetery, Saxon cemetery and wider Roman and Saxon urban occupation of the area immediately to the north and north west might have been incorporated within the rampart fabric. In the event the lower levels of the rampart are devoid of indicators of activity other than low levels of prehistoric flint working waste.

8.3 The discrepancy between the rampart make-up and that of the motte (which reportedly contained much Roman material as well as later artefacts - Allies 1852) strongly suggests that the motte was added some time after the initial Norman re-fortification of the area. Whilst very few unaltered early post-conquest Norman castles survive, those that do, and which have been studied in detail, are often without original mottes (eg Exeter Castle, begun c1067 – Goodall, 2011), so it is not improbable that Worcester's motte was added a little later, with material quarried from elsewhere. A likely source would be the excavation of the ditch around the northern side of the defences (believed to have been between the present Watergate and Edgar Tower).

8.4 In the absence of dating evidence from the earliest horizons we are reliant on potentially dateable artefacts from the later levels of the rampart construction. There is also an outside

possibility that it may be possible to obtain an accelerated C14 date from the charred material (180) found in the tip of a posthole [178] that appears to have formed perhaps the earliest line of revetment within the rampart. Unfortunately the nature of this context means that even if a date is obtained it may not be possible to conclusively associate this with the rampart/bank construction, as the post could have been hammered in to the soft subsoil from a considerably higher level. It is particularly unfortunate that the augered pile wall removed most of the adjacent stratigraphy from the northern side of posthole [178] and it's neighbours. It is unlikely that a definitive start date can be determined for the construction of the section of rampart/bank within the present site boundaries – such evidence may survive beneath the adjacent buildings (Wolfson and its neighbour, currently a workshop) as these buildings appear to sit on the inner tail of the rampart/bank. The planned excavation of the area of subsoil formerly sealed by the rampart may possibly produce some more conclusive evidence for the date of deposits sealed by the rampart, but this will only suggest a date prior to which the rampart was not present, rather than the actual construction date. This is a fairly common problem with interpreting large earthern structures built principally with re-deposited natural materials – unless dateable contemporary waste (*eg* broken pottery) was included in the fabric of the earthwork it is intrinsically undateable.

8.5 The earliest rampart context to produce a potentially dateable assemblage was an irregular cut or hollow [349] filled by (301). This large feature (approximately 3.5m in diameter; not all excavated) had something of the appearance of a tree-throw hole in that its sides were poorly defined and irregular. Its fill contained scorched and burnt clay, charcoal, and a single pottery rim-sherd, with external smoke blackening. This sherd is unfortunately of a form and fabric previously unrecorded in the county, though its fabric suggests a reasonably local origin (see finds report- Appendix 1). The fabric is suggestive of either an iron-age or post-Roman to pre-Norman date, but specialist opinions are divided as to which it is. As the sherd is currently unidentifiable by fabric/form the only definitive answer may be obtained by C14 dating of the soot blackening on the exterior of the rim sherd. Context (301) lies between two episodes of palisade reinforcement of the rampart/bank, and successful analysis of the sample would give a clear date for use and repair if not for the construction of the earthwork. The position of [349] is of considerable interest as it lies precisely at the point where the rampart alignment starts to change. This is a position where a tower would not be unexpected, and there remains an outside possibility that the burning represents the total destruction of a projecting wooden tower or battlement, though the irregularity of the feature and absence of distinct postholes tends to discredit the hypothesis.

8.6 The sequence of revetment/pallisading of the earthwork is particularly interesting, but the present intervention has given only a partial picture of its character, the inner part of the earthwork being unavailable for excavation. The earliest palisade line was only glimpsed in Trench 1 but seems to have been a slightly irregular line of earth-fast posts towards the centre line of the eventual rampart. As we don't know the full width of the rampart at this point the precise position of the post line is somewhat of an educated guess. This line could possibly mark the face of the earliest phase of earthern bank. Subsequent enlargement of the bank seems to have occurred some while later as the later "pallisade" lines are of a different character, set in continuous trenches, that possible held a sole-plate. As the upper levels of the bank are lost it is not clear which of the post-lines and linear slots represent revetment to stabilize the bank, and which served as footings for timber walls/palisades projecting above the ground surface. The balance of the evidence suggests that the linear slots represent true palisades for defensive purposes, as the use of a sole-plate (into which the uprights were tenoned) was significantly more resistant to the undermining or pulling out of individual posts, particularly if the posts were also fixed to a capping piece. The lines of individual posts (as seen in early phases of Trenches 1-3 are more irregular and may represent physical restraint to spreading of the earthwork prior to its consolidation, or in some cases in response to subsequent movement. The post-lines and sole-plates may also represent the former presence of upstanding timber structures (such as towers or bastions), but their relative consistency along the excavated length suggests that they formed part of a fairly continuous defensive line.

8.7 Overall the structural evidence points to a fairly consistent pattern of deposition along the length of the excavated portion of the rampart – there are clearly local differences in the nature of the soil used and pattern of tipping but these would be expected in a rampart built of hand

quarried material tipped in small quantities by the basket or possibly wagon-load. No two archaeological cross-sections are similar, but there seems to be a common sequence in most. The western section of Trench 2 must be excepted as this appears to represent the section through a large later feature, probably a 19th Century gravel pit.

8.8 In the near absence of artefactual evidence it is not clear when the earthwork fell into disuse as a military fortification, though the documentary and cartographic sources would suggest that it remained as a serviceable boundary bank into the early 19th Century. The bank served as an enclosure to the County gaol in the medieval period , and some form of paling is likely to have been retained along the crest, although its effectiveness for resisting escapes was apparently minimal. Additional strengthening to the castle defences is recorded from the Civil War period, but the presence of the external ditch probably made it unnecessary to make major additions to the rampart, which clearly still stood as a major earthwork. Some slighting of the Civil War defences occurred at the end of both Civil Wars, but there is no indication that the castle defences were greatly affected by the destruction of Civil War structures.

8.9 Further work is required to identify the true nature of the sandy subsoils seen to be sealed by the construction of the rampart. This work is (at the time of writing) anticipated to be undertaken during the Easter 2012 holiday. If, as anticipated, these deposits prove to be of prehistoric date, they will, regrettably, still not conclusively date the rampart construction. The circumstances of removal of the rampart material from within the SPACE basement area were such that it is now improbable that deposits or cut features from beneath the removed rampart can conclusively be used to date construction. Only further and more detailed examination of the relatively undisturbed portion of rampart beneath the Wolfson Building and the adjacent block to the west (currently used by maintainence staff), is likely to resolve the matter. Even here there is some risk of deep disturbance due to the use of angled ground anchors to retain the pile wall of the SPACE basement. Any future examination of the remaining portion of rampart will need to be very carefully designed and undertaken with a thoroughness that was not possible during the rapid salvage excavation of 2009. The dating of the rampart would appear to be a crucial research priority for any future works on the former castle site, as <u>if</u> it is pre-Norman the presence of a massive earthwork at this point would require a complete re-appraisal of the early development of the settlement at Worcester. In many ways a prehistoric date would resolve several existing questions that were raised firstly by the pioneering discoveries at the Lychgate development (Barker 1968). The line of the southern edge of the Iron Age defended enclosure that formed the nucleus of the later settlement is presently unresolved, as is the line of the postulated Roman defences in this area. The presence of pre-existing defences would have significant implications for understanding the development and siting both of the probable Saxon burh at Sidbury and the placing of the Norman Castle. It is possible that the proposed excavation of part of the castle ditch fills within the SPACE site may help resolve the dating of the defensive line, but the known sequence of development (and probable enlargement) of the ditch suggests that the relevant stratigraphy (the primary ditch fill) is unlikely to survive.

9 Conclusions

9.1 The removal under archaeological observation of a large section of the rampart/bank earthwork has shed some light on the earliest development of the former Castle fortifications. On present evidence it seems very likely that the Severn Street rampart/bank originated prior to the Norman Conquest, and quite possibly prior to the Roman Conquest. As such the site is crucial to the understanding of the development of the later City of Worcester. The remaining sections of this earthwork (all concealed beneath later buildings) would now appear to be of critical significance to understanding the landscape and topography extant prior to the construction of the Norman castle. Whilst parts of the iron-age defensive circuit were identified in the 1960s the line of the southern side of the iron-age enclosure have never been securely located, and the present site lies on one of the previously postulated defensive lines. Very little is known about the Roman defences of the City (or even if any formal defences existed), and the absence of any separate defensive earthworks suggests that any Roman defences were adaptions of the existing massive prehistoric earthworks. The removal of the top of the rampart in the early 19th C may well have removed all evidence of the later

adaptions.

9.2 Whilst the present project has raised several new questions about the origins of the Severn Street earthwork, it has at least dismissed some previous misconceptions – principally that which suggested that the earthworks were built by the Normans using materials stripped from the ruins of the Roman settlement. The line of the defensive circuit has been clarified, and the potential survival of masonry structures relating to the castle perimeter in this area disproved. The structure has also been shown to have had a long and complex development, which tends to negate the indications that it was formed in the post-Conquest period (late 11th C) and was in decline by the late 13th Century.

9.3 The restricted nature of the archaeological works has meant that the vast majority of the rampart material within the site received only cursory inspection and localised detailed recording, however it was possible to characterise the nature of the structure and to confirm that the removed deposits were very nearly devoid of artefactual evidence. Particularly towards the eastern end of the site the majority of the rampart fabric may be expected to survive to the north of the pile wall line, beneath the Wolfson Building, and probably turning towards Edgar Street.

9.4 It is likely that the planned further excavation works on the site during 2012 will throw some additional light on the results of the initial phases of site investigation. Once the site has been thoroughly investigated (including some limited examination of the ditch fills) it should be possible to re-evaluate the present tentative conclusions, but on present evidence it would appear highly probable that the Norman fortress was an adaption of an earlier defensive circuit.

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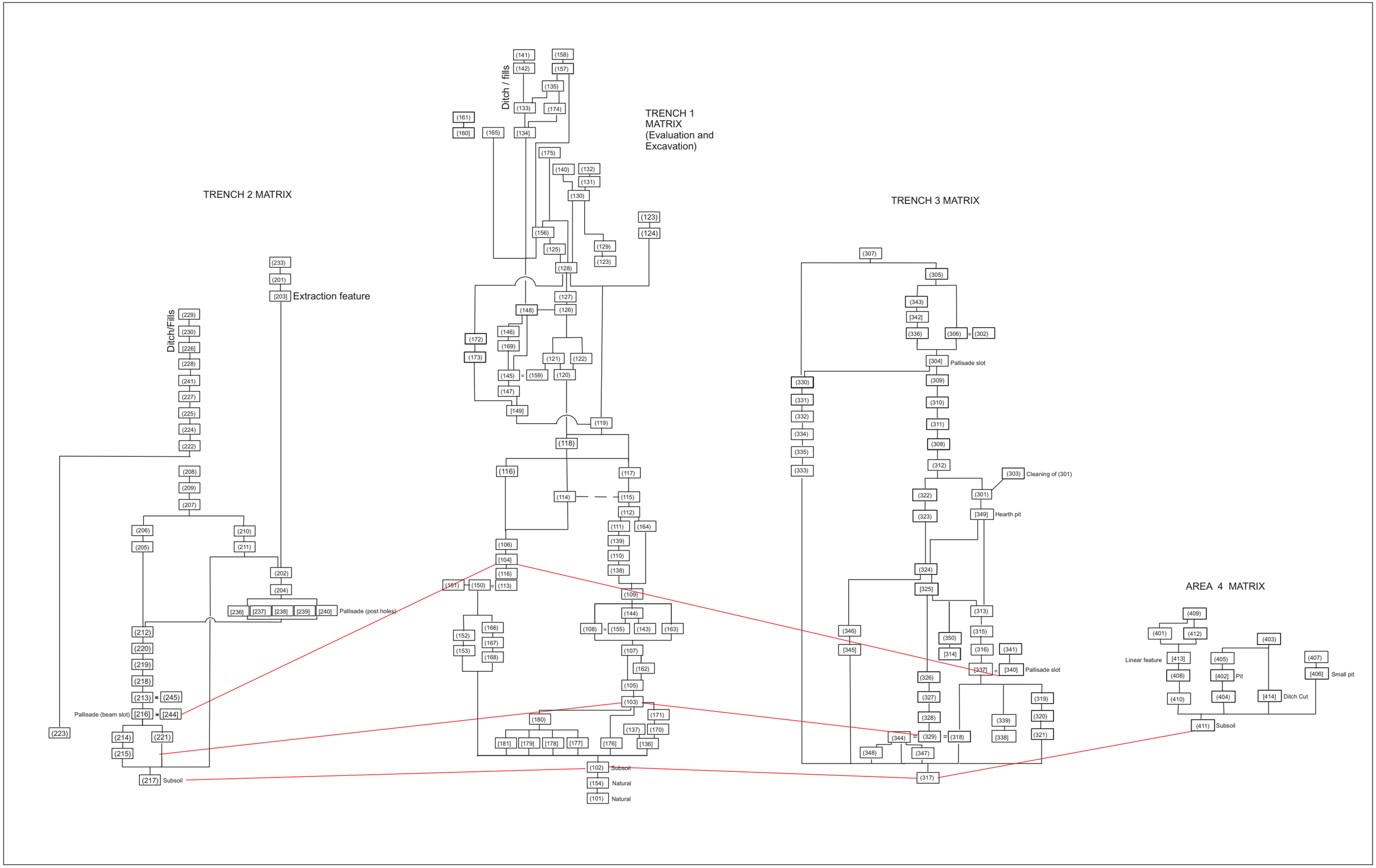
TRENCH 1 MATRIX (Evaluation and Excavation)
Ditch / fills
TRENCH 2 MATRIX
Ditch/Fills
Extraction feature
Pallisade (post holes)
Pallisade (beam slot)
Subsoil
Natural
TRENCH 3 MATRIX
Pallisade slot
Cleaning of (301)
Hearth pit
AREA 4 MATRIX
Linear feature
Pit
Small pit
Ditch Cut

POTTERY FROM THE PROPOSED KING'S SCHOOL SPORTS HALL SITE, SEVERN STREET WORCESTER

ASSESSMENT REPORT

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Project 3434
Report 1728
WCM various

Contents

Pottery from the proposed King's School Sports Hall Site, Severn Street , Worcester – assessment

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Part 1 Project Summary

Analysis of three small site assemblages of pottery from the site of the proposed King's School Sports Hall, Severn Street, Worcester was undertaken on behalf of Mike Napthan Archaeology. The material represents finds from the stripping and excavation of the castle rampart during the summer of 2009 prior to construction of a temporary carpark on the intended sports hall site, which was formerly occupied by the Salmon's Leap PH and two single storey buildings occupied by King's School. Much of the material was quite routine and conventionally represented evidence for occupation in the Roman period, and then from the 11th/12th century onwards. Strikingly a single fabric type was noted in several contexts that defied dating and appeared to be a new type not previously noted in the region – in three cases (WCM 101762) this was the sole dating material from contexts.

Part 2 Detailed report

1. Background

1.1 Aims

The brief required an assessment of the quantity, range and potential of artefactual material from the excavation. The aims of the finds assessment were:

a) to identify, sort, spot date, and quantify all artefacts;

b) to describe the range of artefacts present, and;

c) to preliminarily assess the significance of the artefacts.

2. Methods

2.1 Artefacts

2.1.1 Artefact recovery policy

Not known

2.1.2 Method of analysis

The finds were identified, quantified and dated to period. A *terminus post quem* date was produced for each stratified context. The date was used for determining the broad date of phases defined for the site. Pottery fabrics are referenced to the fabric reference series maintained by the Service (Hurst and Rees 1992; www.worcestershireceramics.org).

3. Results

3.1 Artefactual analysis

The discussion below is a summary of the pottery (with occasional other finds) and of their associated location or contexts by period. Where possible, dates have been allocated and the importance of individual finds commented upon as necessary.

WCM101746

materials	count	weight (g)
Roman pottery	3	61
medieval pottery	3	50
post-medieval pottery	35	1168
modern pottery	18	573
totals	59	1852

Table 1 WCM101746: quantification of site assemblage

period	fabric code	Fabric common name	count	Weight (g)
Roman	12	Severn Valley ware	3	61
medieval	55	Worcester-type ware	1	15
medieval	57	Cotswolds ware	1	22
medieval	69	Glazed Malvernian ware	1	13
post-medieval	75.1	North Devon ware	1	12
post-medieval	77	Midlands yellow ware	1	24
post-medieval	78	Red ware	8	302
post-medieval	82	delftware	1	5
post-medieval	83	porcelain	9	311
post-medieval	91	Buff ware	12	393
post-medieval	81.5	White stone ware	1	12
post-medieval	90	Orange ware	1	99
post-medieval	84	creamware	1	10
modern	81.4	Stone ware	1	30
modern	85	china	26	400
modern	101	misc	3	305

Table 2 WCM101746: quantification of the pottery assemblage by period and fabric-type

WCM 101735

materials	count	weight (g)
Roman pottery	2	6
undated pottery	1	11
totals	3	17

Table 3 WCM101735: quantification of site assemblage

period	fabric code	Fabric common name	count	Weight (g)
Roman	12	Severn Valley ware	1	4
Roman	41	White ware	1	2
undated	?	?	1	11

Table 4 WCM101735: quantification of the pottery assemblage by period and fabric-type

WCM 101762

materials	count	weight (g)
medieval pottery	4	62
post-medieval pottery	13	300
undated pottery	3	23
totals	20	385

Table 5 WCM101762: quantification of site assemblage

period	fabric code	Fabric common name	count	Weight (g)
medieval	?55.1	sandy ware	2	28
medieval	?57	Cotswolds ware	1	4
medieval	69	Glazed Malvernian ware	1	32
post-medieval	75.1	North Devon ware	1	58
post-medieval	77	Midlands yellow ware	5	114
post-medieval	78	Red ware	4	98
post-medieval	91	Buff ware	1	18
post-medieval	81.5	White stone ware	2	12
undated	?	?	3	23

Table 6 WCM101762: quantification of the pottery assemblage by period and fabric-type

4. Discussion

site	context	material	object type/fabric ref	count	wt (g)	finds date range	context *terminus post quem* date
WCM 101746	unstratified	ceramic	pot	59	1852	Roman to 20th century	20th century
WCM 101735	102	ceramic	pot	3	17	?mid 1st/early 2nd century to ??	??
WCM 101762	106	ceramic	pot	1	4	??	??
	Trench 2	ceramic	pot	1	2	Mid 11th to 12th century	Mid 11th to 12th century
	201	ceramic	pot	6	117	?11th to 18th century	Mid 18th century
	301	ceramic	pot	1	15	??	??
	302	ceramic	pot	1	4	??	??
	401	ceramic	pot	9	211	?11th to 17th century	17th century
	403	ceramic	pot	1	32	Early to mid 17th century	Early to mid 17th century

Table 7 Summary of context dating (only overall summary dating is given based on pottery)

The discussion below is a summary of the finds and of their associated location or contexts by period. Where possible, dates have been allocated and the importance of individual finds commented upon as necessary.

Much of the material was quite routine and there was evidence for occupation in the Roman period, and from the 11th/12th century onwards. Strikingly a single fabric type was noted in several contexts that defied dating and appeared to be a new type not previously noted in the region – in three cases (WCM 101762) this was the sole dating material from contexts.

WCM101746

There was also a possible roof finial fragment, which was yellow glazed, a piece of sagger rim and ironworking tap slag.

5. Significance

The unusual fabric that occurred in several contexts represents an unusual example of where a fabric cannot be readily recognised based on the codification of material previously excavated in the last 30 years. In the case of several contexts it is this fabric that would date the context, and so there is a clear case for further research into this material.

6. Recommendations

The following recommendation is made for consideration when designing any further archaeological work associated with this site:

- Petrographic (thin-section) analysis of the micaceous fabric that occurs at WCM 101735 and 101762.

