

**PROPOSED RESIDENTIAL DEVELOPMENT, CHURCH STREET,  
SOUTHWELL, NOTTINGHAMSHIRE**

**ARCHAEOLOGICAL EXCAVATION INTERIM REPORT**

NGR: SK 70339 53695  
Planning Ref.: 02/02225/FUL  
Conservation Area  
Consent: 02/02226/CAC  
Site code: SCSX 12  
PCAS job no.: 908

Prepared for

JWA Architects

on behalf of Caunton Properties (Southwell) Ltd.

by

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December 2012



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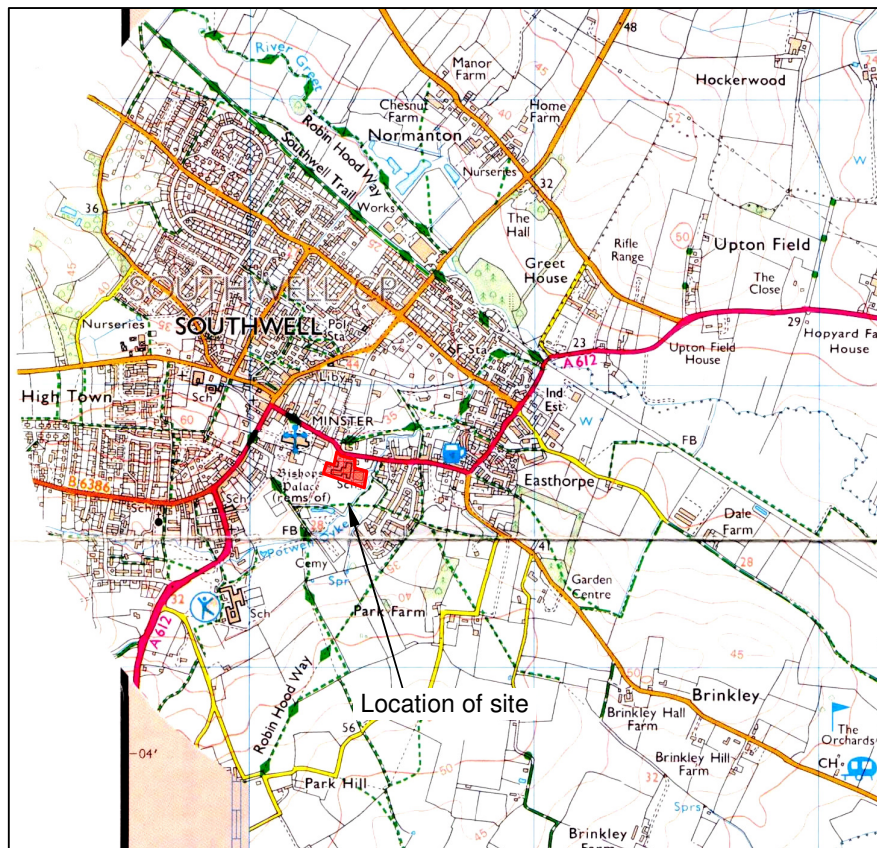
## Summary

An archaeological excavation was carried out in advance of a proposed residential development on the site of the former Minster School in Southwell in Nottinghamshire.

Previous archaeological work on and adjacent to the site has identified a Roman villa to the west of the current development site, and an extensive inhumation cemetery, believed to be late Anglo-Saxon to early medieval in date, and to be associated with Southwell Minster.

The principal discoveries during this project were two stone buildings and a further portion of the known cemetery. A large, rectangular stone building in the south-west corner of the site was identified as Roman, associated with the known villa: this part of the site will now be preserved in situ, and little further excavation took place on it after its discovery and identification. A smaller, square stone building in the north-east quadrant of the site was also identified as Roman. In addition to these three main discoveries, the site is wholly overlain by a palimpsest landscape of pits and ditches, which have been provisionally divided into early Roman, mid-Roman, late Roman, Anglo-Saxon/early medieval and medieval phases, with a low level of post-medieval activity at the northern site edge only.

This document is an interim report, prepared in advance of the receipt of the specialist reports on the finds and environmental samples from the site. Phasing and interpretation remain provisional and are subject to revision when the specialist assessments are completed. Following a further programme of post-excavation assessment, a final report will be prepared, which will supplant the present document.



**Figure 1:** Location plan of the site on Ordnance Survey mapping at scale 1:25,000 (Southwell town overlaps the edge of the OS map sheet). The site is marked in red. OS mapping © Crown copyright. All rights reserved. PCAS licence no. 100049278.

## 1.0 Introduction

Pre-Construct Archaeological Services Ltd (PCAS) was commissioned by JWA Architects, on behalf of Caunton Properties (Southwell) Ltd. and Nottinghamshire County Council, to carry out an archaeological excavation on land off Church Street in the town of Southwell in Nottinghamshire, in advance of the redevelopment of the site of the former Minster School.

Part of the proposed redevelopment site intersects the scheduled area of a Scheduled Ancient Monument: the known Roman building SAM NT138.

This document is an interim report, prepared in advance of the receipt of the specialist assessment of the finds and environmental samples from the site.

## 2.0 Location and description (figs. 1 and 2)

The small town of Southwell lies within the Newark and Sherwood District of Nottinghamshire, approximately 11km north-east of the modern suburbs of Nottingham and 9km west of Newark-on-Trent.

The proposed redevelopment site is located to the south-east of the town centre, within the Minster Character Area of the Southwell Conservation Area. The site is approximately 0.7ha in area; it is bordered to the north by Church Street, from which it is accessed (the A612, appearing on older maps as Finkle Street), to the north-east by the rear boundary of the Grade II listed Old Rectory, to the east by the Potwell Dyke watercourse, to the south by an area of grassland, formerly the playing fields of the Minster School, and to the west by the scheduled area of SAM 138, a known Roman building, which lies between the site and the Grade II\* listed Vicar's Court. The Grade II listed South Muskham prebendal house lies opposite the site on the north side of Church Street.

The margins of the Potwell Dyke and the former school playing fields are designated as part of Southwell Green Wedge. The north-western side of the site lies within the scheduled area of SAM 138 and the site also falls within the setting of SAM 151, the Archbishop's Palace, as well as the settings of numerous listed buildings including the Grade I Bishop's Manor, the Grade II\* Residence and Vicars' Court; and the Grade II South Muskham Prebend and Old Rectory.

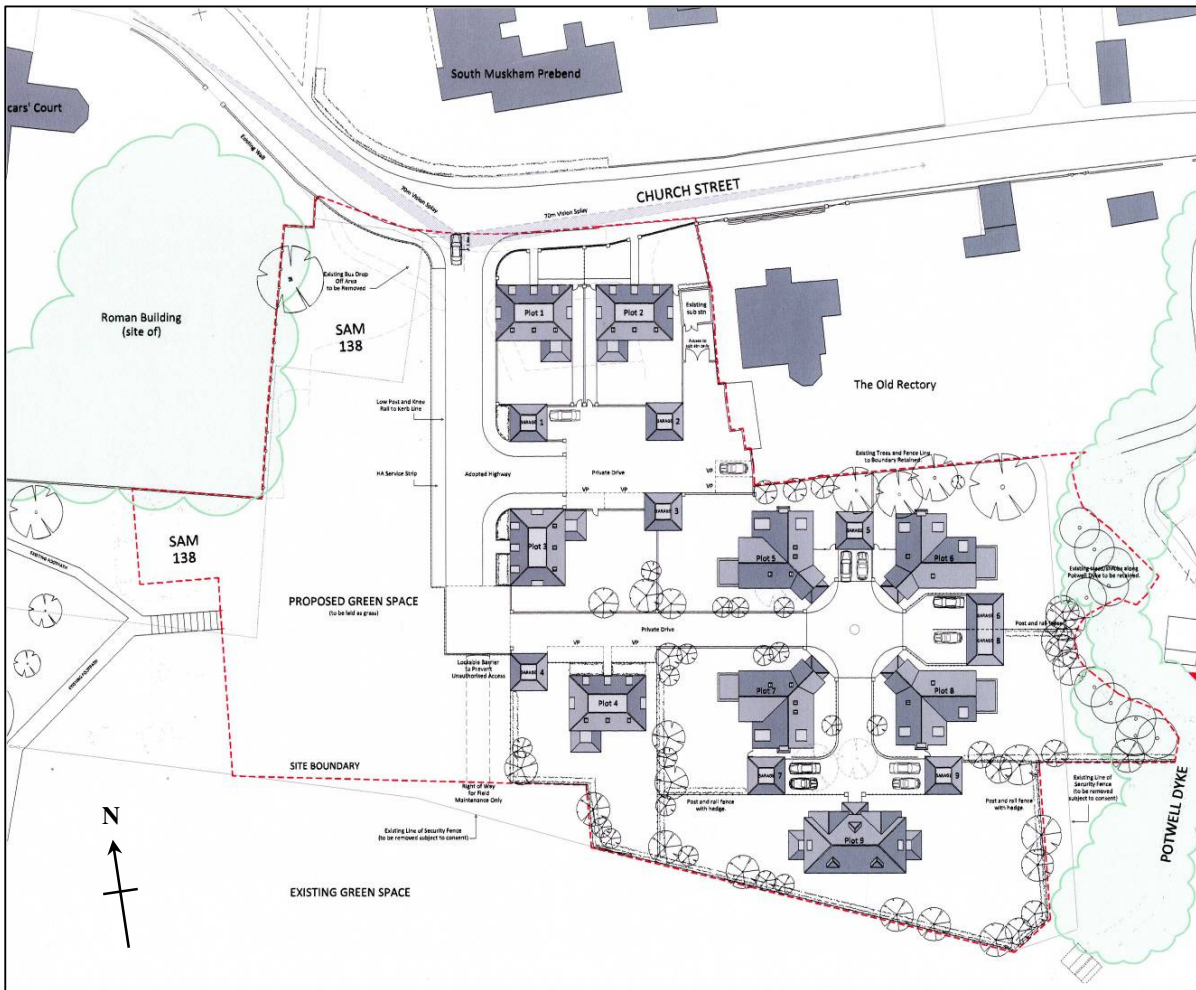
The site was formerly occupied by the Minster School: the mid-20<sup>th</sup>-century school buildings were demolished and the site levelled before the excavation commenced (plates 4 and 5).

The central National Grid Reference of the site is SK 70339 53695.

## 3.0 Geology and topography

The drift geology on the eastern side of the site, adjacent to the course of the Potwell Dyke, is recorded as alluvium, consisting of brown silty or sandy clay with sand and gravel lenses. The alluvial band, laid down by the watercourse, is relatively narrow in this area, and does not extend across the full width of the site: the solid geology is exposed on the western side. The solid geology across the site is formed by Radcliffe Formation Mudstone – a pinkish-red or green mudstone interlaminated with pale grey, fine-grained sandstone (BGS, 1996).

Southwell lies on the western edge of the Trent Valley within a generally undulating landscape characterised by low hills, small streams and small, steep-sided wooded valleys. The site slopes gently down from a maximum height of 31.36m AOD at the far west to a lowest point of 27.49m AOD near the south-east corner, adjoining the Potwell Dyke.



**Figure 2:** As-proposed site plan at scale 1:1000: the development site is outlined in red. Plan supplied by JWA Architects Ltd.

#### 4.0 Planning background

Full planning permission and Conservation Area consent for the construction of 13 dwellings, with associated external works, open space and highway works, were granted in July 2005. This permission was granted subject to conditions including the provision of a scheme of archaeological mitigation.