7. Bibliography

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APPENDIX 2

SALMONS LEAP RAMPART : EVALUATION WCM101735 CONTEXT RECORDS

SITE CODE	AREA	CONTEXT NO.	TYPE	DESCRIPTION	COLOUR	TEXTURE	CONSISTENCY	INCLUSIONS	RELATIONSHIPS		
WCM101735	TR 1	(101)	Layer	Natural sand / gravel extends throughout excavated area	Reddish brown	Sandy gravel, occasional marly sand patches	Compact / very compact		Overlaid by: (102), Cut by: [104] [177] [178] [181] [176], Contemporary with: (154)		
WCM101735	TR 1	(102)	Layer	Subsoil extends whole length of the trench, occasional to moderate roots. Almost entirely stone free	Homogenous light greyish brown	Slightly silty sand	Moderately compact / friable	Very occasional worked flint and prehistoric pot plus burnt stone	Overlaid by: (103) (168) (167) (113), Overlies: (101), Cut by: [104] [179] [181] [149] [134] [177] [178]		
WCM101735	TR 1	(103)	Layer	First rampart dump contains frequent stones, sandy gravel	Reddish brown	Sandy gravel	Loose		Overlaid by: (105), Overlies: (102) (171)		
WCM101735	TR 1	[104]	Cut	Slot cut, cuts into (102) subsoil and aligns east - west					Overlies: (102) (113), Contains: (106)		
WCM101735	TR 1	(105)	Layer	Dump layer, mid grey sandy clay loam with occasional gravel	Mid grey	Sandy clay loam with occasional gravel	Compact	Stone (2 pieces)	Overlaid by: (107) (162), Overlies: (103)		
WCM101735	TR 1	(106)	Fill	Fill of cut [104]. Sandy gravel mix with subsoil and frequent pebbles	Reddish	Sandy gravel mixed with subsoil and frequent pebbles	Moderately compact	Bone, worked flint, Saxon / ?prehistoric pottery	Overlaid by: (114) (116), Fills: [104]		
WCM101735	TR 1	(107)	Layer	Rampart dump layer, very mixed sandy marl	Reddish / grey clay patches	Very mixed sandy marl and grey clay patches	Moderately compact	Occasional charcoal	Overlaid by: (108) (109) (163), Overlies: (105) (162)		
WCM101735	TR 1	(108)	Layer	Possible turf line - loamy sand	Mid grey / brown	Loamy sand	Compact	Moderate / frequent pebbles	Overlaid by: (109), Overlies: (107)		
WCM101735	TR 1	(109)	Layer	Rampart dump, redeposited natural sand / gravel	Brown	Redeposited natural sand and gravel	Compact	Bone (1 piece), Pottery (1 piece)	Overlaid by: (115) (110) (164), Overlies: (108) (163) (144)		
WCM101735	TR 1	(110)	Layer	Tip line - crumbly marl	Dark reddish brown	Crumbly marl	Moderately compact	Occasional pebbles	Overlaid by: (111) (139), Overlies: (109) (138)		
WCM101735	TR 1	(111)	Layer	Tip line - sandy gravel	Light brown	Sandy gravel	Compact		Overlaid by: (112), Overlies: (110) (139)		
WCM101735	TR 1	(112)	Layer	Rampart dump, compacted crumbled marl	Dark reddish brown	Crumbly marl	Compact		Overlaid by: (115), Overlies: (111) (164)		
WCM101735	TR 1	(113)	Layer	Dumped layer of rampart, mixed marl - sand and gravel	Red brown to yellow brown lenses	Mixed marl, sand and gravel	Compact		Overlaid by: (116) (128) Overlies: (102), Cut by: [104] Equivalent to: ? (150)		
WCM101735	TR 1	(114)	Tip	Accumulation of material at the toe of the rampart. Sandy loam, occasional marl flecks, occasional to moderate gravel	Mid grey	Sandy loam, occasional marl flecks	Very compact / compact		Overlaid by: (118), Overlies: (106), Equivalent to: (115)		
WCM101735	TR 1	(115)	Tip layer	Fine bed brown marl crumb with well defined bedding lines	Reddish brown	Crumbly marl	Moderately compact		Overlaid by: (123) (119) (117) (128), Overlies: (112) (109)		
WCM101735	TR 1	(116)	Layer	Rampart layer - fine sandy marl	Reddish	Fine sandy marl	Compact	Occasional gravel	Overlaid by: (120), Overlies: (113)		
WCM101735	TR 1	(117)	Tip layer	Tip dump, mixed marl with blue / grey flecks	Mixed red / orangey with blue flecks	Marl crumb with blue clay flecks	Moderately compact / friable	Moderate pebbles	Overlaid by: (119) (118), Overlies: (115)		
WCM101735	TR 1	(118)	Layer	Dump layer - gravelly loam	Grey brown	Gravelly loam	Compact	Low charcoal flecks	Overlaid by: (120) (119), Overlies: (114) (117) (116)		
WCM101735	TR 1	(119)	Dump	Tip layer, sand with occasional gravel	Light brown	Sand with occasional gravel	Very compact		Overlaid by: (123) (124) (128), Overlies: (115) (117) (118)		
WCM101735	TR 1	(120)	Layer	Quite indistinct change from (120) to (126). Sandy loam with very occasional gravel	Grey brown	Sandy loam, very occasional gravel	Moderately compact		Overlaid: (126) (121) (122), Overlies: (116) (118)		
WCM101735	TR 1	(121)	Tip	Tip layer, sandy gravelly loam	Mid grey brown	Sandy gravelly loam	Moderately compact	Occasional charcoal flecks	Overlaid by: (125), Overlies: (118) (120)		
WCM101735	TR 1	(122)	Layer	Tip lense / layer. Crumbly sandy gravel / red marl	Reddish brown	Sandy gravel / red marl	Moderately loose / compact		Overlaid by: (126), Overlies: (120)		
WCM101735	TR 1	(123)	Layer	Tip layer - sandy	Light greenish grey	Sandy layer	Compact		Overlaid by: (129), Overlies: (119)		
WCM101735	TR 1	(124)	Layer / ? Lense	Tip layer - crumbly marl	Reddish	Crumbly marl	Friable		Overlaid by: (123), Overlies: (119)		
WCM101735	TR 1	(125)	Layer	Rampart dump (tipped layer). Marl with occasional gravel	Red marl	Marl with occasional gravel	Very compact		Overlaid by: (156), Overlies: (121) (128)		
WCM101735	TR 1	(126)	Layer	Rampart dump layer, sandy loam with very occasional gravel. No distinct change between (126) and (120)	Grey brown	Sandy loam with very occasional gravel	Moderately compact		Overlaid by: (128) (127), Overlies: (120)		
WCM101735	TR 1	(127)	Layer	Tip line, gravelly sand with moderate pebbles	Reddish	Gravelly sand, moderate pebbles	Moderately compact / friable		Overlaid by: (128), Overlies: (126)		
WCM101735	TR 1	(128)	Layer	Dump layer, gravel with sandy patches and moderate pebbles	Slightly greenish brown grey	Gravel with grey sandy patches, moderate pebbles	Moderately loose		Overlaid by: (132) (175), Overlies: (129) (115) (127)		
WCM101735	TR 1	(129)	Layer	Tip layer, marl crumb mixed with gravel	Dark red / brown	Marl crumb mixed with gravel	Moderately compact		Overlaid by: (130), Overlies: (123)		
WCM101735	TR 1	(130)	Layer	Tip layer, sand and gravel	Light brown	Sand and gravel	Moderately loose		Overlaid by: (131), Overlies: (129)		

APPENDIX 2

WCM101735	TR 1	(131)	Layer / ? Lense	Tip layer, sand and gravel	Light brown	Sand and gravel	Moderately loose		Overlaid by: (132), Overlies: (128) (130)		
WCM101735	TR 1	(132)	Layer	Dump layer, top layer of the rampart, mixed marl / gravel	Reddish brown / greyish mottled	Mixed marl / gravel	Lightly compacted		Overlies: (128) (131)		
WCM101735	TR 1	(133)	Layer, fill of a cut	Fill, clay loam, occasional gravel	Reddish brown	Clay loam, occasional gravel	Compact		Overlaid by: (135), Overlies: (101), Fills: [134]		
WCM101735	TR 1	[134]	Cut	Cuts into southern end of (102) subsoil, east - west sharp alignment					Overlaid by: (135), Overlies: (102), Cuts [148], Fills: (133) (135) (134)		
WCM101735	TR 1	(135)	Layer	Dump layer, sandy clay loam with occasional gravel	Reddish brown	Sandy clay loam with occasional gravel	Compact / friable		Overlies: (133) (174)		
WCM101735	TR 1	[136]	Cut	Cuts into northern end of trench of (102) subsoil east - west sharp alignment					Overlies: (102), Contains: (137)		
WCM101735	TR 1	(137)	Fill of cut feature [136]	Fill of cut [136] at northern part of trench. Loam / sand and gravel	Greyish brown	Greyish brown loam / sand gravelly	Compact / friable		Overlaid by: (103), Overlies: (101), Fills: [136]		
WCM101735	TR 1	(138)	Layer	Rampart dump layer, sand and gravel	Dark red / brown	Sand and gravel	Friable		Overlaid by: (110), Overlies: (109) (107)		
WCM101735	TR 1	(139)	Layer	Tip layer, frosted marl	Light reddish brown	Frosted marl	Friable / compact		Overlaid by: (111), Overlies: (110)		
WCM101735	TR 1	(140)	Layer	Tip layer at top of trench	Mid grey	Sand with moderate pebbles	Compact / friable		Overlies: (112) (130)		
WCM101735	TR 1	(141)	Layer	Dark grey clay loam. Banked layer with large stones overlying (142)	Dark grey brown	Clay type loam with brown clay lenses	Very compact		Overlies: (142), Fills: ? [134]		
WCM101735	TR 1	(142)	Layer	Dark grey with brown lenses clay loam	Dark grey with brown lenses	Clay type loam with clay lenses	Very compact	Large stones	Overlaid by: (141), Overlies: (133), Fills: [134]		
WCM101735	TR 1	(143)	Layer	Tip layer, sandy clay with occasional pebbles	Pale grey, tan mottled	Sandy clay with occasional pebbles	Compact		Overlaid by: (144), Overlies: (107)		
WCM101735	TR 1	(144)	Layer	Tip layer accumulation, gravelly clay loam	Reddish brown	Gravelly clay loam	Friable / compact		Overlaid by: (109), Overlies: (143)		
WCM101735	TR 1	(145)	Layer	Bluish grey patches in marl, occasional pebbles	Red with grey patches	Marl with occasional grey sandy patches	Friable / compact		Overlaid by: (125) (146), Overlies: (147) (102), Equivalent to: (159)		
WCM101735	TR 1	(146)	Layer	Sandy clay loam, occasional pebbles	Mid grey brown / reddish	Sandy clay loam		Very occasional charcoal flecks	Overlaid by: (148), Overlies: (150) (145)		
WCM101735	TR 1	(147)	Layer	Fill of cut [149], sand and gravel mixed	Mid grey brown	Sand and gravel mixed	Moderately loose		Overlaid by: (145), Overlies: (150), Cut by: [149]		
WCM101735	TR 1	(148)	Layer	Rampart dump layer, very clean sand	Light grey / greenish	Sand, very clean	Friable	Bone, oyster shell	Overlaid: (156), Overlies: 9150) (146), Equivalent to: (126)		
WCM101735	TR 1	[149]	Cut	Curved cut, cuts into (150) red marl, east - west align					Overlaid by: (147) (146), Overlies: (150) (102), Contains: (147)		
WCM101735	TR 1	(150)	Layer	Red marl crumb with occasional gravel	Reddish brown	Red marl crumb with occasional gravel	Friable		Overlaid by: (148) (146), Overlies: (152) (166), Contains: (151), Equivalent to: ? (113)		
WCM101735	TR 1	(151)	Layer	Lense within (150), sand grit	Reddish brown	Sand grit, very crumbly	Friable / moderately loose		Overlaid by: (150)		
WCM101735	TR 1	(152)	Layer	Thin layer lense, sandy red marl	Reddish grey	Sandy red marl	Friable		Overlaid by: (150), Overlies: (153)		
WCM101735	TR 1	(153)	Layer	Thin layer lense, slightly lighter subsoil	Homogenous light greyish brown	Silty sand	Moderately compact / friable		Overlaid by: (152), Overlies: (102)		
WCM101735	TR 1	(154)	Layer	Reddish brown natural gravel	Reddish brown	Red marl, very gravelly	Friable / compact		Overlaid by: (102), Equivalent to (101)		
WCM101735	TR 1	(155)	Lense layer	Possible topsoil	Mid dark grey	Sandy loam	Moderately compact		Overlaid by: (109), Overlies: (107), Equivalent to: (108)		
WCM101735	TR 1	(156)	Layer	Tip layer	Dark grey greenish brown	Mottled grey sand	Compact / friable	Very small occasional charcoal flecks	Overlaid by: (157) (158), Overlies: (148)		
WCM101735	TR 1	(157)	Layer	Tip lense	Reddish brown	Crumbly sandy gravel	Friable		Overlaid by: (158), Overlies: (156)		
WCM101735	TR 1	(158)	Layer	Sand layer at the top of the trench	Dark grey brown	Sand	Friable		Overlies: (157) (156)		
WCM101735	TR 1	(159)	Layer	Red marl mixed with moderate gravel layer	Reddish brown	Red marl mixed with occasional to moderate gravel, grey sandy patches	Compact / friable		Overlaid by: (121), Overlies: (115), Equivalent to: (145)		
WCM101735	TR 1	[160]	Cut	Circular cut, possible tree root hole					Fills: (161)		
WCM101735	TR 1	(161)	Layer	Fill of [160], dark greyish brown layer, sandy clay, occasional to moderate stone	Dark greyish brown	Silty sandy clay, occasional moderate stone	Quite compact / friable	Occasional bone and mortar fragments, moderate pieces of charcoal, shell, tile, brick, glass, lias, post Medieval pottery and Roman pottery	Cut by: [160]		

SALMONS LEAP RAMPART : EXCAVATION WCM 101762 CONTEXT LIST

SITE CODE	AREA	CONTEXT NO.	TYPE	DESCRIPTION	COLOUR	TEXTURE	CONSISTENCY	INCLUSIONS	RELATIONSHIPS	
WCM101762	TR 3	(301)	Layer	Burnt layer in trench 3 west facing section. Frequent burnt daub and abundant charcoal flecks in mixed gravelly grey sand. Burnt orange sand at base.	Grey/ black with orange base due to burning	Gravelly sand	Moderately loose	Burnt daub (frequent), abundant charcoal, burnt layer C14 sample, bone, burnt stone, charred pottery Saxon / ? Prehistoric, soil sample potential C14 sample.	Overlaid by: (312), Overlies: (313) (350), Fills: [349]	
WCM101762	TR 3	(302)	Layer	Red brown sandy marl	Red brown	Sandy marl	Moderately compact - friable	Pottery Saxon / prehistoric?	Overlaid by: (305), Equivalent to :(306), Fills: [304]	
WCM101762	TR 3	(303)	Layer	Cleaning of burnt layer (301)				Burnt daub, burnt stone	Overlaid by: (312), Fills: [349], Uncertain: (301)	
WCM101762	TR 3	[304]	Cut	Cut of palisade slot aligning east - west					Cuts: (309), Contains: (306) (302)	
WCM101762	TR 3	(305)	Fill	Fill of cut [304] palisade slot. Reddish brown gravel	Reddish brown	Gravelly layer	Moderate compact to loose		Overlaid by: (307), Overlies: (306), Fills: [304] [342]	
WCM101762	TR 3	(306)	Fill	Bottom fill of palisade slot	Red brown	Gravelly	Compact	Bone	Overlaid by: (305), Overlies: (317), Fills: [304]	
WCM101762	TR 3	(307)	Layer	Red marl crumb with moderate gravel	Reddish brown	Marl crumb with moderate gravel	Moderately compact - friable		Overlaid by: top of trench, Overlies: (308) (305) (330)	
WCM101762	TR 3	(308)	Layer	Greyish brown, moderately gravelly sandy loam, occasional charcoal flecks	Greyish brown	Moderately gravelly sandy loam	Compact to loose	Occasional charcoal flecks	Overlaid by: (311), Overlies: (317) (308), Cut by: [304]	
WCM101762	TR 3	(309)	Layer	Soft red marl	Reddish brown	Marl	Friable		Overlaid by: (307), Overlies: (310), Cut by: [304], Contains: lense of blue / green clay	
WCM101762	TR 3	(310)	Layer	Brown marl crumb with moderate gravel	Brown	Marl crumb with moderate gravel	Friable		Overlaid by: (309), Overlies: (308), Cut by: [304]	
WCM101762	TR 3	(311)	Layer	Tip layer - brown marl crumb	Brown	Marl crumb	Friable / compact		Overlaid by: (307), Overlies: (308), Cut by: [304] [342]	
WCM101762	TR 3	(312)	Layer	Mid brown sandy clay loam, abundant burnt clay flecks and charcoal, occasional gravel	Mid brown	Sandy clay loam, occasional gravel	Compact	Abundant burnt clay flecks and charcoal	Overlaid by: (308), Overlies: (301), Cut by: [304]	
WCM101762	TR 3	(313)	Layer	Light grey sandy clay loam. Cut to the north by rotted timber [314]	Light grey sandy	Clay loam	Compact		Overlaid by: (301), Overlies: (315), Cut by: [349] [314]	
WCM101762	TR 3	[314]	Timber	Rotted timber located in northern end of trench 3					Overlaid by: (301), Overlies: (317) (324), Contains: (350)	
WCM101762	TR 3	(315)	Layer	Red brown marl crumb and gravel	Red brown	Marl crumb and gravel	Friable		Overlaid by: (313), Overlies: (316), Cut by: [314] [325], Fills: [337]	
WCM101762	TR 3	(316)	Layer	Brown sand and gravel	Brown	Sand and gravel	Compact / friable		Overlaid by: (315), Overlies: (317), Cut by: [314], Fills: [337]	
WCM101762	TR 3	(317)	Layer	Greenish grey subsoil	Greenish grey	Subsoil	Soft / loose		Overlaid by: (318), Cut by: [314] [337] [340]	
WCM101762	TR 3	(318)	Layer	Compact red marl and gravel	Reddish brown	Marl and gravel	Compact		Overlaid by: (313), Overlies: (317), Cut by: [337] [340], Contemporary with: (329) (344)	
WCM101762	TR 3	(319)	Layer	Red / brown loose gravel and sand	Red / brown	Gravel and sand	Loose		Overlaid by: (301), Overlies: (320), Cut by: [314] [337]	
WCM101762	TR 3	(320)	Layer	Loose brown / golden brown sand and gravel	Brown / golden brown	Sand and gravel	Loose		Overlaid by: (319), Overlies: (321), Cut by: [314] [337]	
WCM101762	TR 3	(321)	Layer	Greenish grey subsoil with occasional charcoal flecks	Greenish grey	Subsoil	Soft / compact	Occasional charcoal flecks	Overlaid by: (320), Overlies: (317), Cut by: [314] [337]	
WCM101762	TR 3	(322)	Layer	Light red / brown sand and moderate gravel	Lighter red / brown	Sand and moderate gravel	Friable		Overlaid by: (312), Overlies: (323)	
WCM101762	TR 3	(323)	Layer	Reddish brown sand and gravel	Reddish brown	Sand and gravel	Compact		Overlaid by: (322), Overlies: (324), Fills: [325]	
WCM101762	TR 3	(324)	Layer	Mixed red brown sand with extensive grey sand patches	Red / brown	Sand with grey sand patches	Moderately friable		Overlaid by: (322), Overlies: (313), Cut by: [314], Fills: [325]	
WCM101762	TR 3	[325]	Cut	Sloping cut, east / west alignment					Overlaid by: (322), Contains: (324)	
WCM101762	TR 3	(326)	Layer	Brown / red sandy layer with grey sand lenses	Brown / red	Sandy layer with grey sandy lenses	Friable		Overlaid by: (322), Overlies: (327), Cut by: [325]	
WCM101762	TR 3	(327)	Layer	Red marl layer mixed with gravel	Reddish brown	Marl mixed with gravel	Friable		Overlaid by: (326), Overlies: (328), Cut by: [325]	
WCM101762	TR 3	(328)	Layer	Lighter red brown sandy loam tip layer	Lighter red / brown	Sandy loam	Friable		Overlaid by: (327), Overlies: (329)	
WCM101762	TR 3	(329)	Layer	Red / brown sand and gravel	Red / brown	Sand and gravel	Compact		Overlaid by: (328), Overlies: (317), Equivalent to: (318) (344)	

WCM101762	TR 3	(330)	Layer	Lighter red sand and gravel	Lighter red	Sand and gravel	Compact - friable		Overlaid by: (307), Overlies: (331), Cut by: [304]	
WCM101762	TR 3	(331)	Layer	Red sandy layer, occasional pebbles	Reddish brown	Sandy layer with pebbles	Compact - friable		Overlaid by: (330), Overlies: (332), Cut by: [304]	
WCM101762	TR 3	(332)	Layer	Red marl with sand and gravel	Red brown	Marl with sand and gravel	Compact		Overlaid by: (331), Overlies: (333) (336), Cut by: [304]	
WCM101762	TR 3	(333)	Layer	Grey / greenish clay with moderate pebbles	Grey greenish	Clay with moderate pebbles	Very compact		Overlaid by: (332) (335), Overlies: (317), Cut by: [304]	
WCM101762	TR 3	(334)	Layer	Lighter red marl	Lighter red / brown	Marl	Friable		Overlaid by: (332), Overlies: (317) (335)	
WCM101762	TR 3	(335)	Layer	Red / brown marl	Red / brown	Marl	Friable		Overlaid by: (334), Overlies: (317) (333)	
WCM101762	TR 3	(336)	Layer	Red / brown coarse marl crumb with occasional gravel	Red / brown	Coarse marl crumb with occasional gravel	Moderately compact		Overlaid by: (307) (343), Overlies: (306), Fills: [304]	
WCM101762	TR 3	[337]	Cut	Sloping cut aligned east - west. Possible palisade slot					Contains: (313) (315) (316), Equivalent to: [340]	
WCM101762	TR 3	[338]	Cut	Post hole cut seen in trench, approx 30cm in diameter					Cuts: (317), Contains: (339)	
WCM101762	TR 3	(339)	Fill	Very loose red brown and golden sand and gravel	Red brown	Sand and gravel	Very loose	Palisade slot against pile wall, potential C14 sample	Overlaid by: (316), Cut by: [337], Cuts: (317), Fills: [338]	
WCM101762	TR 3	[340]	Cut	Cut for palisade slot aligning east - west, with charcoal on the edge of cut located towards the western edge of the trench					Cuts: (317), Equivalent to: [337]	
WCM101762	TR 3	(341)	Fill	Reddish brown gravel	Reddish brown	Gravel	Friable			
WCM101762	TR 3	[342]	Cut of post hole	Post hole cut, eastern end of trench					Overlaid by: (307), Overlies: (306), Fills: (305), Cut into: (308)	
WCM101762	TR 3	(343)	Fill of [342]	Coarse marl crumb, occasional gravel	Reddish brown	Marl crumb with occasional gravel	Coarse, friable		Overlaid by: (305), Overlies: (306)	
WCM101762	TR 3	(344)	Layer	Reddish brown gravel layer	Reddish brown	Gravel layer	Friable		? Equivalent to: (329)	
WCM101762	TR 3	[345]	Post hole cut	Circular post hole cut					Cut into: (317)	
WCM101762	TR 3	(346)	Fill	Fill of cut [345] Red sandy marl fill	Reddish brown	Sandy marl	Compact		Overlies: (317), Overlaid by: (324)	
WCM101762	TR 3	(347)	Layer	Mid grey / green slightly silty sand. North west of the trench see plan 3.1	Mid grey / green	Slightly silty sand	Moderate compact to loose			
WCM101762	TR 3	(348)	Layer	Brown sandy gravel, near pile line of the trench	Brown	Sandy gravel	Compact, friable			
WCM101762	TR 3	[349]	Cut	Large shallow cut filled by (301)						
WCM101762	TR 3	(350)	Fill	Grey sandy soil filling post pipe [314]						
WCM101762	TR 1	(162)	Layer	Red sandy gravel tip layer	Red brown	Sandy - frequent gravel	Friable	Bone	Overlaid by: (107), Overlies: (105)	
WCM101762	TR 1	(163)	Layer	Soft red brown marl tip layer	Red brown	Soft marl	Soft - loose		Overlaid by: (109), Overlies: (107)	
WCM101762	TR 1	(164)	Layer	Crumbly red marl with occasional gravel dump layer	Reddish brown	Crumbly marl	Moderately compact - friable		Overlaid by: (112), Overlies: (109)	
WCM101762	TR 1	(165)	Layer	Dark grey silty clay sandy loam	Dark grey	Silty clay sandy loam	Moderately loose		Overlaid by: top of trench, Overlies: (148)	
WCM101762	TR 1	(166)	Layer	Grey green sand tip layer	Grey green	Sand	Moderately loose		Overlaid by: (150), Overlies: (167)	
WCM101762	TR 1	(167)	Layer	Yellow brown sandy gravel layer	Yellow brown	Sand and gravel	Moderately compact - friable		Overlaid by: (166), Overlies: (102)	
WCM101762	TR 1	(168)	Layer	Mid grey sandy layer with moderate gravel	Mid grey	Sand with moderate gravel	Friable		Overlaid by: (167) (150), Overlies: (102), Cut by: [149]	
WCM101762	TR 1	(169)	Layer	Pockets of red marl at the top left corner of fill (145) in cut [149]	Reddish brown	Marl	Friable		Overlaid by: (146), Overlies: (150), Fills: [149]	
WCM101762	TR 1	(170)	Fill layer	Red sandy gravel, occasional charcoal	Reddish brown	Sandy gravel	Moderately compact - friable	Occasional charcoal flecks	Overlaid by: (171), Overlies: (102), Fills [136]	
WCM101762	TR 1	(171)	Tip layer / lense	Grey sandy layer	Greyish brown	Sand layer	Moderately loose		Overlaid by: (103), Overlies: (170), Cut by: [136]	
WCM101762	TR 1- west facing	(172)	Layer	Grey brown silty clay	Grey brown	Silty clay	Compact		Overlaid by: (128), Overlies: (173), Fills: [149]	
WCM101762	TR 1	(173)	Layer	Reddish brown sand with occasional pebbles	Reddish brown	Sandy layer with occasional pebbles	Moderately compact		Overlaid by: (172), Overlies: (102), Fills: [149]	
WCM101762	TR 1	(174)	Layer	Dark grey blue clay layer	Dark grey blue	Clay	Compact		Overlaid by: (135), Overlies: (102), Fills: [184]	
WCM101762	TR 1	(175)	Layer	Curving layer of dark brown sand	Dark brown	Sand	Friable - loose		Overlaid by: top of trench, Overlies:(128) (156)	
WCM101762	TR 1	[176]	Cut	Sloping cut aligned N - S at northern end of trench near pile line					Overlaid by: (103)	
WCM101762	TR 1	[177]	Cut	Post hole cut at northern end of trench near pile line, approx 20cm in diameter					Overlaid by: (103), Overlies: (102), Contains: (180)	
WCM101762	TR 1	[178]	Cut	Post hole cut at northern end of trench near pile line, approx 15cm in diameter					Overlaid by: (103), Overlies: (102), Fills: (180)	