#### 5.0 Archaeological and historical background

The earliest recorded archaeological evidence recorded in the vicinity of the site dates from the Roman period. From the 18<sup>th</sup> century, Romano-British finds have been recorded around the nearby Minster, most significantly *in situ* remains, including a ‘tessellated pavement’, were exposed during the creation of gardens around Vicar’s Court and The Residence, to the north-west of the school site. A programme of archaeological excavation was carried out by C. M. Daniels at two main locations on the site in 1959, in advance of the construction of a new school within the former Residence’s garden. The excavation identified two ranges of an apparent winged corridor or courtyard style villa: a multi-phased east range with a large room and a cold bath, and a southern range with six rooms, at least four of which had mosaic pavements. These remains had been disturbed by the excavation of 30 inhumation graves, which had been disturbed in turn by the effects of stone robbing from the villa site and later

drainage works. Ceramic material recovered during the excavation suggests that occupation commenced in the 2<sup>nd</sup> century AD, with the possibility of rebuilding before the early 3<sup>rd</sup> century. The bulk of the material recovered indicated that the 3<sup>rd</sup>-4<sup>th</sup> century was the main period of activity, with perhaps further rebuilding and embellishment during the early 4<sup>th</sup> century. Daniels concluded that there was no evidence for continued occupation of the site after the 4<sup>th</sup> century; post-Roman activity was mostly limited to fragments of pottery, tentatively dated to the 6<sup>th</sup> century but also included an entire bucket urn recovered from layers that post-dated the destruction of the villa. (Daniels, 1966). The site has been scheduled as an Ancient Monument (SAM ref. 138).

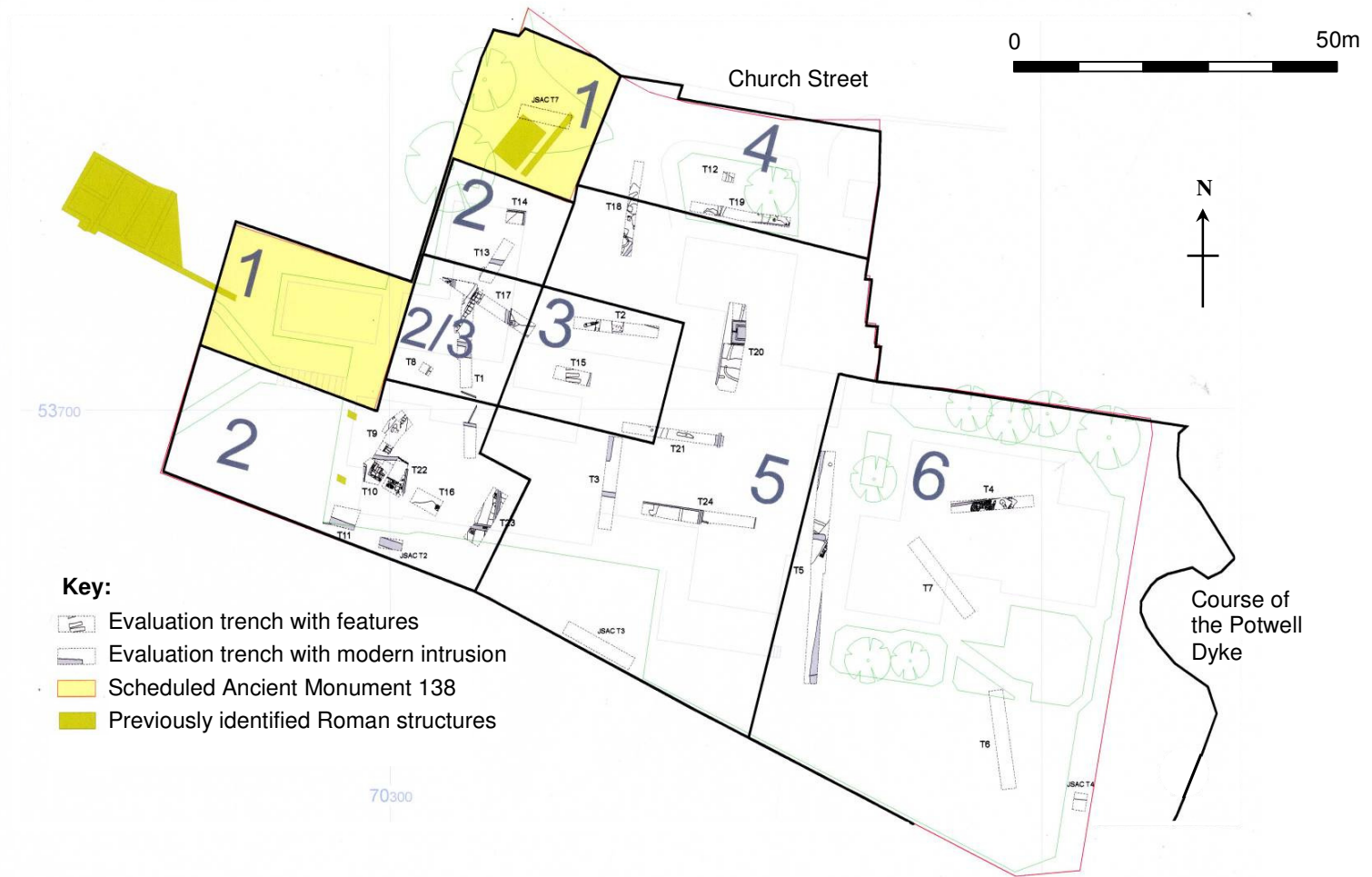
Southwell Minster can be dated at least to the end of the Saxon period, with evidence provided by both surviving fragments of masonry and historical references (Stenton, 1967). The graves identified by Daniels were not dated but were considered to be Christian, probably part of the medieval cemetery associated with the Minster. The great size of this cemetery was apparently confirmed by the identification of a further 225 inhumation graves in 1971 during the construction of a building in the western part of the school site (Alvey, 1975).

The Domesday Survey of AD 1086 indicates that the land in Southwell was owned by the Canons, appointed by the Archbishop, in prebend (a type of ecclesiastical benefice by which the tithes and other income of a parish were assigned to a cathedral or collegiate church, to provide an income for its canons and support its religious students). The prebendaries, or secular canons, were required to reside in the parish and carry out the religious duties that would in other circumstances be performed by the rector. By the 13<sup>th</sup> century, the number of prebendaries had grown to a maximum of 16, all owning a house at Southwell as well as land in their own parishes (Stenton, 1967). The South Muskham prebendal house, opposite the present development site, is one of nine still extant; the present Minster Church of St. Mary, a Grade I Listed Building, can be dated to the early Norman period, with two major phases of medieval rebuilding, and was raised to the rank of cathedral in 1884 (Pevsner, 1951, pp.162-4).