WCM101762	TR 1	[179]	Cut	Post hole cut at northern end of trench near pile line, approx 17cm in diameter					Overlaid by: (103), Overlies: (102), Contains: (180)	
WCM101762	TR 1	(180)	Layer	Fill of cuts [177] [178] [179] and [181]. Reddish brown sand and gravel	Reddish brown	Sand and gravel	Moderately loose	Sample of charcoally fill first palisade slot, potential C14	Overlaid by:(103), Overlies: (102), Fills: [177] [178] [179] (180) [181]	
WCM101762	TR 1	[181]	Cut	Curving cut into (102) following on from post hole cuts [179] [178] and [177]					Overlaid by:(103), Overlies: (102), Fills: (180)	
WCM101762	TR 2	(201)	Fill / layer	19th centaury fill of gravel sand pit, see plan 2 / 3. Mid tan brown patchy clay loam with grey loam patches, moderate charcoal				Occasional tile and 18th centaury brick, bone, glass, limestone ? tempered wear, Medieval pottery, post medieval pottery, clay pipe, stone	Overlaid by: (233)	
WCM101762	TR 2	(202)	Feature	Linear dump of dark grey / brown loam with charcoal and bone	Dark grey	Loam	Friable	Moderate charcoal and bone, burnt stone and shell	Overlies: (204)	
WCM101762	TR 2	[203]	Cut	Cut of 19th C gravel and sand pit in top western corner of trench 2 , from the pile line running into western section at approx 5M					Cuts (214)	
WCM101762	TR 2	(204)	Fill / layer	Fill of postholes [240] [239] [238] [237] [236], overlain by (202)				Bone	Overlies: (202)	
WCM101762	TR 2	(205)	Layer	Red brown sand and gravel	Red brown	Sand and gravel	Compact / friable		Overlaid by: (206), Overlies: (212)	
WCM101762	TR 2	(206)	Layer	Lighter brown sand and gravel	Lighter brown	Sand and gravel	Compact		Overlaid by: (207), Overlies: (205)	
WCM101762	TR 2	(207)	Layer	Blue / grey sandy clay, occasional charcoal flecks	Blue / grey	Sandy clay	Moderately compact		Overlaid by: (208), Overlies: (206)	
WCM101762	TR 2	(208)	Layer	Lighter brown sandy layer, occasional to moderate gravel	Lighter brown	Sand with occasional to moderate gravel	Loose / compact		Overlies: (207)	
WCM101762	TR 2	(209)	Layer	Reddish brown sand and gravel mix	Reddish brown	Sand and gravel	Compact / friable		Overlaid by: (208), Overlies: (207)	
WCM101762	TR 2	(210)	Layer	Red sand and fine gravel layer	Red / brown	Sand with fine gravel	Moderately compact		Overlaid by: (207), Overlies: (211)	
WCM101762	TR 2	(211)	Layer	Blue / brown compact clay with occasional charcoal flecks	Blue / brown	Clay with occasional charcoal flecks	Compact		Overlaid by (210), Overlies: (202)	
WCM101762	TR 2	(212)	Layer	Reddish brown fairly loose sandy loam	Reddish brown	Sandy loam	Fairly loose		Overlaid by: (205), Overlies: (213)	
WCM101762	TR 2	(213)	Layer / fill	Red crumb marl mixed with gravel, also fill of cut [216]	Red brown	Crumb marl mixed with gravel	Compact / friable		Overlaid by: (212), Overlies: (214), Fills: [216]	
WCM101762	TR 2	(214)	Layer	Grey green sandy clay, frequent charcoal	Grey / green	Sandy clay, frequent charcoal	Compact		Overlaid by: (213), Overlies: (215), Fills: [216]	
WCM101762	TR 2	(215)	Layer	Reddish brown sand and gravel	Reddish brown	Sand and gravel	Fairly compact		Overlaid by: (214), Overlies: (217)	
WCM101762	TR 2	[216]	Cut	Sloping cut aligned east to west. Palisade slot?					Overlaid by: (213), Cuts: (217), Contains: (213) (216)	
WCM101762	TR 2	(217)	Layer	Grey greenish subsoil	Grey greenish	Subsoil	Soft / loose	Fired clay	Overlaid by: (215), Cut by: [216]	
WCM101762	TR 2	(218)	Layer / fill	Red / brown silty layer with occasional fill of [216]	Red brown	Silty layer with occasional gravel	Moderately compact		Overlaid by: (212), Overlies: (213)	
WCM101762	TR 2	(219)	Layer	Red / brown fine gravel and sand mix	Brown / red	Sand and gravel	Moderately compact		Overlaid by: (220), Overlies: (213)	
WCM101762	TR 2	(220)	Layer	Red marl layer	Red brown	Marl	Friable		Overlaid by: (212), Overlies: (219)	
WCM101762	TR 2	(221)	Layer	Red / lighter brown marl mixed with sand and gravel	Red / lighter brown	Marl mixed with sand and gravel	Compact / friable		Overlaid by: (211), Overlies: (217)	
WCM101762	TR 2	(222)	Layer	Grey / blue clay with occasional charcoal flecks	Grey / blue	Clay, occasional charcoal flecks	Fairly compact		Overlies: (223)	
WCM101762	TR 2	(223)	Layer	Brown clay layer	Brown	Clay	Fairly compact		Overlaid by: (222), Overlies: (217)	
WCM101762	TR 2	(224)	Layer	Brown sandy layer with occasional pebbles	Brown	Sandy layer with occasional pebbles	Friable		Overlaid by: (225), Overlies: (217), Cut by: [226]	
WCM101762	TR 2	(225)	Layer	Reddish brown sandy layer	Reddish brown	Sandy layer	Loose / semi compact		Overlaid by: (227), Overlies: (224), Cut by: [226]	
WCM101762	TR 2	[226]	Cut	Sloping cut aligning east - west, possible retaining wall cut					Overlaid by: (229), Overlies: (217), Fills: (229)	
WCM101762	TR 2	(227)	Layer	Red marl mixed with gravel	Red brown	Marl mixed with gravel	Moderately compact		Overlaid by: (228), Overlies: (225), Cut by [226]	
WCM101762	TR 2	(228)	Layer	Lighter brown sandy loam, moderate charcoal flecks	Lighter brown	Sandy loam	Semi loose / compact	Moderate charcoal flecks	Overlaid by: (229), Overlies (228), Cut by: [226]	
WCM101762	TR 2	(229)	Layer / fill	V. dark brown clay layer, compact with moderate pebbles and large stones, fill of [226]	Very dark brown	Clay with moderate pebbles and large stones	Compact		Overlies: (228) (217), Fills: [226]	
WCM101762	TR 2	(230)	Layer	Grey clay layer	Grey	Clay	Compact		Overlaid by: (229), Overlies: (217), Fills: [226]	
WCM101762	TR 2	(231)	Layer	Dark grey sand loam	Dark grey	Sandy loam	Semi loose		Overlies: (232)	
WCM101762	TR 2	(232)	Layer	Mid grey sandy loam / ashy, occasional gravel	Mid grey	Sandy loam / ashy, occasional gravel	Moderately loose		Overlaid by: (231), Overlies(233)	

WCM101762	TR 2	(233)	Layer	Very mixed grey / brown loam with marl flecks, gravel and very occasional tile and moderate mortar	Mixed grey brown	Loam with marl flecks and gravel	Moderately compact	Occasional tile and moderate mortar	Overlies: (201)	
WCM101762	TR 2	(234)	Layer / lense	Sandy lense		Sandy lense	Moderately loose		Overlies: (233)	
WCM101762	TR 2	(235)	Layer / lense	Red sandy lense loam	Red	Sandy lense loam	Loose		Overlaid by: (234), Overlies: (233)	
WCM101762	TR 2	[236]	Post hole cut	Posthole cut from posthole line running east to west across trench, approx 20cm in diameter. See plan 2/1					Fills: (204)	
WCM101762	TR 2	[237]	Cut	Posthole cut 2 from posthole line running east to west across centre of trench, approx 20cm in diameter. See plan 2/1					Fills: (204)	
WCM101762	TR 2	[238]	Cut	Posthole cut 3 from posthole line running east to west across centre of trench approx 20cm diameter. See plan 2/1					Fills: (204)	
WCM101762	TR 2	[239]	Cut	Posthole cut 4 from posthole line running east to west across centre of trench approx 20cm diameter. See plan 2/2					Fills: (204)	
WCM101762	TR 2	[240]	Cut	Posthole cut 5 from posthole line running east to west across centre of trench approx 20cm diameter. See plan 2/3					Fills: (204)	
WCM101762	TR 2	(241)	Fill	Red brown sand / patchy clay layer, west facing section	Red brown	Sandy clay				
WCM101762	TR 2	(242)	Layer	Dark grey loamy loose. See plan 2.4	Dark grey	Loam	Loose		Overlaid by: (209), Overlies: (207)	
WCM101762	TR 2	(243)	Layer	Red crumbly marl layer, middle of plan 2.4	Reddish brown	Crumbly marl	Friable		Overlaid by: (209), Overlies: (207)	
WCM101762	TR 2	[244]	Cut	Semi circular cut feature, mid western end of the trench. See plan 2.1					Overlaid by: (201)	
WCM101762	TR 2	(245)	Fill	Fill of cut [244] mid west end of the trench, red sand and gravel fill	Red brown	Sand and gravel	Compact / friable		Overlaid by: (201)	
WCM101762	TR 4	(401)	Feature / layer	Linear feature along top edge of rampart slope, aligning east - west see plan 4/1. Mid brown sandy layer	Mid brown	Sandy	Moderately friable	Occasional tile, moderate bone, slag, brick, Post Medieval pottery, Medieval pottery, Saxon / ?prehistoric pottery, mortar	Fills: [413], Uncertain: (412)	
WCM101762	TR 4	[402]	Cut	Possible pit tree pit on ditch edge				Bone, tile, shell,	Cuts: (404), Contains: (405)	
WCM101762	TR 4	(403)	Cleaning fill	Cleaning over edge of ditch fills				Occasional nibbled tile, bone, Medieval pottery	Overlies: [414]	
WCM101762	TR 4	(404)	Layer / lense	Charcoal layer between rampart and subsoil, edge of ditch	Very dark grey / black	Sandy		Charcoal dust / flecks. Bulk sample possible C14	Overlies: (411), Cut by: [402]	
WCM101762	TR 4	(405)	Layer	Fill of [402] possible tree pit. Mid grey sand loam	Mid grey	Sand loam		Moderate - frequent bone, occasional pottery?, mortared stone, tile	Cut by: [414], Fills: [402]	
WCM101762	TR 4	[406]	Cut	Small circular cut near possible tree pit approx. 25cm in diameter					Cuts: (411), Contains: (407)	
WCM101762	TR 4	(407)	Layer	Fill of cut [406] near possible tree pit	Mid grey / brown	Sandy loam	Very loose	Small animal bones	Fills: [406]	
WCM101762	TR 4	(408)	Fill	Red brown marl crumb	Red brown	Marl crumb	Moderately compact - friable		Overlies: (401)	
WCM101762	TR 4	(409)	Layer	Grey sandy clay loam layer with mixed brick, moderate mortar flecks and stone with frequent molluscs	Grey	Sandy clay loam	Compact	Mixed brick, moderate mortar flecks, stone with frequent molluscs	Overlies: (401) (412)	
WCM101762	TR 4	(410)	Layer	Reddish brown marl crumb and gravel	Reddish brown	Marl / gravel crumb	Compact / friable		Overlaid by: (409), Overlies: (411)	
WCM101762	TR 4	(411)	Layer	Greenish grey sandy subsoil	Greenish grey	Subsoil	Soft / loose	Fragment of peg tile with cruciform stamp	Overlaid by: (410)	
WCM101762	TR 4	(412)	Layer	Brown sandy loam	Brown	Sandy loam			Fill: [413]	
WCM101762	TR 4	[413]	Cut	Cut filled by (409) (412) (401)						
WCM101762	TR 4	[414]	Cut	Castle ditch cut					Contains: (403)	

Appendix 3: Quantification of Finds

Initial Stripping WCM 101746 – *All Unstratified*
Roman pottery, 2 pieces, 44g
Roman Tile (tegula flange), 1 piece, 387g
Medieval pottery, 2 pieces, 43g
Medieval glazed knob - Roof finial? 1 piece, 134g
Glass bottle, small, 1 piece, 38g
Winkle shells, 5 pieces, 92g
Clay tobacco pipe, 13 pieces 1 stem stamp ?SOUTHORN.B[ridge]NORTH , 72g
Porcelain Sagger, 5 pieces, 1.547kg
Post Medieval/recent pottery, 56 pieces, 1.848kg
Porcelain Firing rings, 4 pieces, 105g
Bone, 3 pieces, 13g
Stone, 8 pieces, 58g
Brick sample "UTOPIA" from back wall of Salmons Leap pool room – 1950s
Brick sample "HURDISS & Co. BARBOURNE" from brick platform beneath Nissen hut ?1940s – *for Hurdiss 1960s involvement in Stonehouse Brickworks see: Gloucestershire Society for Industrial Archaeology Journal for 1997 pages 14-26 Ray Wilson "THE STONEHOUSE BRICK AND TILE COMPANY"* – no Worcester Trades Directory listings for Hurdiss located
Tile sample – unusual "BROOMHALL" tapered and flanged flat "roman" tile (probably manufactured Bridgewater Somerset) from Nissen hut area – 1900s 1.79kg

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Evaluation WCM 101735
Trench 1
Context (102) Worked Flint, 4 pieces, 15g
Context (102) Burnt stone, 5 pieces, 240g
Context (102) Saxon/Prehistoric? pottery, 1 piece, 17g
Context (105) Stone, 2 pieces, 10g
Context (109) Bone, 1 piece, 37g
Context (109) Pottery, 1 piece, 12g
Context (148) Bone, 15 pieces, 137g
Context (148) Oyster shell, 2 pieces, 16g

Area between Tr1 and Tr2
Surface cleaning west of Tr 1 evaluation, Saxon/Prehistoric? pottery, 1 piece, 12g
Context (161) Bone, 4 pieces, 76g
Context (161) Mortar, 12 pieces, 34g
Context (161) Shell, 2 pieces, 11g
Context (161) Tile, 1 piece, 15g
Context (161) Brick, 1 piece, 14g
Context (161) Glass, 1 piece, 6g
Context (161) Lias, 1 piece, 13g
Context (161) Post Medieval pottery, 1 piece, 9g
Context (161) Roman pottery, 1 piece, 10g

Excavation WCM 101762

Trench 1 Extension

Context (106) Bone, 2 pieces, 39g

Context (106) Worked Flint, 1 piece, 12g

Context (106) Saxon/Prehistoric? pottery, 1 piece, 10g

Context (162) Bone, 13 pieces, 143g

Context (180) Sample of charcoally fill first palisade slot Potential C14, 1.229kg

Trench 2

Context (201) Bone, 20 pieces, 221g

Context (201) Glass, 4 pieces, 48g

Context (201) Limestone? Tempered Ware, 1 piece, 12g

Context (201) Medieval pottery, 2 pieces, 91g

Context (201) Post Medieval pottery, 4 pieces, 47g

Context (201) Clay pipe, 2 pieces, 18g 1 foot stamp probably "[J]OHN [J]AM[ES]" Brosley, circa 1680-1720 – (Oswald 1975, Fig 7 – 5b)

Context (201) Brick, 5 pieces, 295g

Context (201) Post med peg Tile, 1 piece, 99g

Context (201) Stone, 2 pieces, 27g

Context (202) Bone, 15 pieces, 205g

Context (202) Burnt stone, 4 pieces, 389g

Context (202) Shell, 4 pieces, 24g

Context (204) Bone, 9 pieces, 63g

Context (217) Fired clay, 11 pieces, 162g

Trench 3

Context (339) Palisade slot against pile wall, C14 sample, 403g

Context (301) Burnt layer, C14 sample, 43g

Context (301) Burnt daub, 163 pieces, 2.907kg

Context (301) Bone, 6 pieces, 40g

Context (301) Burnt stone, 3 pieces, 165g

Context (301) Charred pottery, Saxon/Prehistoric? 1 piece, 21g

Context (301) Soil sample ?30kg plus

Context (302) Pottery, Saxon/Prehistoric?, 1 piece, 13g

Context (303) Burnt daub, 12 pieces, 150g

Context (303) Burnt stone, 2 pieces, 114g

Context (306) Bone, 4 pieces, 39g

Unstratified Tr 3, Bone, 62g

Area 4

Context (401) Tile, 23 pieces, 1.971kg

Context (401) Bone, 22 pieces, 319g

Context (401) Slag, 4 pieces, 544g

Context (401) Brick, 4 pieces, 1.750kg

Context (401) Post Medieval pottery, 6 pieces, 113g

Context (401) Medieval pottery, 2 pieces, 104g

Context (401) Saxon/Prehistoric? pottery, 1 piece, 12g

Context (401) Mortar, 1 piece, 19g

Context (402) Bone, 4 pieces, 48g

Context (402) Tile, 1 piece, 61g

Context (402) Shell, 1 piece, 6g

Context (403) Bone, 2 pieces, 38g

Context (403) Tile, 1 piece, 77g

Context (403) Medieval pottery, 1 piece, 37g

Context (403) Frag of peg tile with cruciform stamp 1 piece 668g

Context (404) Bulk sample possible C14 *circa* 10kg

Context (405) Mortared stone, 1 piece, 747g

Context (405) Bone, 11 pieces, 119g

Context (405) Tile, 4 pieces, 187g

Context (407) Bone, 40 pieces, 25g

Machining out of Rampart Tr4, Burnt daub, 4 pieces, 128g

Appendix 4: ARCHIVE (nb: for finds quantification see Appendix 3)

1. Photographic record: Nissen Hut 164 Digital Images
   Photographic record: Salmon's Leap building 225 Digital Images
   Photographic record: Workshop 89 Digital Images
   Drawn record: Nissen Hut Plan and Cross section
   Drawn record: Salmon's Leap Plan of earlier outbuilding and internal elevation
   (nb original plans survive for 1950s elements)

2. Photographic record: Retaining Wall 44 Digital Images

3. Photographic record: Boreholes 16 Digital Images
   2 Written borehole logs and location plan

4. Photographic record: Demolition (Included in figures at 1. Above)

5. Photographic record: Initial Rampart Stripping 27 Digital Images

6. Photographic record: Piling 78 Digital Images

7. **Initial Stripping WCM 101746** Photographic record: Rampart Stripping 203 Digital Images

8. Photographic record: Rampart Stripped 92 Digital Images
   Drawn survey plan of rampart

9. **Evaluation WCM 101735**
   Trench 1
   Photographic record: Hand dug evaluation trench 444 Digital Images
   Written record : 61 Context Records
   Drawn record: 2 Section Drawings, 2 Plans

10. **Excavation WCM 101762**

    Area between Tr1 and Tr2
    Photographic record: 28 Digital Images
    Drawn record: 1 Plan

    Trench 1 Extension

Photographic record: Trench 1 180 Digital Images

Drawn record Trench 1X: 2 Section Drawings, 3 Plans

Written record Tr1X : 21 Context Records (nb Context sequence an expansion of Tr1 sequence)