To the south of the Minster, the standing remains of the Palace of the Archbishop of York date from the 14<sup>th</sup>-15<sup>th</sup> century, although an earlier structure is believed to have existed. The Residence was constructed towards the end of the 17<sup>th</sup> century and enlarged and altered in the later part of the 18<sup>th</sup>. The neighbouring Vicar's Court was also built towards the end of the 18<sup>th</sup> century. The school site itself appears to have been gardens, orchards and open fields from the end of the 18<sup>th</sup> century until the construction of the school in 1959 (Savage, 2012).

In 2008-9 an extensive evaluation was carried out on the site of the former Minster School as part of the proposed redevelopment (fig. 3). Archaeological remains were encountered relatively close to existing ground level in most of the central and western evaluation trenches. These areas appeared to have suffered considerable truncation, probably during the construction of the former school, but some also contained a significant depth of surviving archaeological deposits. By contrast, the first archaeological horizon within the eastern and northernmost trenches was reached at some depth below existing ground level, protected from more recent disturbance by past silting and deliberate ground-raising within these naturally lower-lying areas of the site. Evidence of surviving substantial Roman masonry was recorded, constructed within a large cut feature, possibly a former clay-quarry working or a defensive ditch. The latter feature, over 45m long, c.13m wide and up to 2m deep, was the earliest identified on the site and pre-dated the main period of use of the villa during the 3<sup>rd</sup> and 4<sup>th</sup> centuries. Five inhumation burials were also recorded and a radiocarbon date obtained from one indicated a mid-8<sup>th</sup> century date. Continued use of the site during the 10<sup>th</sup>-11<sup>th</sup> centuries was also indicated by ceramic material recovered from a number of ditches, with possibly some activity continuing towards the street front into the post-medieval period (Rowe, 2010).





**Figure 3:** Plan of the 2010 evaluation at scale 1:1000, showing the mitigation zones and the locations of the evaluation trenches (reproduced from Rowe, 2010).



An archaeological evaluation consisting of six trenches was carried out on the adjacent Platts Orchard development site by PCAS in June 2011. The southern part of the site was characterised by a homogeneous graveyard soil with multiple identifiable burials, one of which has recently been radiocarbon-dated to the late 7<sup>th</sup> century; the south-eastern area demonstrated a shallow overburden sealing at least one ditch dated to the Roman period, and numerous post-medieval pits. Conversely, the north-eastern part of the site identified a great depth of overburden, possibly indicating some deliberate infilling of the slope adjacent to the Potwell Dyke. In the central and north-western part of the site, three trenches identified the edge of what may be a single, or possibly several very large, deep cut features. These features are more than 2m deep and over 10m long. Their full extent was not established and nor could their function be ascertained, although clay winning is a possibility. A single Romano-British ditch and numerous post-medieval features, including a charnel pit, were also identified on this part of the site (Rowe, 2011).

## 6.0 Methodology

The topsoil and modern overburden (asphalt, concrete and made ground) were removed under archaeological supervision using a small 360° back-acting tracked excavator fitted with a toothless bucket; additional slots were later excavated under archaeological direction using a 180° back-acting wheeled excavator. Machine excavation was halted at the first archaeological horizon, or at the surface of the natural drift or solid geology where no archaeological deposits were present; excavation thereafter was carried out by hand. After machining in the known cemetery area was completed, the area was scanned with a metal-detector, paying particular attention to visible or potential graves.

The excavation was carried out in mitigation zones 3, 5 and 6, and also included the south edge of Zone 4 (see fig. 3). Zones 2 and 2/3, in which substantial Roman structural remains had been encountered during the evaluation, were excluded from the excavation, as no development will now take place in these zones, while Zone 1 denotes the existing scheduled area of the Roman villa.

The site was digitally planned pre- and post-excavation using a Global Positioning System. Where archaeological features were present, these were sample excavated and drawn in section at scales of 1:20 or 1:10 as appropriate; graves and other areas of complex archaeology were also planned by hand at scales of 1:10 or 1:20. The drawn record was supplemented by a photographic record on colour slide film and in digital format: extracts from this are reproduced as Appendix 1. Deposits were recorded on standard PCAS context record sheets; an excavation site diary was also kept. Group context numbers were assigned where more than one section was dug through a feature: these numbers are distinguished in the text with an initial G. Finds were stored in labelled bags prior to their removal to the offices of PCAS for initial processing. The washed and marked finds have been dispatched to appropriate specialists for assessment and reporting.

The excavation took place between 25<sup>th</sup> July and 15<sup>th</sup> November 2012, and was supervised by Neil Parker. Excavation conditions were frequently challenging, with excessively dry weather at the beginning of the project followed by heavy rain and localised flooding.

In order to give a clearer picture of the progress of the project as a whole, the section drawings and small plans that have been digitised as a preliminary to the writing of the final report have been appended as a block (figures 6-20). Not all of the figures included in this series depict features referred to in the following text.

## 7.0 Results (figs. 4, 5 and 6-20)

### 7.1 Pre-Roman and early Roman

The natural solid geology, with the natural drift geology where it occurred along the eastern edge of the site, was recorded as context 026. Overlying the natural in several areas of the site was layer 652, a whitish deposit that had been observed during the evaluation and provisionally interpreted as a lime-based flooring or foundation material. During the excavation, a site visit was made by Richard Macphail of the Institute of Archaeology to investigate and sample this deposit, which proved to be of natural origin (Appendix 4).

There is very little evidence for pre-Roman activity on the site. A total of four worked flints were retrieved, including a blade provisionally identified on site as Mesolithic, but three were residual in later contexts, while the fourth was unstratified. Spot-dating did not identify any pre-Roman pottery.