Trench 2

Photographic record: Trench 2 253 Digital Images

Drawn record Trench 2: 2 Section Drawings, 4 Plans

Written record Trench 2: 44 Context Records

Trench 3

Photographic record: Trench 3 179 Digital Images

Drawn record Trench 3: 2 Section Drawings, 3 Plans

Written record Trench 3: 48 Context Records

Area 4

Photographic record: Area 4 116 Digital Images

Drawn record Area 4: 1 Sheet of Section Drawings, 1 Plan

Written record Area 4: 12 Context Records

11. **Removal of rampart**

Photographic record: Removal of rampart 34 Digital Images

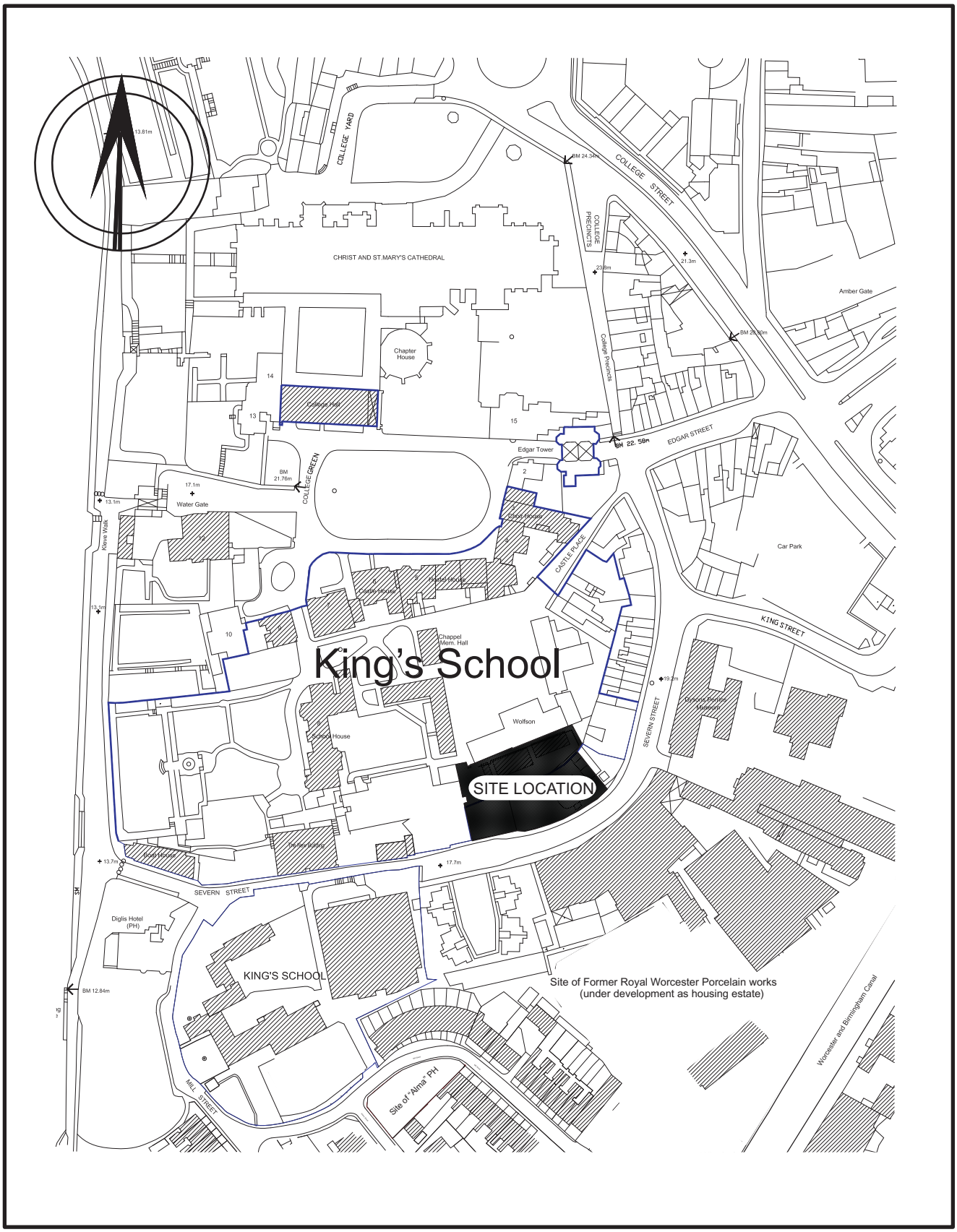


Figure 1: Site location former Salmon's Leap PH, Severn Street, Worcester

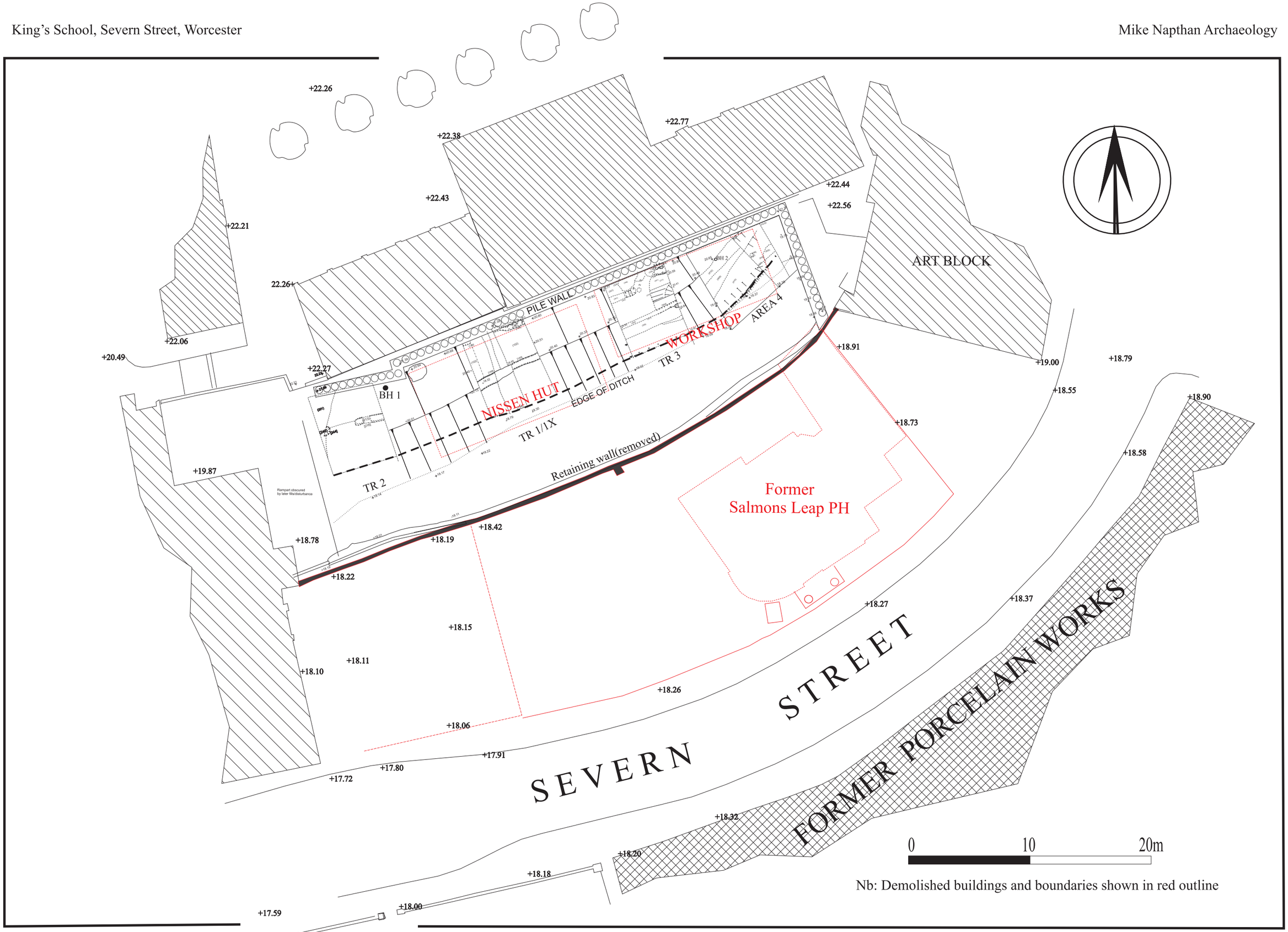
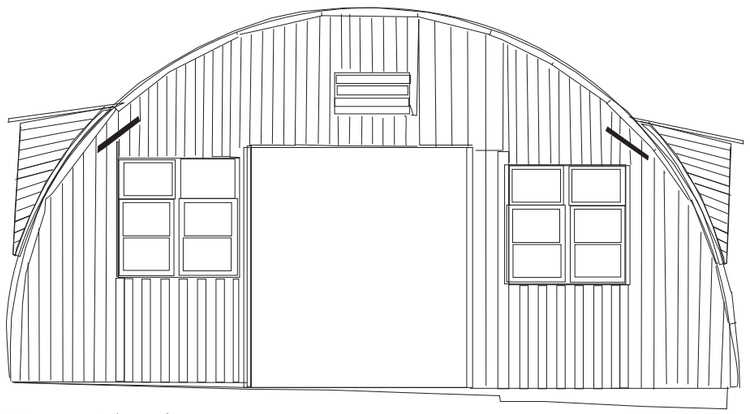
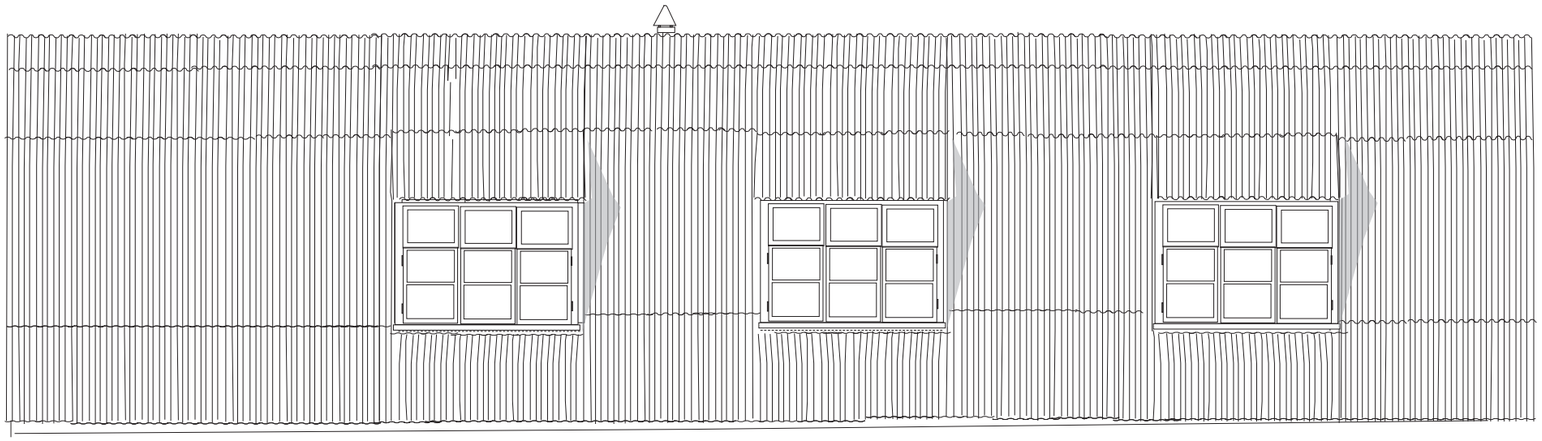


Figure 2: Site Plan

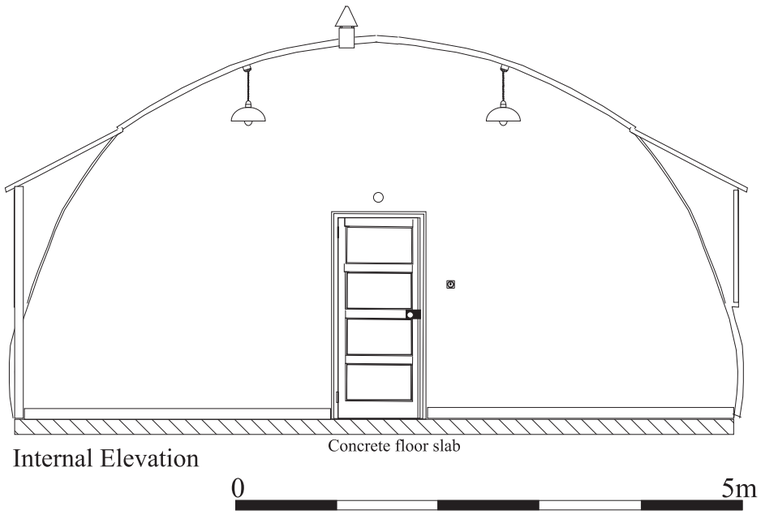


Western Elevation



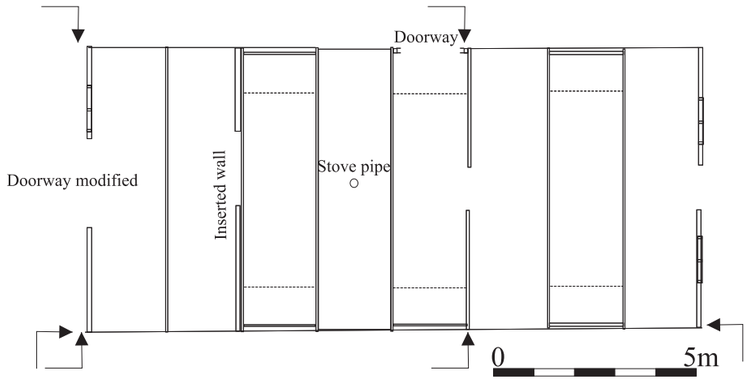
Southern Elevation

0 5m



Internal Elevation

0 5m



Ground Plan, showing location of elevations

Figure 3: 1940s Nissen Hut formerly located on the rampart

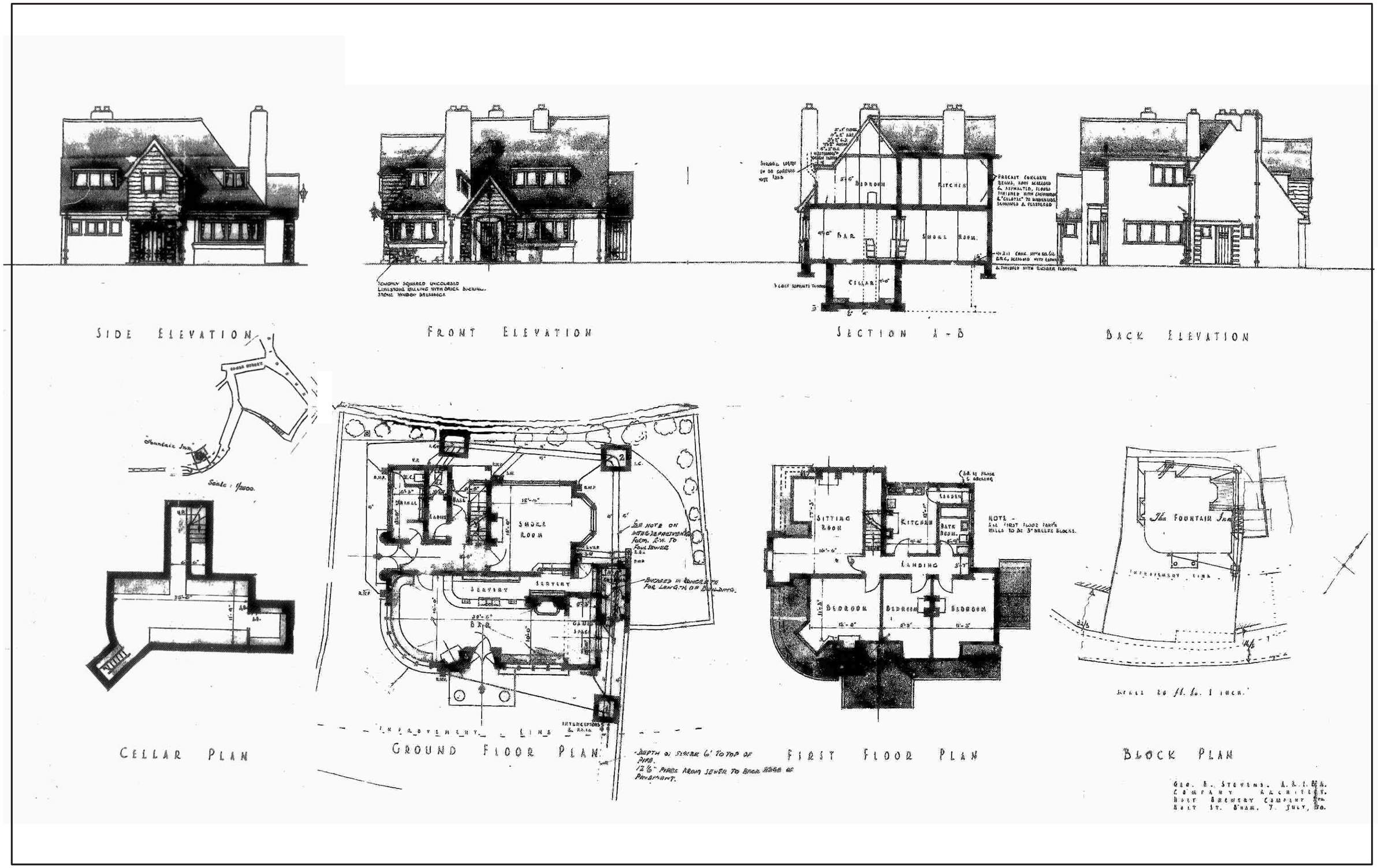
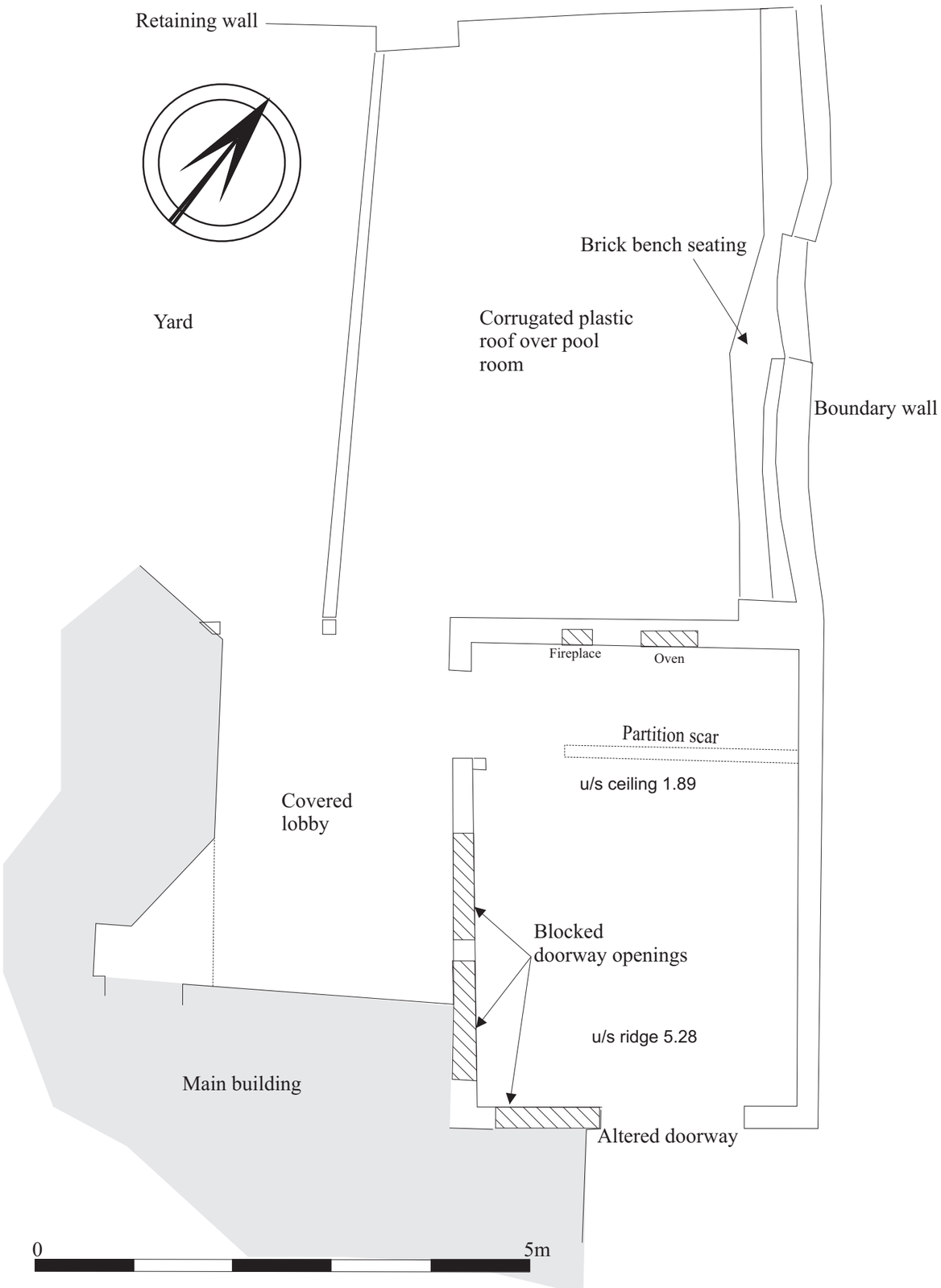


Figure 4: Original Planning Application drawings - note that the as-built scheme had a larger cellar, and retained the earlier stable block to the east



Exterior view from North

Blocked openings of former fireplace and probable bread oven

Figure 5: Details of 19th Century outbuilding to north of the 1950s Salmon's Leap

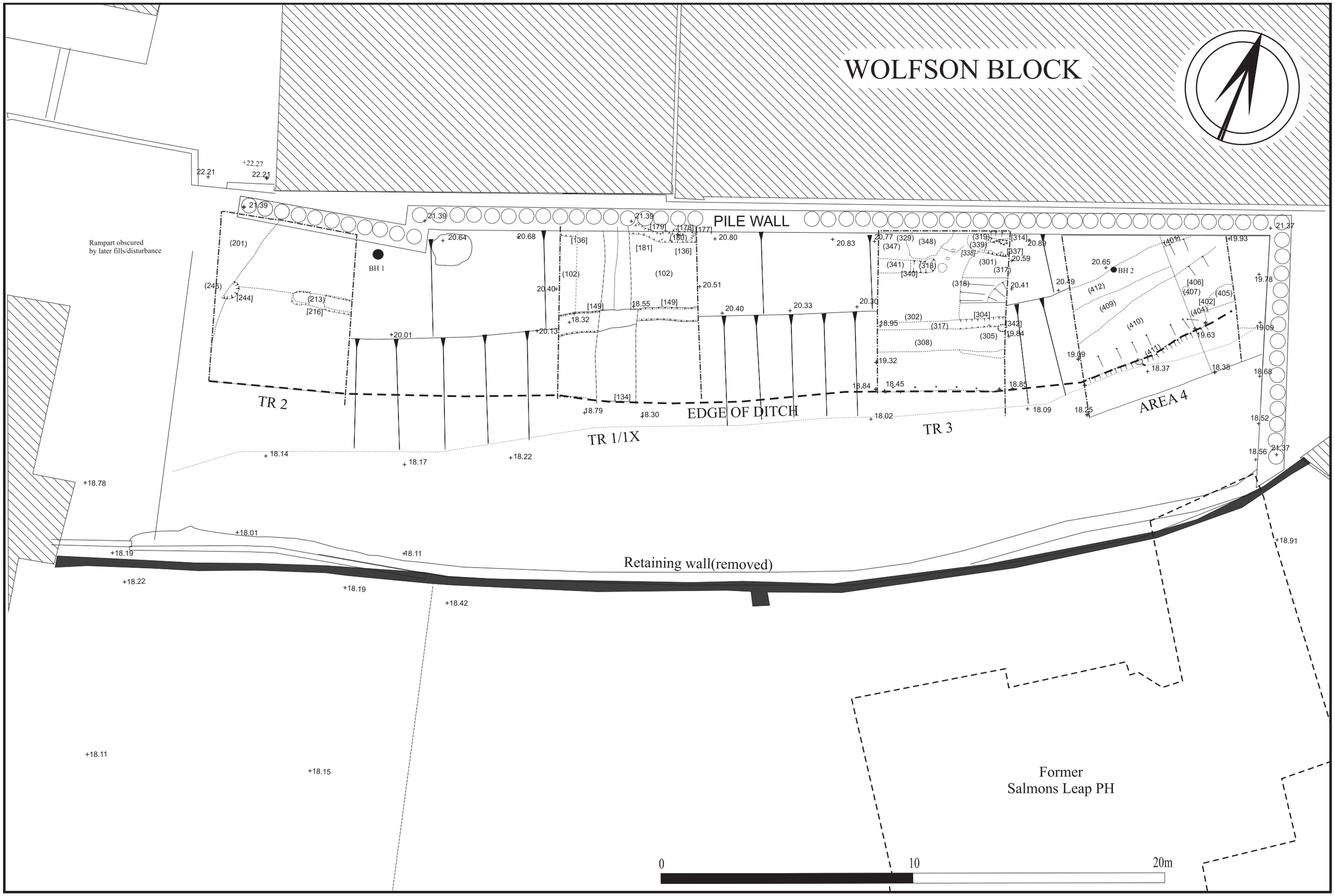


Figure 6: Site Plan showing extent of excavated areas.