The west-north-west to east-south-east aligned linear feature **G288**, with features **184** and **189**, comprised Structure 293 in Zone 5. Flooded conditions hampered work on **G288**, but CBM fragments, stone rubble and mortar flecks in upper fill 228 in section **226** suggested an interpretation as a robbed-out wall (although no such inclusions were seen in fill 263 in section **262**). Post-holes **184** and **189** both contained stone rubble post-packing; mid-1<sup>st</sup> to mid-2<sup>nd</sup> century pottery was retrieved from the fill of **189**.

To the north of Structure 293, the shallow, sub-circular pit **212** and the adjacent truncated feature **214** both produced pottery spot-dated to the mid- to late 1<sup>st</sup> to 2<sup>nd</sup> century, suggesting an association with 293. The short length of linear feature **G286** appears to continue the line of feature **214** on the opposite side of the ditch sequence which divides them, and can potentially be considered part of this feature group, although it is recorded as stopping just short of ditch **234** rather than being cut by it, and its dating by two sherds of late 2<sup>nd</sup> century pottery indicates that it may represent a late adjunct.

### 7.2 Mid-Roman

The earliest potentially datable feature in Zone 4 appears to be the west-north-west to east-south-east aligned linear feature **991**, cut into undated former ground surface 954/992, which contained the remains of stone structure 966. This appeared to represent the base of a wall, but had survived only as the basal course over much of its length. No dating evidence was retrieved from this feature, which is assigned to this phase on the basis of its stratigraphic relationships. The north to south aligned ditch **938** cut obliquely across structure 966; it was roughly 1.5m wide and 0.55m deep. No finds were retrieved during the excavation, leaving the single sherd of 3<sup>rd</sup>-century pottery found in Trench 19 during the evaluation to stand as its sole dating. This feature appeared to continue beyond the cut of the modern school foundations as ditch **1128**; Roman pottery, including samian ware, was retrieved from 1135, the fourth of its six fills. Ditch **1128** was obscured on the machined surface by what appeared to be two medieval recuts, although neither could be traced northwards beyond the modern structure which divided **1128** and **938**.

Curvilinear feature **1154** in Zone 4 can be identified as equating to evaluation feature **1808** found in Trench 18: as with the evaluation, no finds were retrieved, and this feature remains speculatively associated with NE-SW running evaluation feature **1818** on the grounds of a similarity in fills recorded during the evaluation. Feature **1818** was also identified, but this feature had already been dated by a sherd of 2<sup>nd</sup> century pottery found during the evaluation and was not further investigated or recorded.

The earliest of the sequence of north-north-east to west-south-west running linear features in Zone 6 was **G405**: mid-2<sup>nd</sup> century or later pottery was retrieved from fill 434 in section **433**,

while two further sections produced a sherd of 2<sup>nd</sup> century or later pottery and pottery only identifiable as Roman respectively; CBM and animal bone were retrieved from both the latter sections. It was uncertain whether ditch **G405** continued to the north-north-east beyond its junction with the perpendicularly aligned feature groups **G446/449**, or whether a different linear feature continued the alignment from this point, and so a different group number, **G453**, was assigned to this portion of ditch. Ditch **G453** had few finds compared with the other ditches making up this sequence, with small quantities of 3<sup>rd</sup> century or later pottery, bone and CBM being retrieved from fill 578 in section **577**, and section **422**, which had been disturbed by a modern drain, producing no finds at all. Ditch **G405** was recut on its western side by **G404**, which had previously been encountered in evaluation trench 5, when 2<sup>nd</sup>- to 3<sup>rd</sup>-century pottery was retrieved. The excavation retrieved mid- to late 2<sup>nd</sup> century and 3<sup>rd</sup> century pottery from two sections into **G404**, while section **423** contained structure 390, a mass of stone rubble provisionally identified as the remains of a demolished or robbed-out wall, as well as a large pottery assemblage from the late 2<sup>nd</sup> century, and section **575** also produced quantities of rubble in association with a large finds assemblage comprising 94 sherds of late 1<sup>st</sup>- to early or mid-2<sup>nd</sup> century pottery, including amphora fragments, with CBM, bone and glass. Ditch **G404** also had a stratigraphic relationship with **G453**, which was cut by undated pit **489**, which **G404** in turn cut (fig. 11, dwg.164).

To the east of the north end of ditch **G453**, the wide, shallow linear feature **797** was cut by the construction trench of later Roman building 693 (fig. 15, dwg. 266). This feature produced no finds, but has been assigned to this phase on the basis of its north-north-east to west-south-west alignment, parallel to **G453**, and stratigraphic relationship to 693. At the eastern edge of the site, a further linear feature on the same alignment as ditch sequence **G404/G405/G453** did not continue to the south beyond ditch **G446**, and appeared to be cut by it. This feature has also been assigned to this phase on the grounds of its spatial (and possible stratigraphic) relationships: due to flooding at the eastern site edge, it could not be excavated or recorded.

A double row of irregularly-shaped and unequally-sized pits runs northwards from the western end of linear feature **G446**. These features, recorded as **G501** and **G506**, clearly form two alignments and appear to comprise a single structure, but the possible dating for these features is ambiguous. Pits **550** and **552**, at the south end of the eastern pit alignment **G501**, were stratigraphically earlier than the possible robbed-out wall **392**, currently phased as late Roman, and a single sherd of Roman pottery was retrieved from pit **507** in the same alignment. A moderate assemblage of mid- to late 1<sup>st</sup> to early 2<sup>nd</sup> century pottery, with a quantity of animal bone including the articulated leg bone of a horse, was retrieved from fill 611 in **610**, the most northerly pit in western pit alignment **G506**; also in **G506**, pottery dating from the second half of the 2<sup>nd</sup> century AD was retrieved from fill 697 in pit **696**, and pottery identifiable only as Roman from both fills of pit **665**.