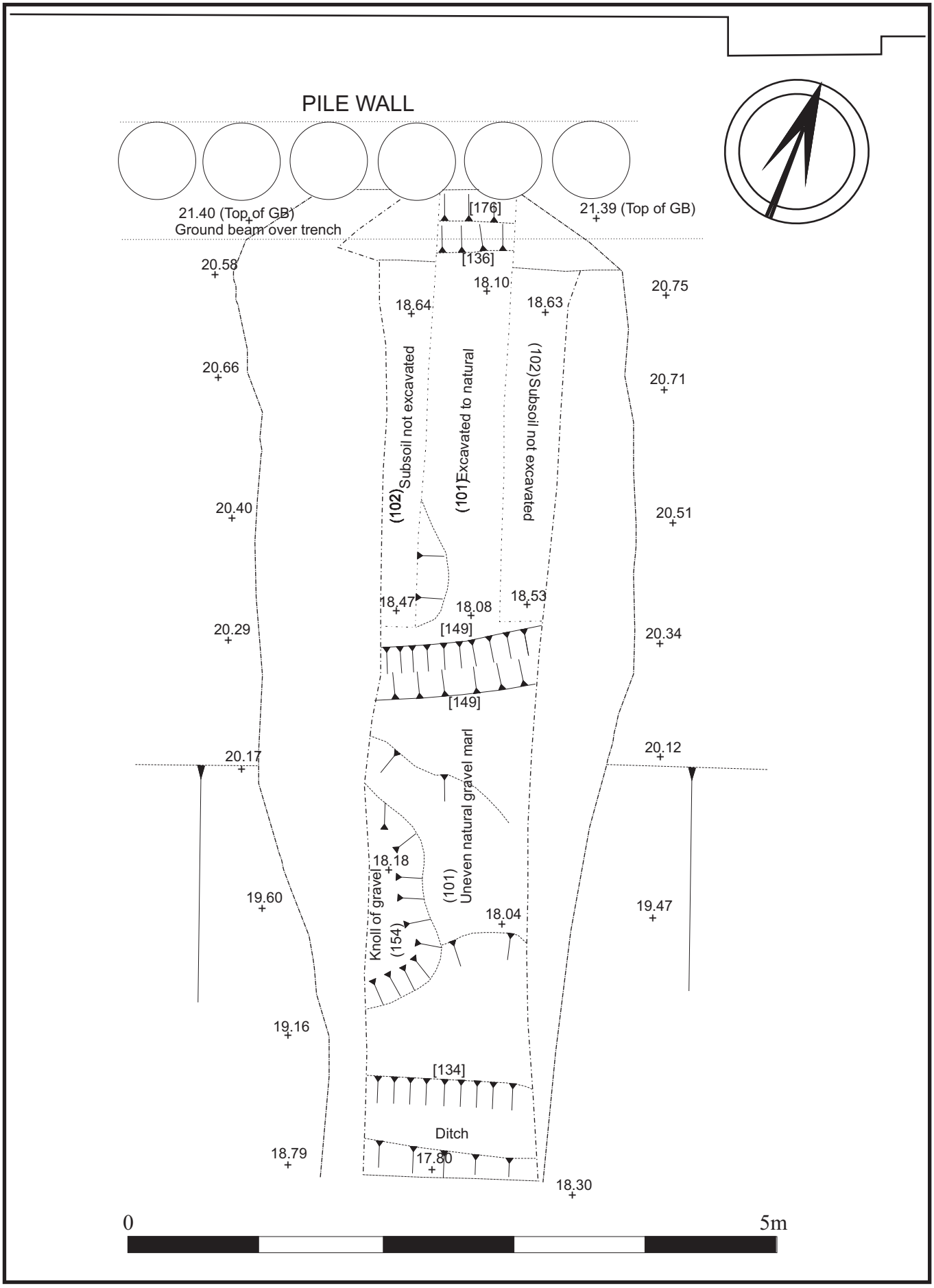


Figure 7: Trench 1 (evaluation) post excavation plan. Note pallisade slots [136] and [149], and edge of castle ditch [134].

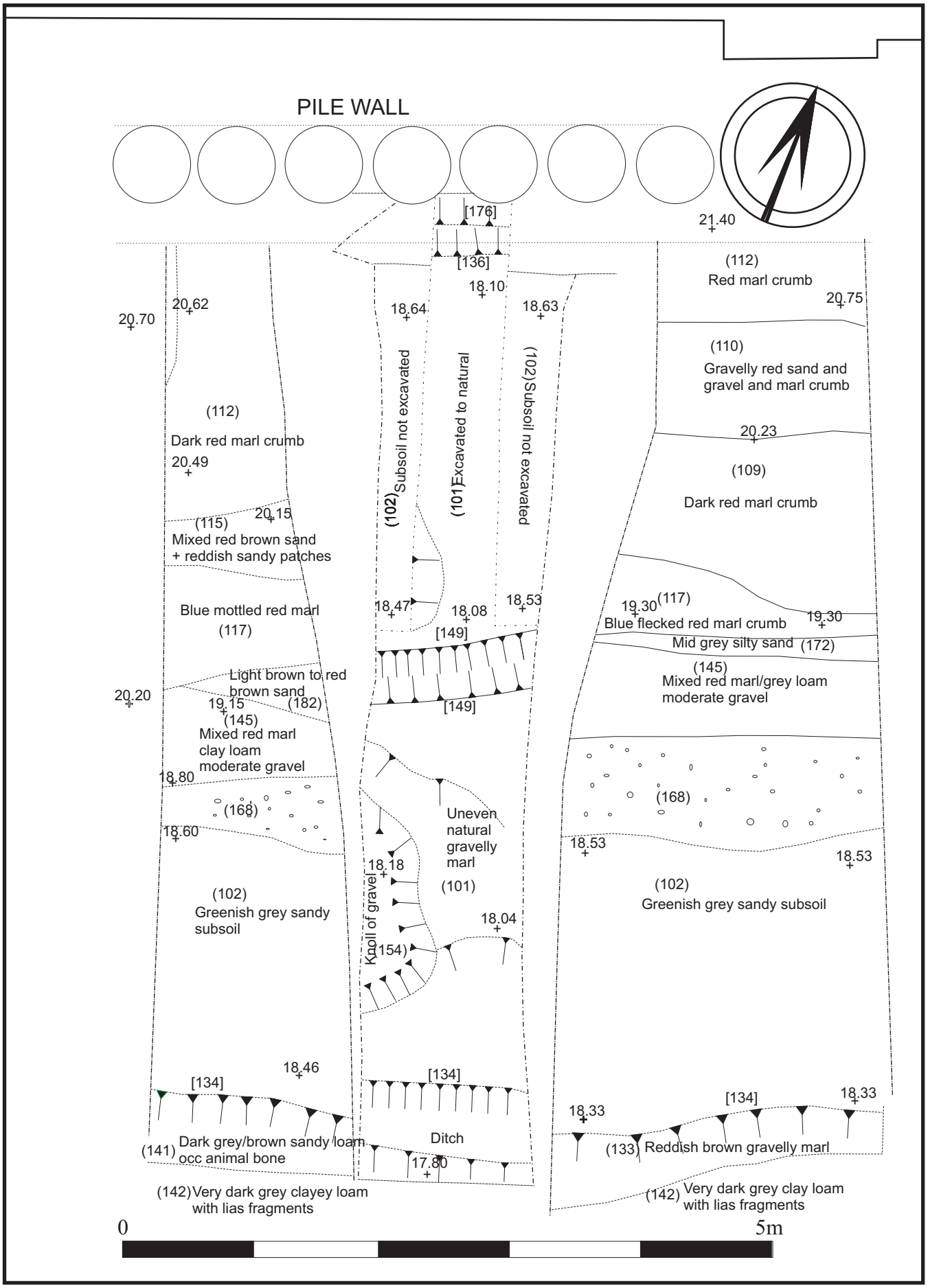


Figure 8: Trench 1 (excavation) part excavated plan. Note that not all deposits seen in this plan are contemporary

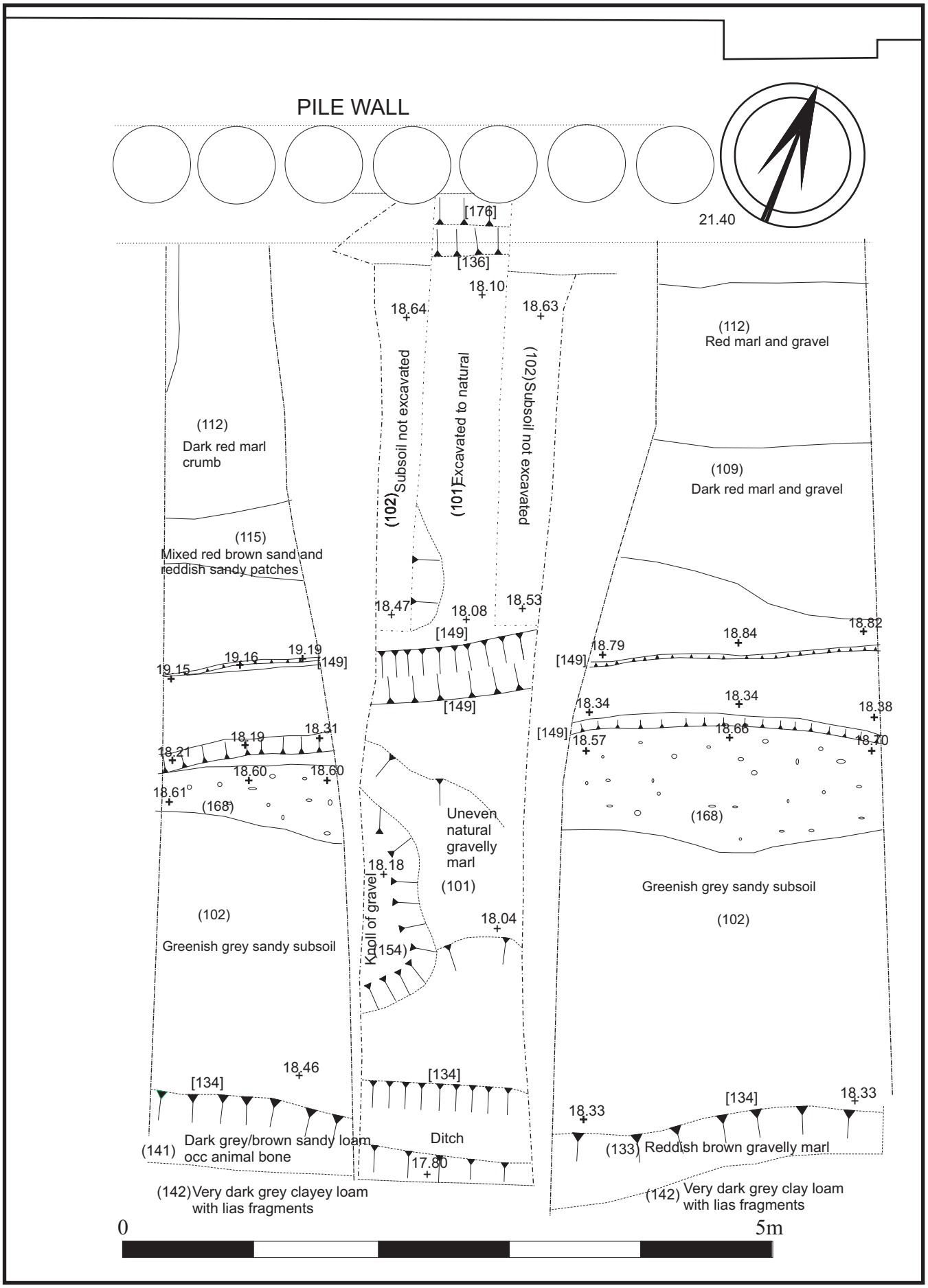


Figure 9: Trench 1 (excavation) part excavated plan. Note that not all deposits seen in this plan are contemporary

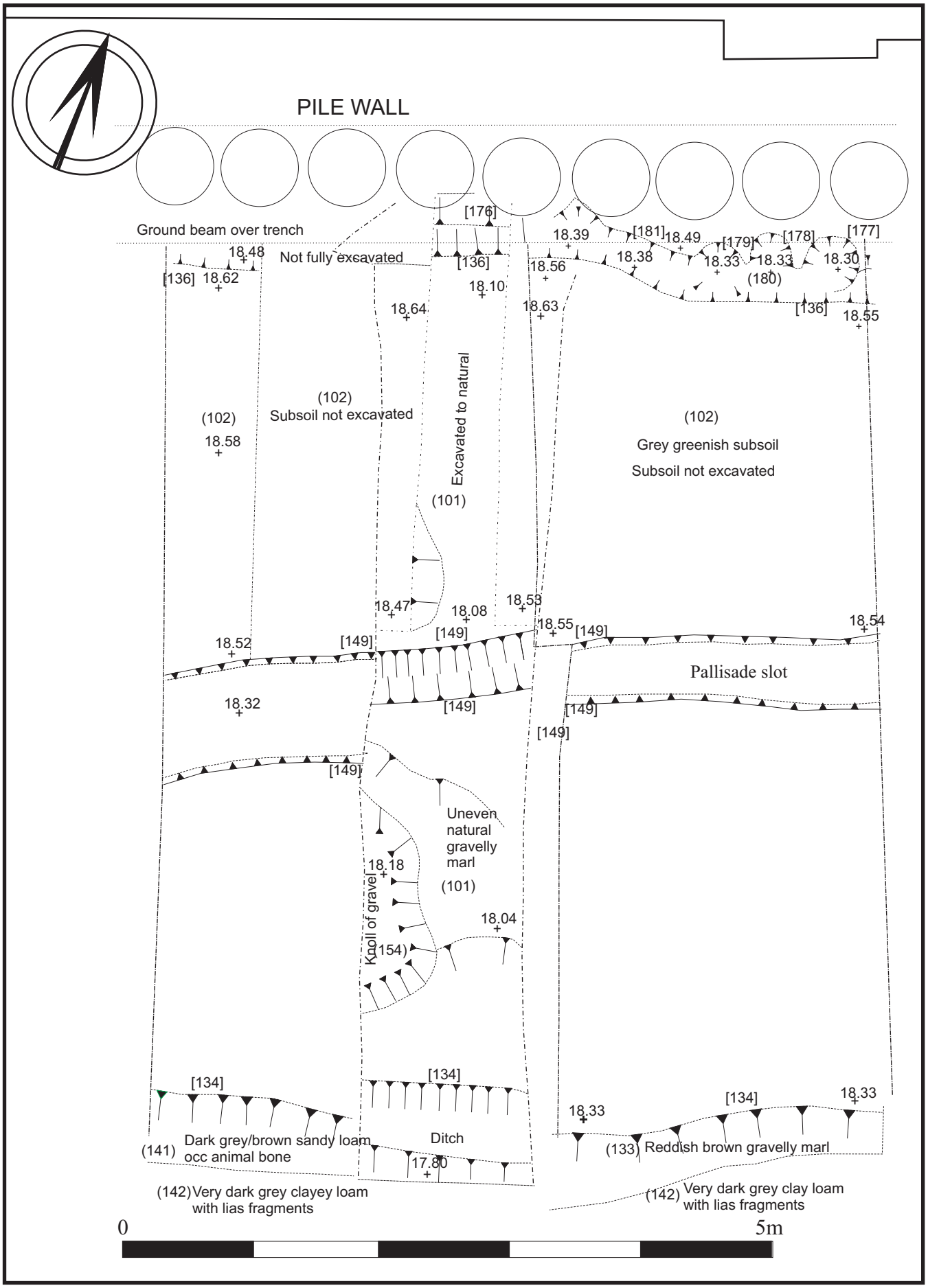


Figure 10: Trench 1 (excavation) excavated plan. Note that not all deposits seen in this plan are contemporary

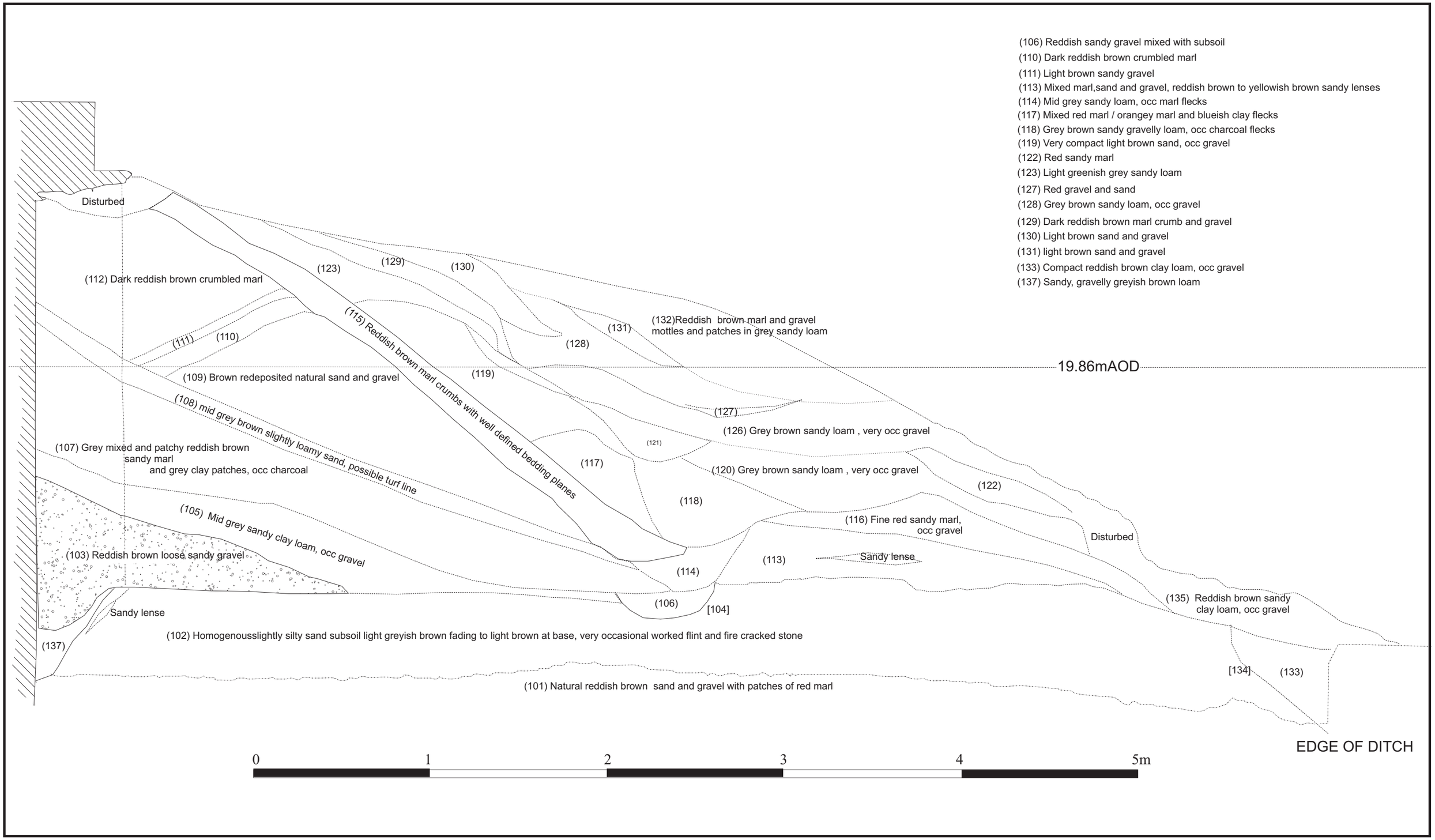


Figure 11: Evaluation Trench 1 - west facing section

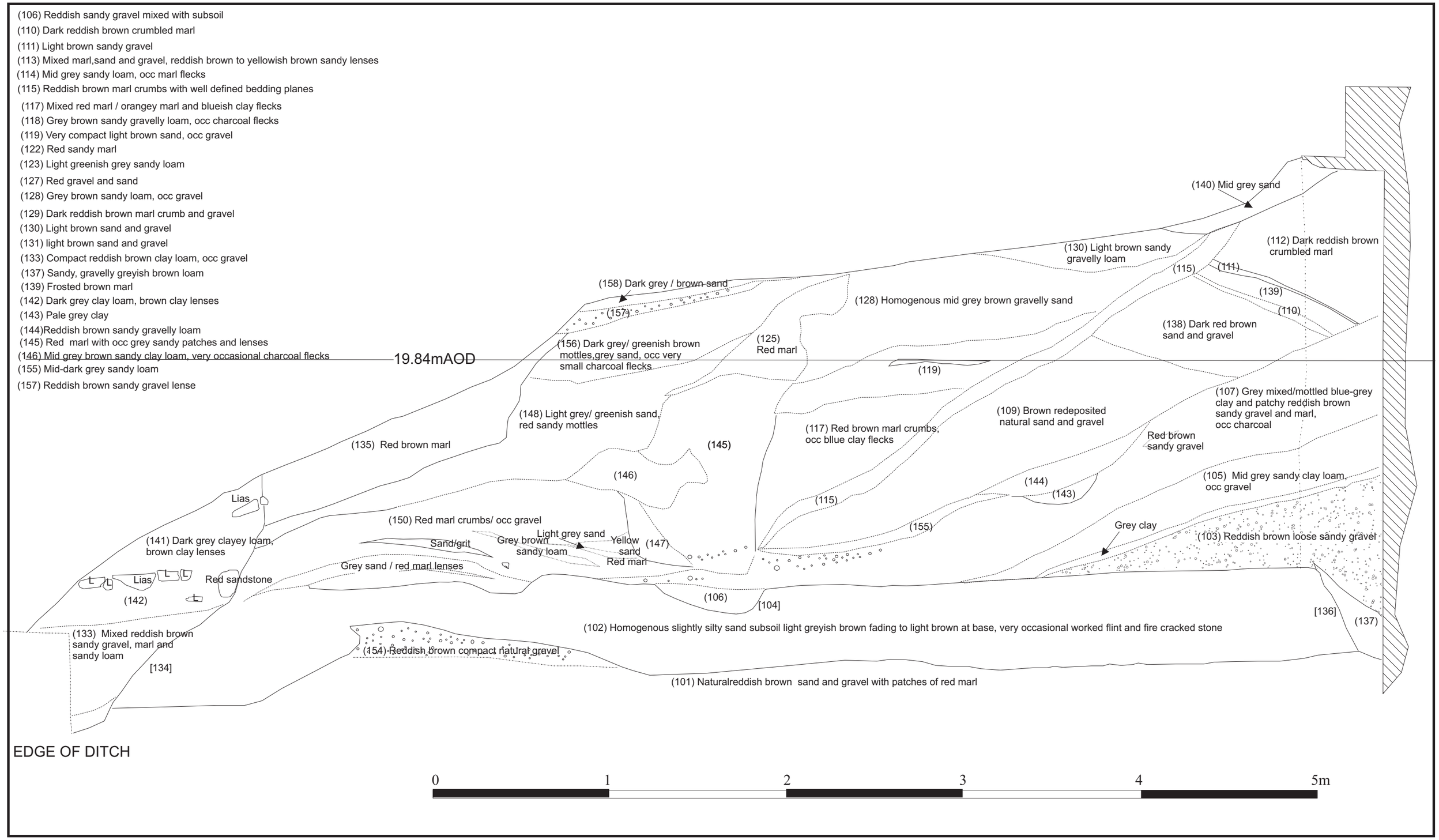


Figure 12: Evaluation Trench 1 - East facing section

(109) Reddish brown sandy gravel
(110) Dark reddish brown crumbled marl
(111) Light brown sandy gravel
(115) Reddish brown marl crumbs with well defined bedding planes
(117) Mixed red marl / orangey marl and blueish clay flecks
(118) Grey brown sandy gravelly loam, occ charcoal flecks
(119) Very compact light brown sand, occ gravel
(122) Red sandy marl
(123) Light greenish grey sandy loam
(127) Red gravel and sand
(128) Grey brown sandy loam, occ gravel
(129) Dark reddish brown marl crumb and gravel
(130) Light brown sand and gravel
(131) Light brown sand and gravel
(133) Compact reddish brown clay loam, occ gravel
(137) Sandy, gravelly greyish brown loam
(139) Frosted brown marl
(142) Dark grey clay loam, brown clay lenses
(143) Pale grey clay
(144)Reddish brown sandy gravelly loam
(145)Reddish brown soft loose marl with moderate gravel
(146) Mid grey brown sandy clay loam, very occasional charcoal flecks
(155) Mid-dark grey sandy loam
(156) Dark greysandy loam
(157) Reddish brown sandy gravel lense
(158) Mid grey brown sandy loam
(162) Red sandy gravel
(163) Soft red brown marl
(164)Crumbly red marl occ gravel
(165) Dark grey silty clayey loam
(166) Grey green sand
(167) Yellow brown sandy gravel
(168) Mid grey sandy moderate gravel
(169) Red marl
(171) Grey sand

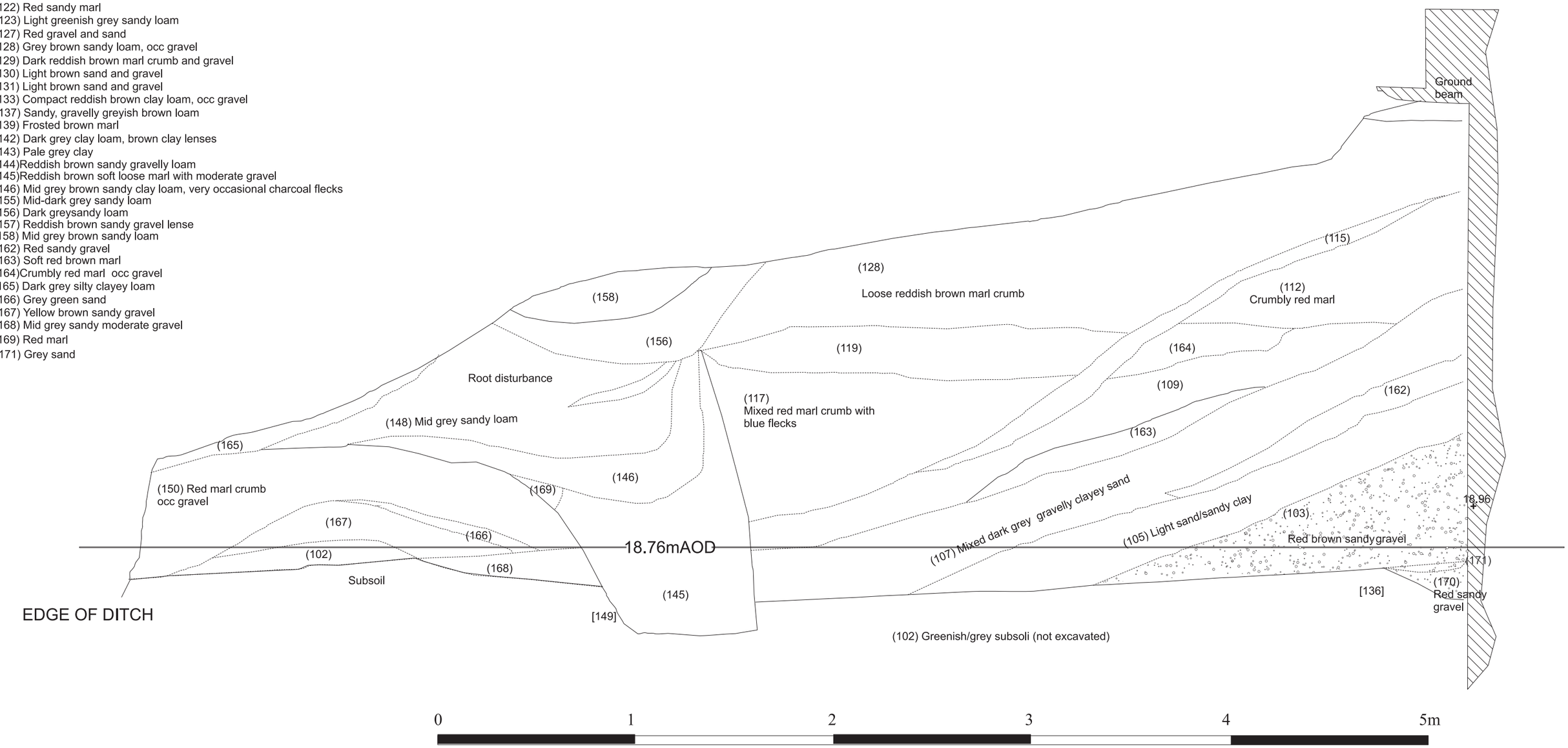


Figure 13: Excavation Trench 1x - East facing section

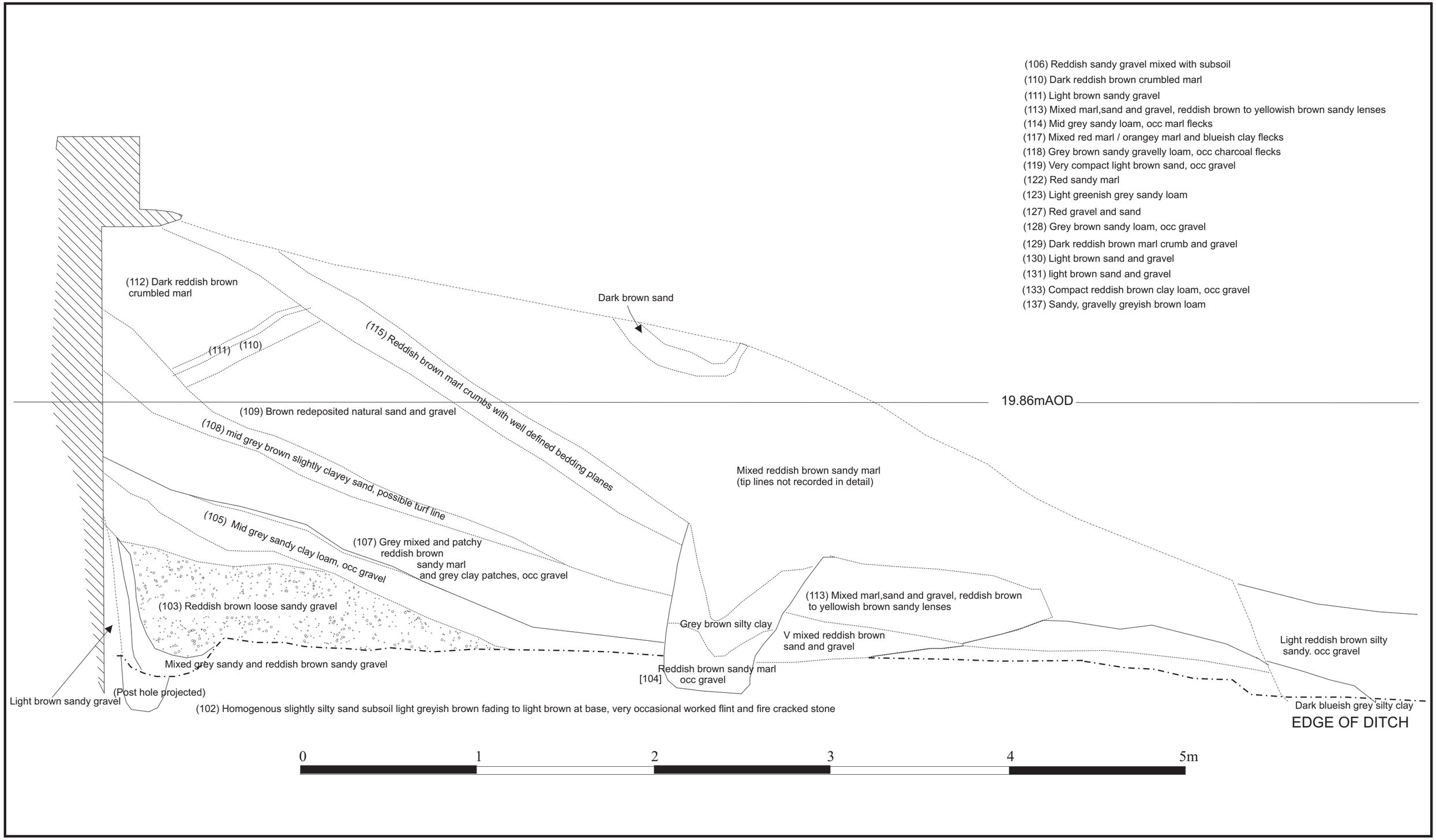


Figure 14: Excavation Trench 1x - west facing section

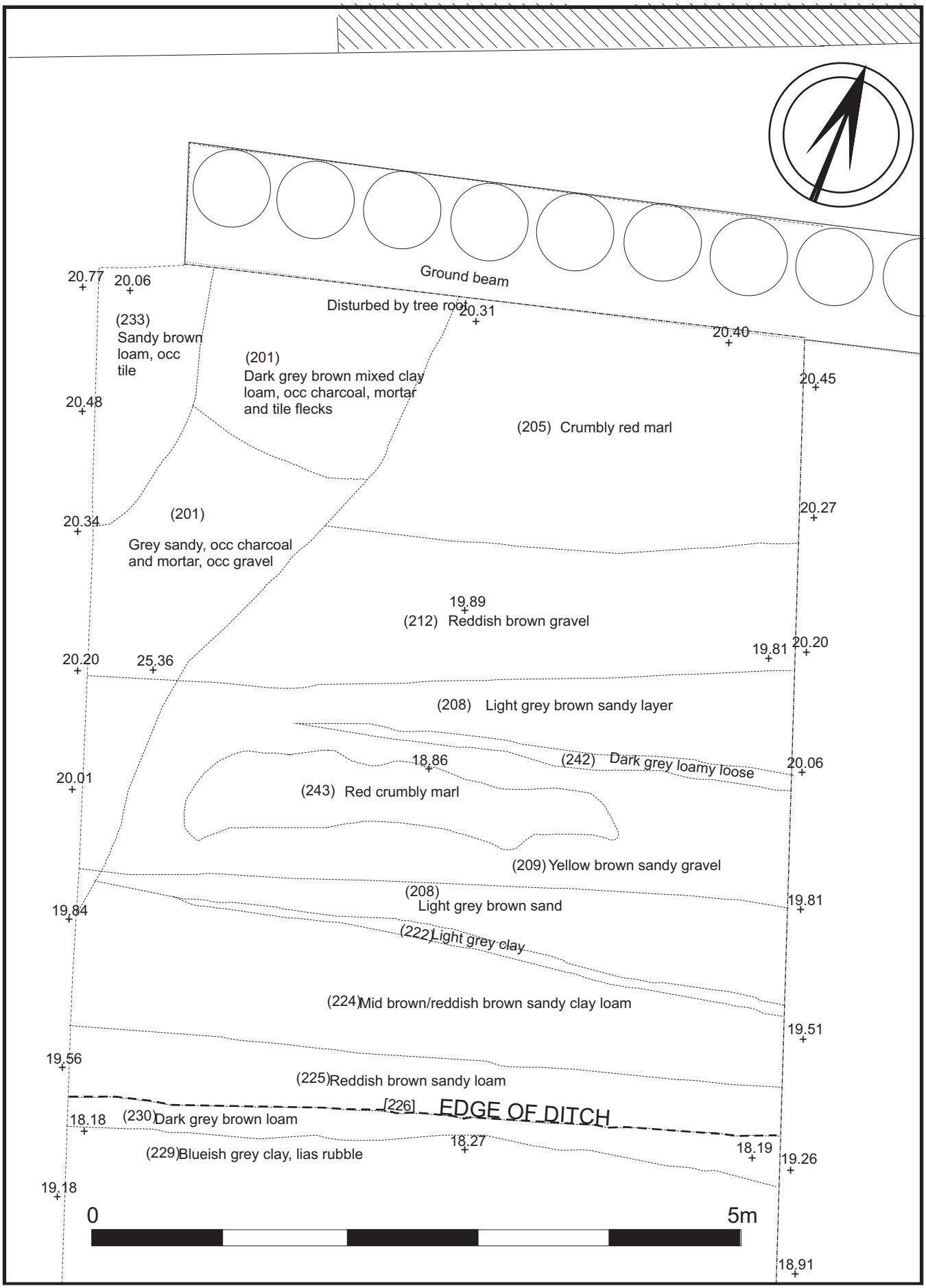


Figure 15: Trench 2 (excavation) part excavated plan. Note that not all deposits seen in this plan are contemporary

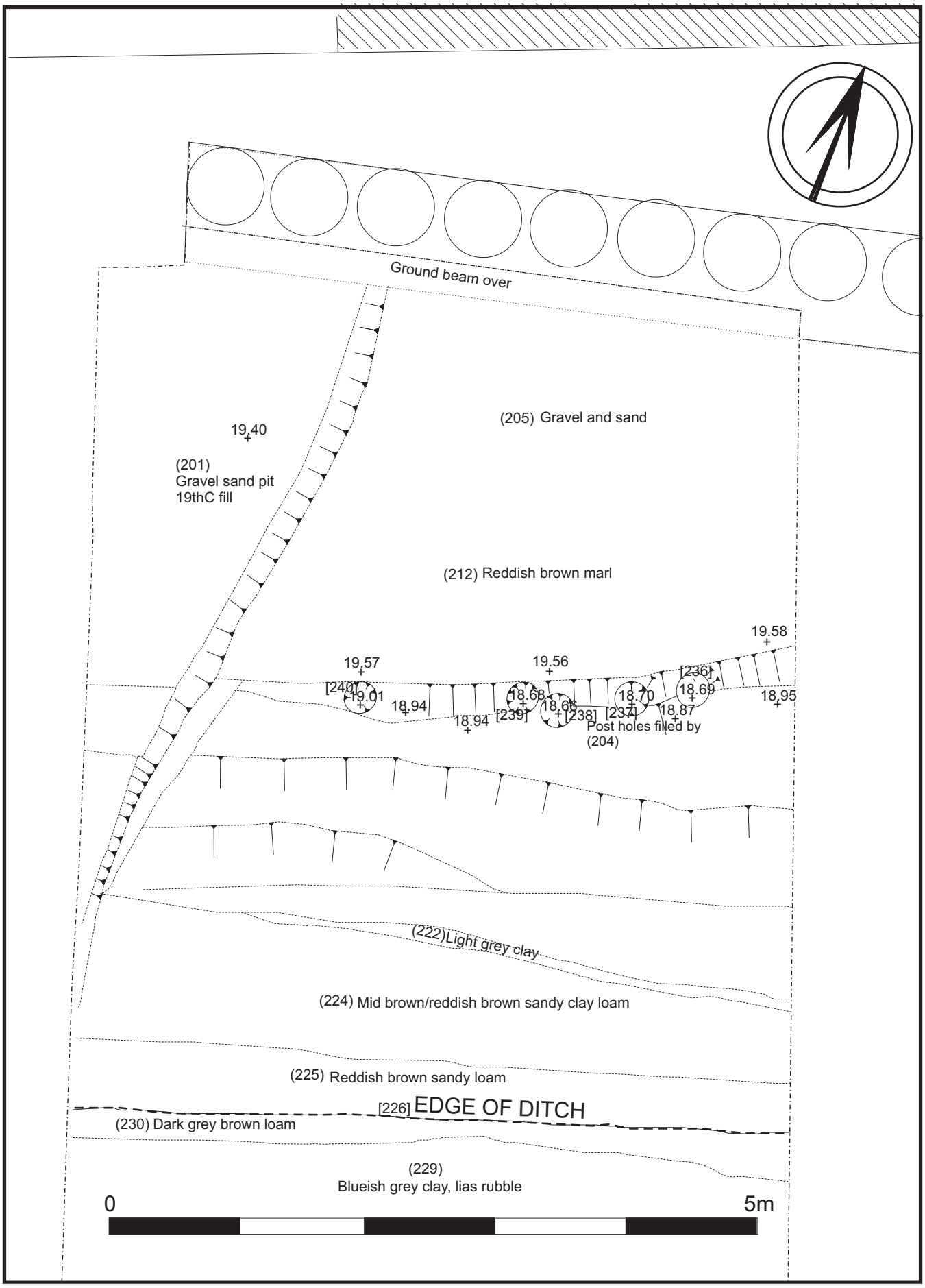


Figure 16: Trench 2 (excavation) part excavated plan. Note that not all deposits seen in this plan are contemporary