Two perpendicular ditches in Zone 5 made up group **G792**. No dating evidence was retrieved from the north to south-running ditch, but the east to west-running ditch produced pottery provisionally identified as 3<sup>rd</sup> century and CBM. The linear feature **G844**, directly to the south, was dated by small amounts of 2<sup>nd</sup> and 3<sup>rd</sup> century pottery, and appears to make up three sides of a rectilinear enclosure, with a suggestion of an adjoining enclosure, in combination with **G792**.

### 7.3 Late Roman

A rectangular stone building, on a north-west to south-east alignment (perpendicular to the building found during the evaluation) was exposed in the south-western corner of Zone 5. The building appeared to have undergone at least one phase of redevelopment, presumably commensurate with that noted during the excavation of the villa, as the lines of robbed-out walls were found within the footprint of walls existing to the machined surface level, potentially indicating that the building stone had been re-used for reconstruction of the same building as well as being taken away for re-use after the building had been abandoned. Two

internal dividing walls were observed, one with the remains of a floor surface on either side. The cemetery encountered in Zone 3 extended into this part of Zone 5 (plate 5), and several burials took place within the footprint of the building, including one where the base of grave **145** was formed by the upper surface of wall G156, on which skeleton 32 lay (plate 6). The building was also disturbed by later ditches of probable early medieval and medieval date, a circular well cut through one of the interior robber trenches, and the construction of the modern school. During the excavation, the decision was taken to preserve this building *in situ*, and excavation in this area ceased; inhumations already exposed within the building footprint were reburied, and no further recording took place.

The smaller stone structure at the north-eastern corner of Zone 6 was initially encountered in evaluation trench 4, but was only conjecturally dated by 3<sup>rd</sup>- to 4<sup>th</sup>-century pottery in an associated pit or possible robber trench. Structure 693 proved on full excavation to be a rectilinear stone building, approximately 3m square, with walls of dry-laid limestone and mudstone blocks, of different sizes but with cut faces to both the interior and exterior of the building. The structure may have had an entrance in the north end of the east wall, but disturbance caused by a modern drain made identification uncertain. The structure stood within construction trench **810**; fragments of Roman CBM were retrieved from construction trench fill 809, but no pottery was present. Within the building was compressed earth floor 811, overlying 812, an earlier floor of mudstone slabs (plate 7). The stone floor did not extend all the way to the north and east walls, suggesting that it belonged to an earlier, smaller building, and echoing the phase of reconstruction observed in the villa and the south-western building on the present site. Structure 693 was surrounded by undated rubble spread 826, a series of undated post-holes and small pits, and an as yet unidentified animal skeleton; all of these features are provisionally assigned to the same phase as the structure. The short linear feature **780**, cutting post-hole **779** to the east of the building, was filled with stone blocks that appeared to be demolition rubble, and has been provisionally interpreted as a medieval drain.

Groups **G446** and **G449** are two parallel linear features running roughly east-north-east to west-south-west across Zone 6, to the south of the smaller Roman building. All features in this group are recorded as being stratigraphically later than the perpendicularly aligned feature group **G404/405/453**, although the **G449** features could not be traced to the west of it. The earlier, more southerly feature group **G449** consisted of a probable drainage ditch and its recut; Roman pottery, some identifiable as 2<sup>nd</sup> century, with animal bone and CBM, was retrieved from both features. The northern edge of the ditch recut was cut by **G446**, which was provisionally identified as the course of a robbed-out Roman wall, as it seemed to continue the alignment of feature **392**; it produced a moderate assemblage of 3<sup>rd</sup> to 4<sup>th</sup> century pottery, with animal bone and CBM. Linear feature **392**, extending the line of **G446** to the west of feature group **G404/405/453**, contained structure 389 – a mass of limestone rubble, suggesting the core of a wall footing from which the facing stones had been robbed (fig. 11, dwg. 183) – as well as an assemblage of mid-3<sup>rd</sup> century or later pottery and quantities of CBM, including an unusual tile or ceramic fragment with adhering chips of glass, small find 028. Feature groups **G446/449** and **G404/405/453** appear to represent sequentially re-established boundaries, and it is possible that the more accurate dating provided by full specialist assessment will be able to resolve them into a coherent pattern of rectilinear enclosures.

To the south of feature groups **G446** and **G449**, the linear feature **G448** also cut across feature group **G404/405/453**. Ditch **G448** has been assigned to this phase on the basis of its spatial associations alone: it was roughly parallel to **G446** and **G449**, and its western end appears to form a right-angled corner with late Roman ditch group **G437/G281/G548**, although this area was disturbed by the modern school footings and evaluation trench 5, and no physical relationship could be shown. CBM was retrieved from the fills of four sections; two of these also produced pottery, but it could only be generically identified as Roman.

Evaluation trench 5 encountered a large ditch running roughly north-north-east to south-south-west, which was dated to the 3<sup>rd</sup> to 4<sup>th</sup> century AD. This feature can be identified as one of a sequence of intercutting linear features running along the eastern edge of Zone 5, converging towards the southern site boundary. The stratigraphic relationships of these features suggest a late Roman or post-Roman date; the phasing is likely to be clarified when full specialist finds reports are available. The earliest ditch in this sequence appeared to be group number **G437**: a section through this feature produced pottery that could only be identified as Roman, with a quantity of Roman tile. At least three subsequent recuts of this feature were identified, suggesting that the ditch needed constant maintenance due to repeated flooding of the site; demolition material identified on site as Roman was retrieved from a section through the second recut, **G281**.