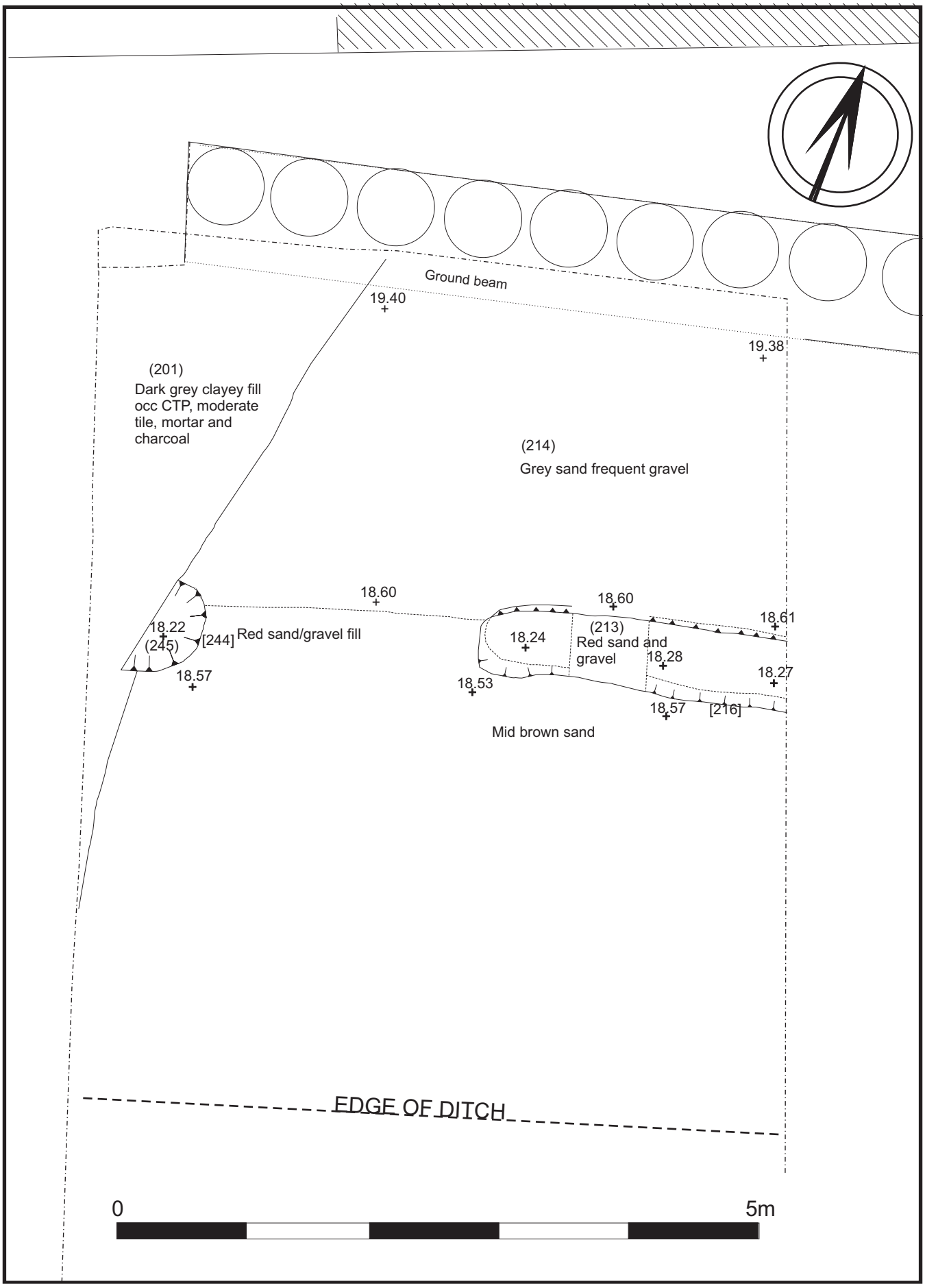


Figure 17: Trench 2 (excavation) part excavated plan. Note that not all deposits seen in this plan are contemporary