The south end of feature sequence **G437/G543/G281/G548** is recorded as putatively cut by **G401**, a possible quarry-pit, which also produced a substantial assemblage of Roman demolition material, and was cut in turn by curvilinear feature **G400**, which extended westwards from the south end of **G548**, and by the large, partially exposed feature **G402** at the southern boundary of Zone 5. Quantities of Roman demolition material, with mid- to late 3<sup>rd</sup> century pottery, were retrieved from a section through **G402**, although its nature could not be established (a further quarry-pit is possible), while late 3<sup>rd</sup> century pottery was retrieved from a section at the western terminal of **G400**. The curvilinear feature **G609**, at the north end of this feature group, mirrors **G400**, and it seems possible that these features can be associated as part of an enclosure adjoining the Roman building, although their physical relationships have been disrupted by the foundation trenches of the modern school. A single Roman *tessera* was retrieved from the upper fill of a section through ditch **G609**, which also contained stone rubble and roof tile. The linear feature **618** at the north side of Zone 6 appears to continue the line of this feature group on the far side of the modern school buildings; its fill produced no material that could be spot-dated, but had a high organic content and included CBM, fired clay, animal bone, shell and charcoal, suggesting domestic and/or industrial refuse. A short length of linear feature, apparently truncated at both ends by modern construction, cut the western terminal of curvilinear ditch **G609** on a perpendicular alignment: undiagnostic Roman pottery was retrieved from two sections through ditch fragment **G847**.

The linear features **G282** and **G283** at the south-west corner of Zone 6 formed a right-angle and were probably contemporary. The north to south-running element **G282** was cut by **G543**, one of the substantial sequence of north-north-east to west-south-west running linear features discussed below. This ditch was undated, but two sections through the east to west-running element **G283** produced pottery only identifiable as Roman and CBM (one of the fragments of tile retrieved appeared to have been cut down into a *tessera*). It continued eastwards on the far side of evaluation trench 3, but its relationship to ditches **G404** and **G405** can only be conjectural, as this area was too severely flooded to be excavated. Ditch **G283** could be identified as continuing on the eastern side of an area of tree disturbance, probably beyond the eastern site boundary, although this area was obscured by flooding. The ditch continuation, recorded as **416**, was cut by medieval drain **366**; two sherds of 2<sup>nd</sup>-century pottery were retrieved from its fill. The feature group **G282/G283** remains uncertainly dated, and its alignment places it at odds with the linear features of all phases surrounding it: its present phasing is speculative and may be revised when the full finds assessment is available.

The linear features **G602**, **G687** and **G746** appeared to form a rectilinear pattern towards the eastern side of Zone 5, on a slightly different alignment from that formed by the potentially early Roman features **G287**, **G288**, **G601**, **G792** and **G844** with **795**. The roughly west-north-west to east-south-east aligned gully **G687** cut the north end of **G601**: a section produced Roman demolition material. The perpendicular features **G602**, extending to south-south-west, and **G746**, extending to north-north-east with a right-angled return to west-north-west, both appeared to be stratigraphically later than **G687**, although they did not form two parts of the same feature. These two features ran parallel to the ditch complex of **G437/G281/G548**,

further suggesting a late Roman date, although no relationship between this complex and gully **G687** had survived the construction of the school. The feature complex was cut by a number of pits and large post-holes, of which pit **684** was provisionally phased as medieval by the presence of disarticulated human bone, potentially derived from the Anglo-Saxon cemetery, although CBM and late 3<sup>rd</sup> century pottery were also present.

Pit/post-hole group **G629**, in the centre of Zone 5, formed a loosely north-to-south aligned constellation of discrete features with no clear structural pattern. Small quantities of wall plaster and pottery of the Flavian/Trajanic period were retrieved from post-hole **727**, which also contained substantial quantities of Roman CBM, while a large assemblage of painted wall plaster was retrieved from fill 623 in post-hole **621**, suggesting that it post-dated either the redevelopment or the demolition of the Roman buildings.

At the western edge of Zone 3, a short section of roughly north to south-aligned ditch in Zone 3, truncated at both ends by the modern school building, was shown both by the excavation and by evaluation trench 2 to be cut by grave **077** containing skeleton 14. 3<sup>rd</sup> century pottery was retrieved from the fill of ditch **G085** during the excavation, and Roman CBM during the evaluation.

Roman CBM was retrieved from two sections through the roughly north to south-aligned linear feature **G394** at the south-east corner of the site, within Zone 6. This feature terminated to the north, but it is possible that (as with **G283**) it had been truncated by later ground levelling or lost in later disturbance, and that it originally connected to late Roman feature **G448** at a point where a ditch stub appears to adjoin its south side: this possible spatial association lends weight to the uncertain dating evidence. The adjoining, parallel linear feature **G395** produced no finds, and is assigned to this phase purely on the grounds of its spatial association with **G394**; again, a short length of a possible linear feature running northwards from the truncated end of ditch 416 may indicate that **G395** continued beyond its apparent northern terminal, forming a T-junction with ditch **416** and either connecting with **G448** or outlining a track which turned to run alongside it.

#### **7.4 Unspecified Roman**

The shallow, north-north-east to south-south-west aligned gully **G287**, which ran parallel to the putative late Roman ditch group **G437/G281/G548**, cut the western end of the putative early Roman linear feature **G288**; its full length was unknown, as both ends were truncated by the footings of the former school buildings. CBM and bone were retrieved from two sections, but no material suitable for spot-dating was found. This feature was recorded as part of Structure 293, but seems more likely to be associated with the narrow linear feature **G601**, which continued its line northwards on the north side of curvilinear feature **G609**, and produced pottery datable only as Roman. It is, however, possible that both features are associated with Structure 293, and form the remains of an early Roman enclosure.

Two complexes of small, narrow intercutting linear features at the western edge of Zone 6 appeared to represent beam slots, with possible associated post-holes. The northern complex, made up of feature groups **G664**, **G668** and **G926**, lay within the north-western angle of the junction of sequential ditch complexes **G404/G405/G452** and **G447**. It had a roughly rectilinear structure, with three approximately north-north-east to south-south-west running beam slots and one perpendicular one. The feature complex had no external stratigraphic relationships and produced no accurately datable finds. The relationship between central beam slot **568** and adjacent post-hole **570** was not established, but two larger post-holes, **462** and **767**, cut the western beam slot; it may be significant that these two features were not only close to the centre line of the beam slot, but were closely aligned with the western group of post-holes from the currently unphased structure **G501/G506** to the north. Post-hole **462** displayed a quantity of stone post-packing and produced fragments of Roman CBM, while large fragments of Roman tile were retrieved from pit **767**.