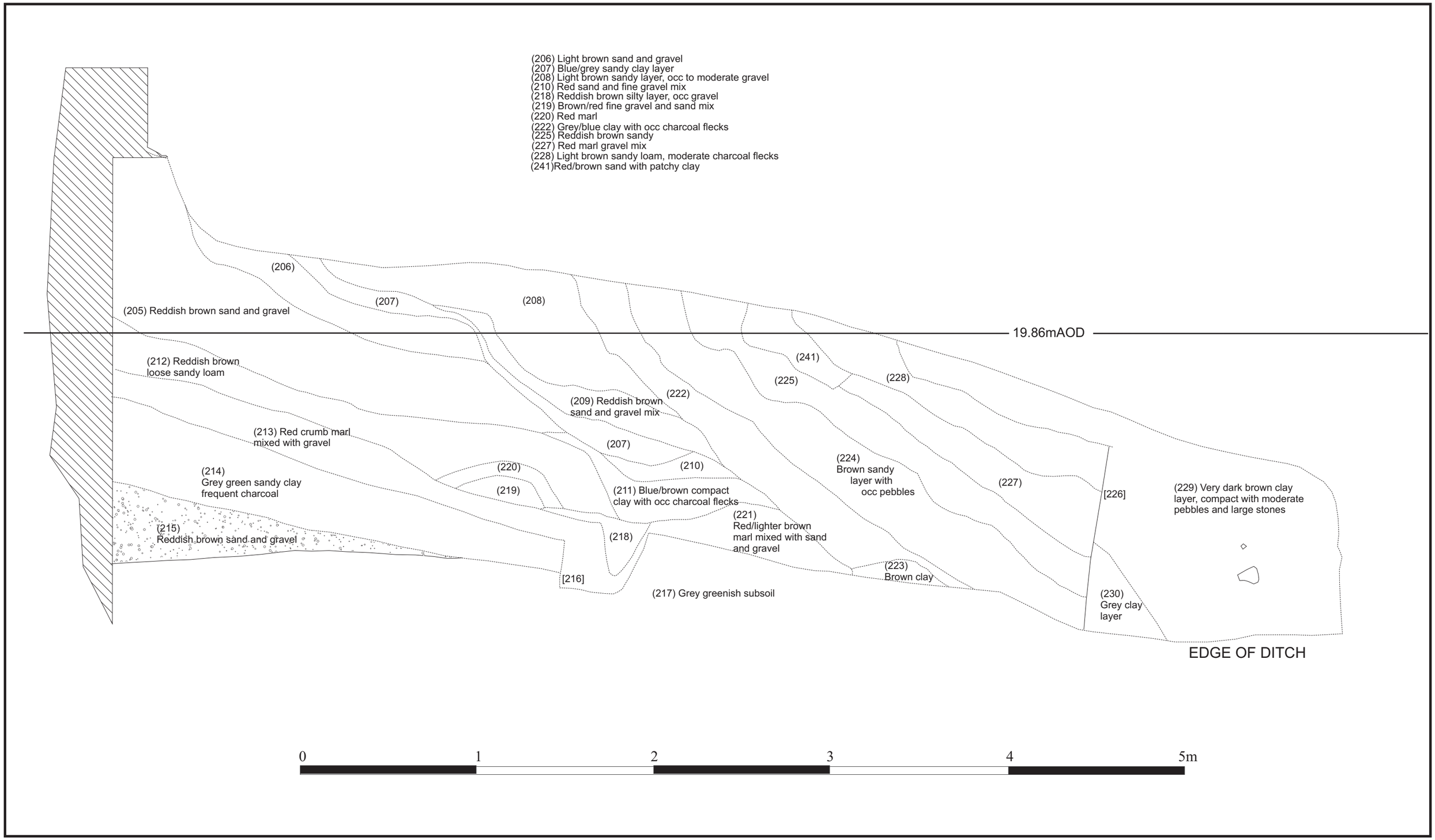


Figure 18: Excavation Trench 2 - west facing section

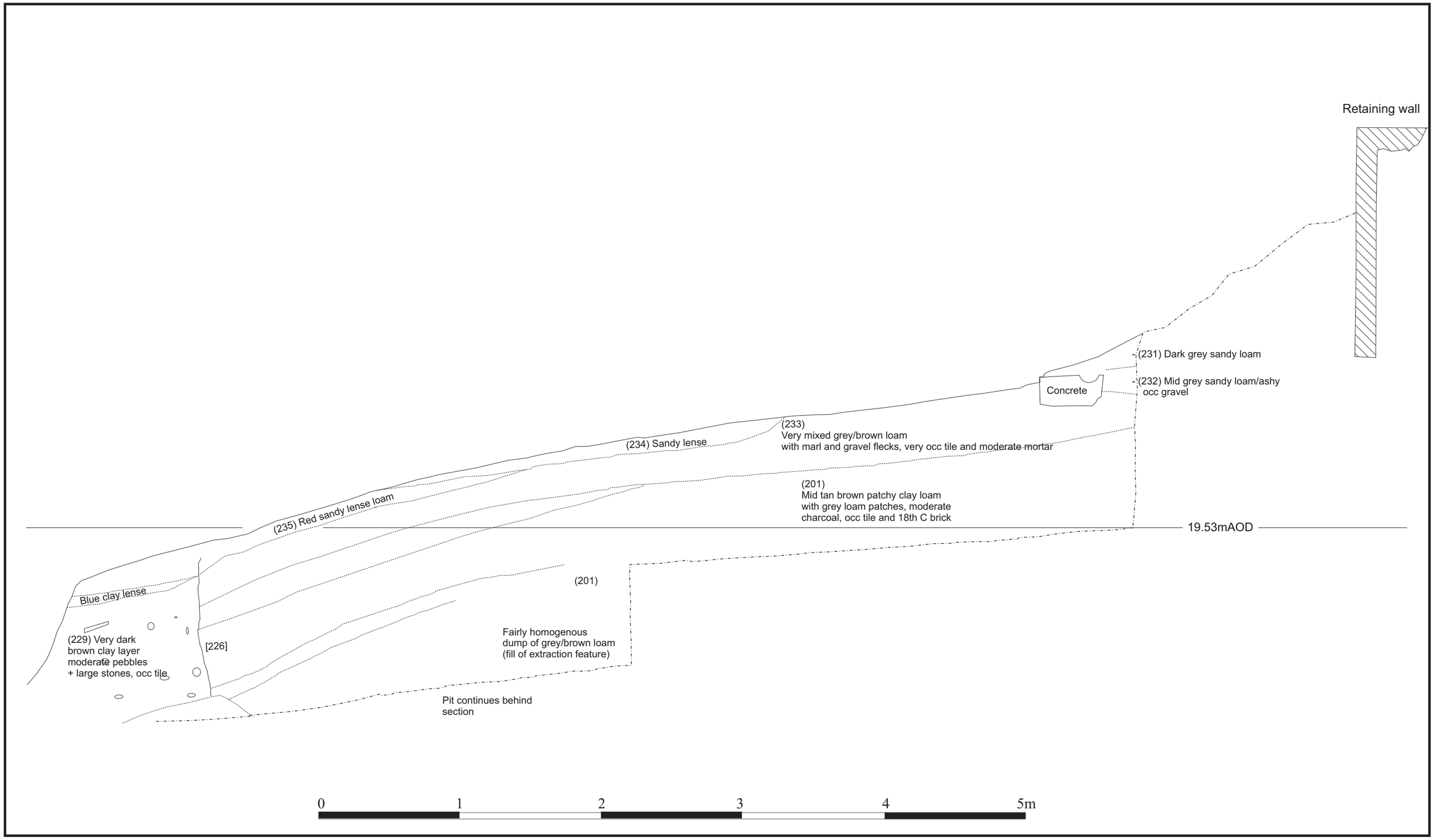


Figure 19: Excavation Trench 2 -east facing section

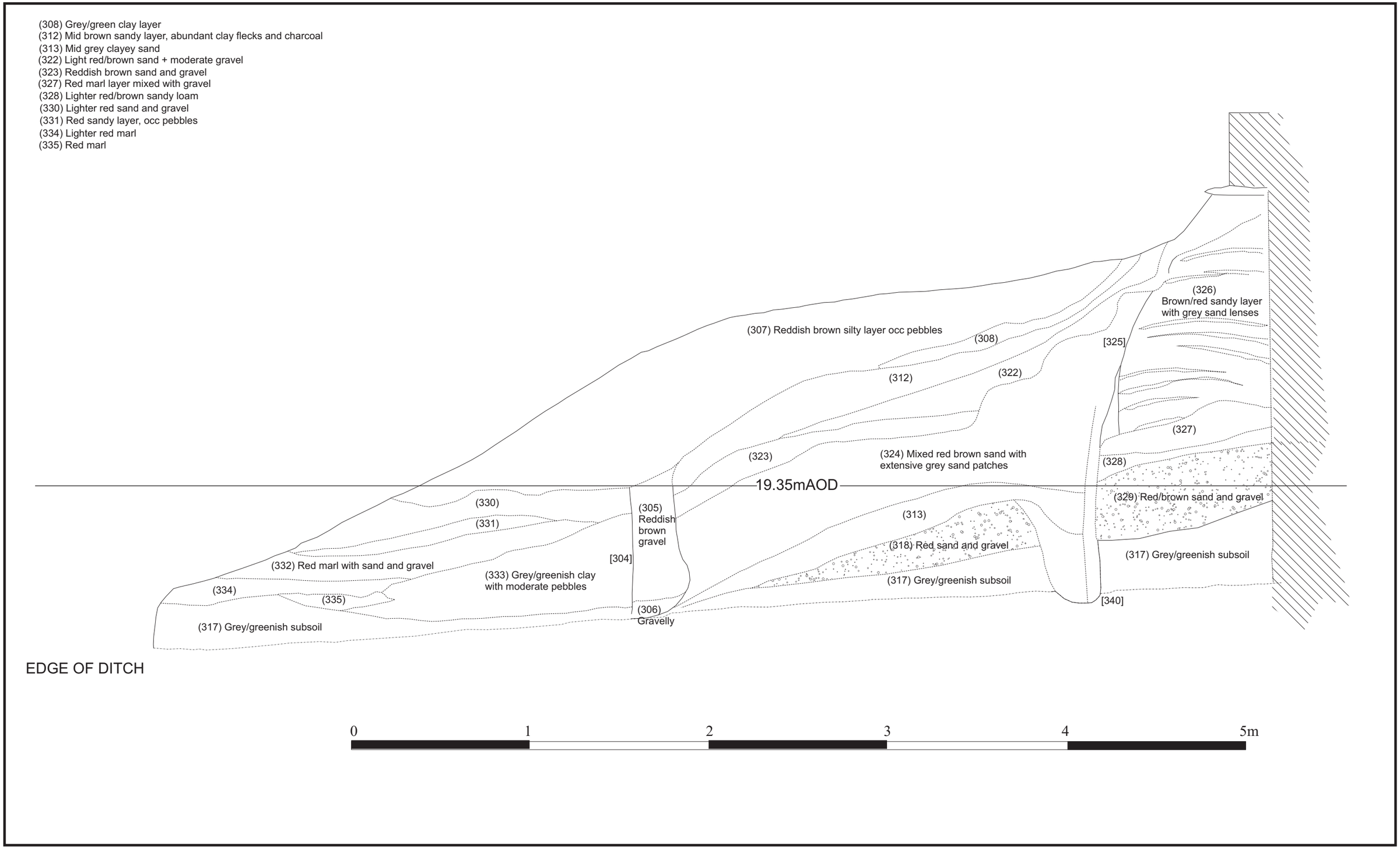


Figure 20: Excavation Trench 3 - East facing section

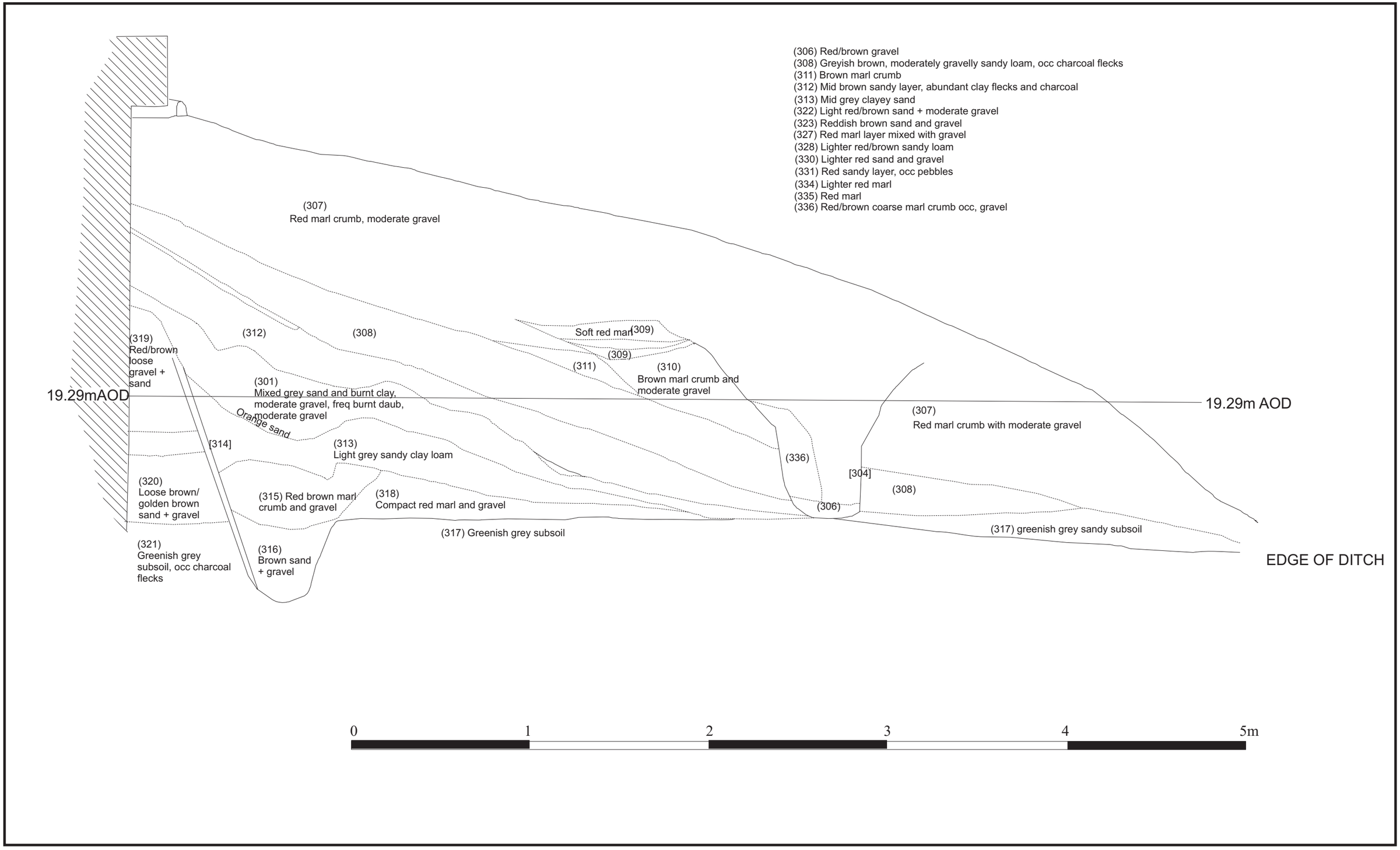


Figure 21: Excavation Trench 3 -West facing section

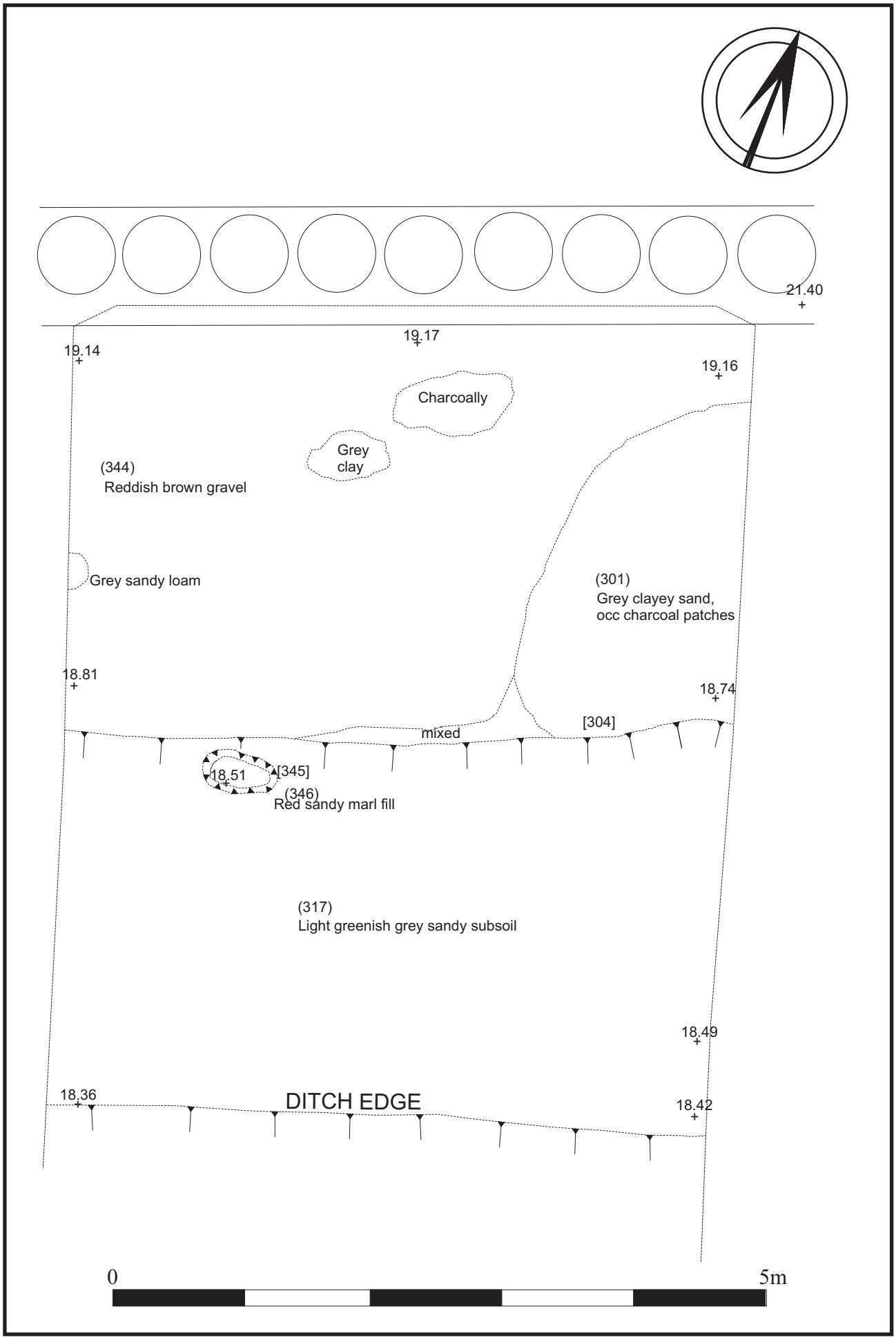


Figure 22: Trench 3 Excavation - part excavated plan

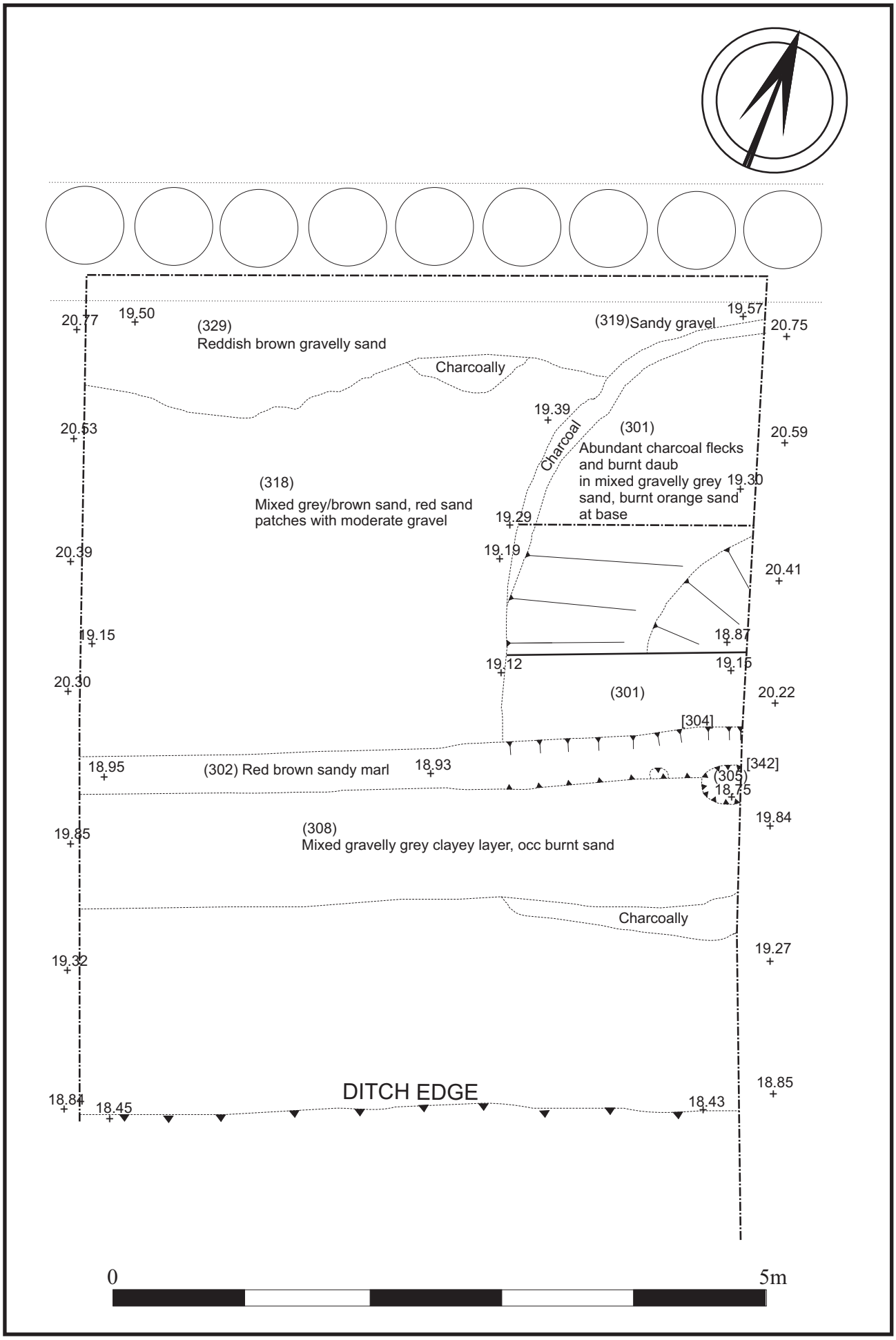


Figure 23: Trench 3 Excavation - part excavated plan

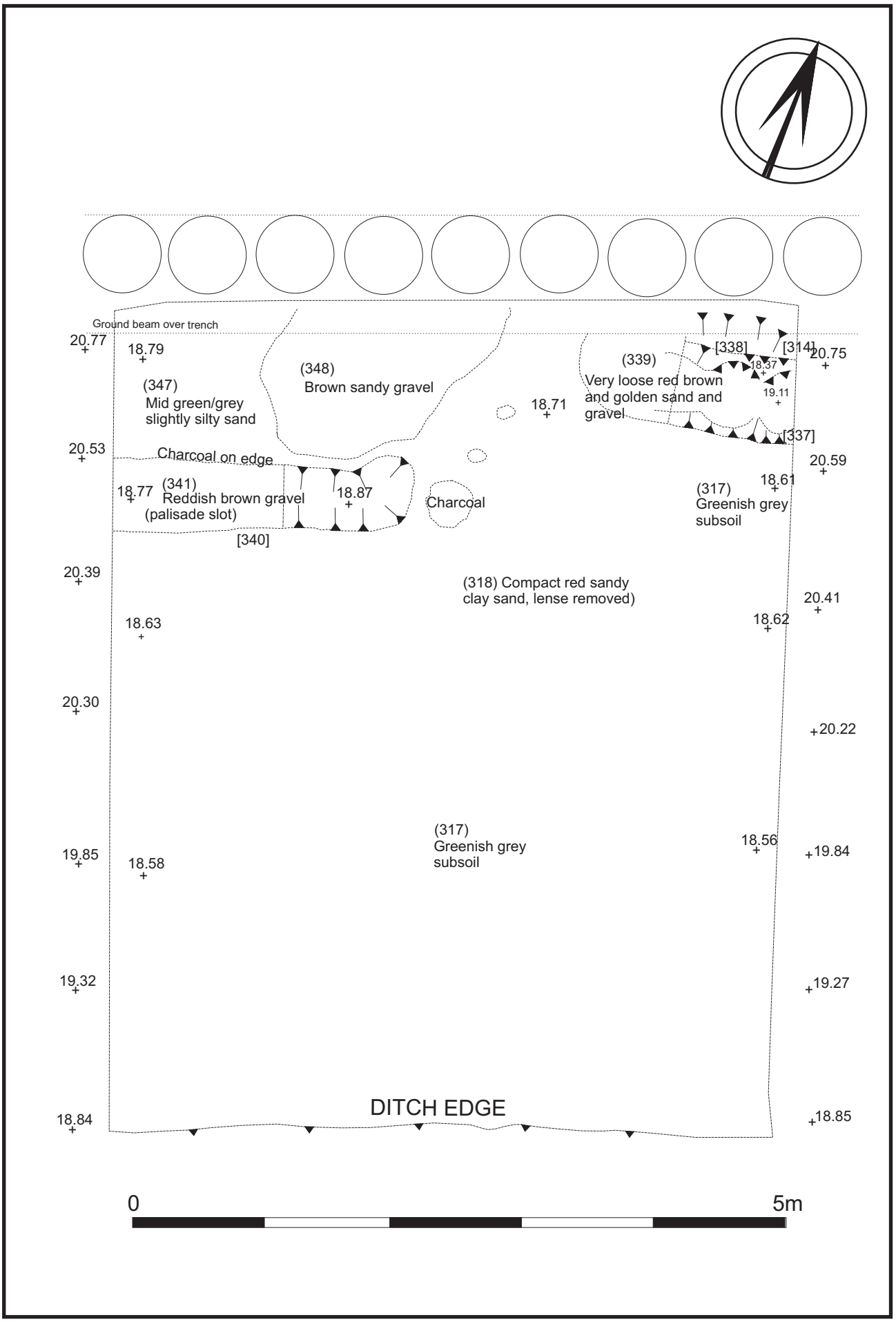


Figure 24: Trench 3 Excavation - excavated plan

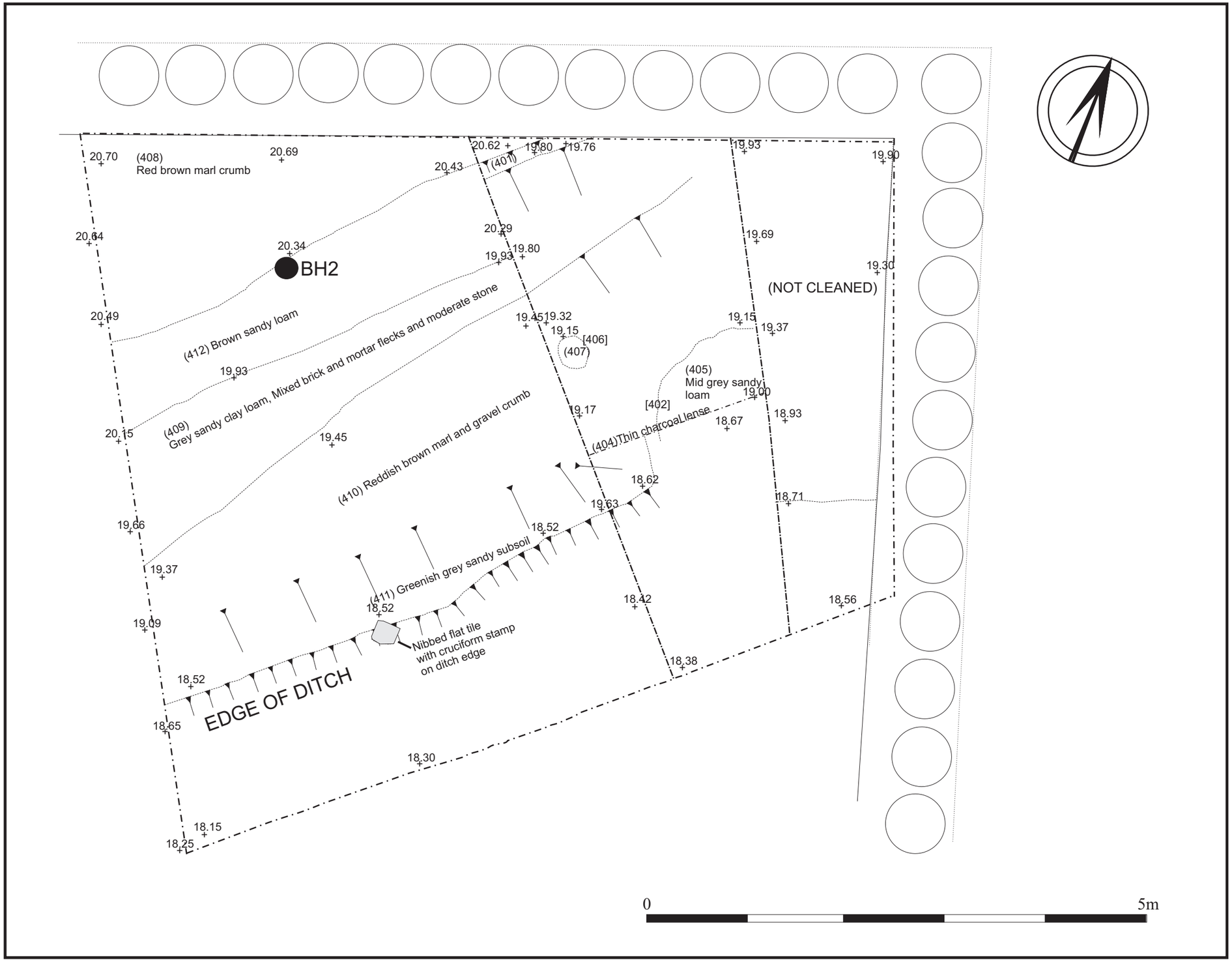


Figure 25: Area 4 Excavation - "as stripped" plan

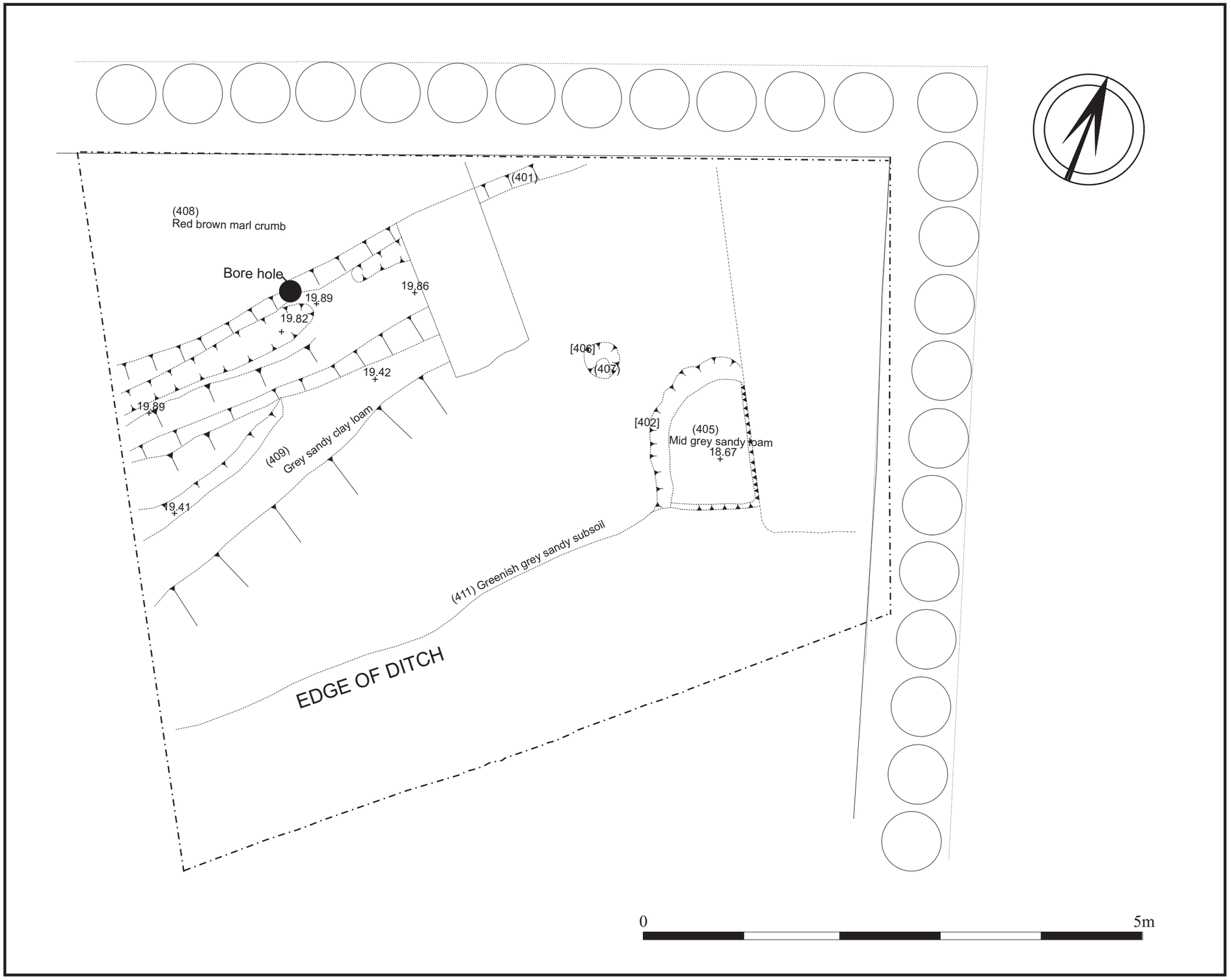


Figure 26: Area 4 Excavation - part excavated plan (nb - this area not fully excavated)

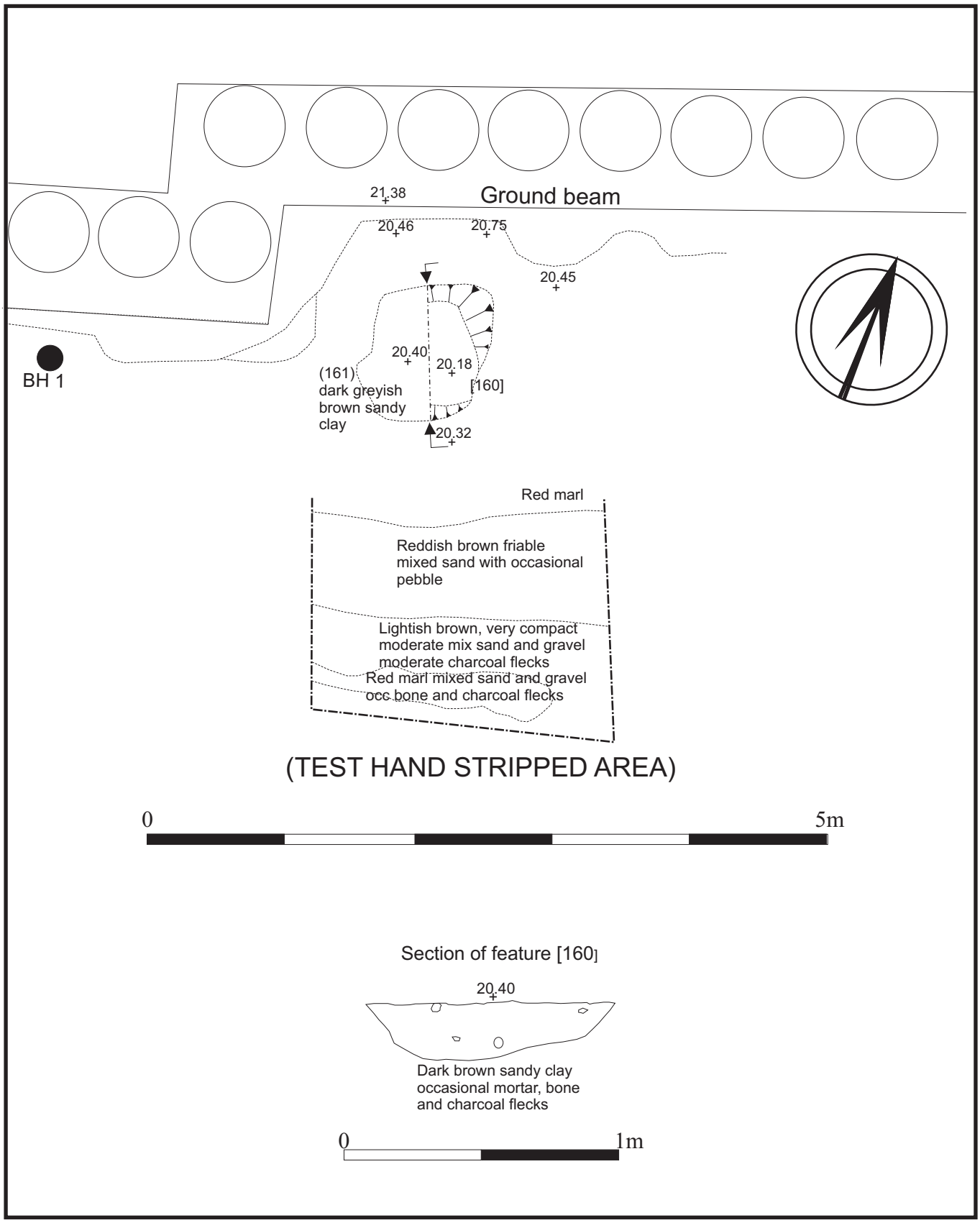


Figure 27: Area between Trenches 1 and 2 - feature [160] section and plan.

Nissen Hut viewed from north-east, with workshop to right

Former Salmon's Leap viewed from east, Nissen Hut in background

View across bases of workshop and Nissen Hut beyond (facing SW)

Borehole survey (drilling BH 2)

Piling operation - note comparatively clean redeposited natural marl uprisings

Excavating trench for ground beam along line of the pile wall

Figure 28: Demolished buildings and site preparation works

Initial phases of stripping after installation of pile wall - the later soils show as darker loamy material

Line of rampart curvature revealed - view facing west

Overhead view along rampart line

Figure 29: Stripping of the rampart

Early stage of evaluation trenching showing clear "striping" effect of rampart layers

Overhead view of trench from top of pile-wall showing complex stratigraphy

Steeply sloping early face of rampart

End section beneath ground beam - showing toe of earliest excavated phase of rampart over lying greenish grey subsoil

Trench 1 nearing completion - unexcavated pallisade slot just visible as pinkish line across subsoil. Collapse of back edge of trench has revealed concrete piles below ground beam (clad in green plastic shuttering)

Figure 30: Trench 1 - hand dug evaluation trench

Expanded area of excavation - evaluation trench in centre

Trench 1x partially excavated showing line of unexcavated pallisade slot running towards figure in background

Excavated pallisade slot - view facing west

Earliest phase pallisade slot, cut by pile wall

Detail of slot and post-holes beneath earliest excavated phase of rampart (seen here as a dump of red marl and gravel overlying the greenish grey subsoil. Scale 0.5m long.

Figure 31: Trench 1x -salvage excavation of expanded evaluation trench

General view of Trench 2 after stripping of disturbed deposits, note striped effect of rampart make-up

West facing section of Trench 2 part excavated

Post-hole alignment of probable late phase pallisade

Interrupted slot of earlier phase pallisade

Full sequence of rampart deposits over greenish grey subsoil

Figure 32: Trench 2 -salvage excavation photographs

Western section of Tr 3, part excavated, note reddish line of pallisade trench beneath shovel
Indications of burning within cut [349]

Overhead view taken from top of pile wall - dark charcoally and reddish burnt clay patch within cut [349] - note reddish band of pallisade slot cutting burnt fills

Pallisade slot

View facing east showing partially completed trench section

Figure 33: Trench 3 -salvage excavation photographs

Initial cleaning of Area 4

Area 4 excavation nearing completion, removal of remainder of rampart in progress

General view with Area 4 partially excavated in foreground

Figure 34: Area 4 -salvage excavation photographs

Rim-sherd from crude coarse-ware pot of either prehistoric or possibly Saxon date - rim is simply smoothed over straight edge at top of sherd - note also grey sooting.

Impressed cruciform tile stamp on tile from edge of the castle ditch - stamp broadly similar in character but not identical to one recovered from the Deansway excavation - (Dalwood et al 2004 figure 207:16)

Flint working debris from subsoil beneath rampart

Figure 35: Artefacts