The southern beam slot complex was made up of feature groups **G669**, **G670** and **G671**, and lay within the south-western angle of the junction of sequential ditch complexes **G404/G405/G452** and **G447**, which appeared to truncate it to north and east, although the area was so disturbed by flooding during the excavation that stratigraphic relationships could not be established. The surviving part of the complex consisted of west-north-west to east-south-east aligned 'spinal' slot **456**, with two shorter slots extending perpendicularly from its north side, and one branching at 45° from its south side. The eastern end of possible beam slot **456** intersected post-hole **458** on its northern side: the features had similar fills and may have been contemporary parts of the structure. CBM was retrieved from three sections; an assortment of finds were retrieved from a section through perpendicular slot **493**, but none were suitable for spot-dating and the site recording proposed no date, noting only that the finds were small enough to be potentially redeposited.

Small quantities of wall plaster were retrieved from fill 1113 in pit **1114** in Zone 5, which also contained four Roman potsherds and one 11<sup>th</sup>-12<sup>th</sup> century sherd, animal bone and CBM. The pit has been provisionally assigned to this phase on the principle that the single medieval sherd is more likely to be intrusive than the Roman material, in the majority, is to be residual.

### **7.5 Saxon to early medieval**

The cemetery encountered in Zones 3 and 5 has been provisionally ascribed to the late Saxon and/or early medieval phase by analogy with previous discoveries. One of three skeletons partially uncovered during the 2010 evaluation was radiocarbon-dated to 1262±34 BP, giving a likely inhumation date between the late 7<sup>th</sup> and the mid- to late 8<sup>th</sup> century (Rowe, 2010); other areas of the cemetery excavated in the 1950s and 1970s produced no dating evidence but were interpreted as being parts of the graveyard of Southwell Minster, due to their overtly Christian character and their proximity to the minster church.

As with the previously excavated portions of the cemetery, the character of the Zones 3 and 5 cemetery was distinctively Christian. Cremation burials were absent from the site: all of the 42 burials encountered were inhumations. Two of the skeletons exposed were so heavily disturbed that they could not be considered to be articulated, and were found within a construction cut and a robber trench respectively, indicating an improvised, probably surreptitious reburial after they had been accidentally exhumed during later work. Of the remaining 40 burials, all were supine and extended, and all but two were east to west aligned with heads to the west, as is typical of Christian burials. The atypical examples were graves **145** and **147**, in which skeletons 32 and 33 were also supine and extended, but aligned north-west to south-east with head to the north-west and north-east to south-west with head to the south-west respectively: there was no immediately obvious reason for this discrepancy, although grave **145** overlay and was roughly parallel to the remains of an earlier wall. Grave goods were almost wholly absent, also a characteristic of Christian burials. A copper alloy ring, small find 014, was found in grave **134**, but it lay within the edge of the grave rather than being directly associated with skeleton 34, and may have been residual in the grave fill or a casual loss during the burial process, rather than having been a personal possession of the deceased (its appearance also suggests that it was a functional item rather than a personal ornament). Apart from this single find, all artefacts encountered in potential association with skeletons were of iron, and were probably coffin nails. A number of the grave fills produced artefacts, but these could be identified as redeposited Roman material, including a *tessera* (mosaic tile) from the fill of grave 012.

Almost no stratigraphic dating was possible within the cemetery, as only two pairs of graves intercut one another. Grave **111** cut the south edge of grave **109**, but the condition of skeleton 24 in grave **109** was too poor to ascertain how much of the truncation it had suffered was due to the excavation of grave **111** (plate 8). Grave **351** cut grave **349**, but no information about their relationship is available, as skeletons 40 and 41 were reburied without recording. In consultation with the appointed specialist, a programme of radiocarbon-



dating of selected skeletal material will form part of the final assessment of the project, in order to ascertain the period of use of the cemetery.

A curvilinear gully and its recut recorded in evaluation trenches 12 (outside the present excavation area, to the north of Zone 3) and 19 were further exposed running across the north-western quadrant of Zone 5, diverging towards its northern edge. The features were recorded during the excavation as **G956** and **G957**. They were dated during the evaluation by a sherd of 10<sup>th</sup> to 11<sup>th</sup> century pottery in Trench 12 and a sherd of 8<sup>th</sup> to 12<sup>th</sup> century pottery in Trench 19, both from the more easterly (more recent) of the gully pair. During the excavation, CBM and bone were retrieved from the older feature, **G956**, but the evaluation dating cannot currently be confirmed except by their stratigraphic relationships: **G956** was cut by medieval pit **969**, and both gullies by medieval ditch **1204**.

A north to south-aligned ditch in evaluation trench 23 was dated by a sherd of 10<sup>th</sup> to 11<sup>th</sup> century pottery and disarticulated human bone: this is identifiable on the site plan, but falls within the area to be preserved *in situ*, and was not further excavated or recorded. It is on the same line as linear features **G035** and **016**, but the features are widely separated by the school footings, and at considerable variance in the dating of their finds: modern rubble, as well as disarticulated human bone, was retrieved from the fill of **016**, which runs along much of the western site edge, while the most northerly ditch segment, **G035**, produced Roman CBM and disarticulated human bone. The latter intersects and may be contemporary with **G036**, a short length of ditch branching off **G035** to the west. It is possible that these three ditch segments do represent a coherent feature, with intrusive modern material deriving from building and demolition work on the school.

Structure 292, at the south-east corner of Zone 6, consisted of 16 substantial post-holes arranged in two rows, characterised by quantities of stone rubble forming post-pads and post-packing in their fills. This building was in line with the Roman stone building at the south-west site corner; four of the post-holes cut the two linear features **G394** and **G395**, which are currently dated to the late Roman period, albeit chiefly by their spatial associations. Post-holes **324** and **334** produced Roman CBM, while post-hole **326** produced the worked stone SF 26, possibly part of a millstone or grindstone broken into several pieces, with a single sherd of mid-1<sup>st</sup> century or later pottery (probably residual), bone and slate; a sherd of mid-2<sup>nd</sup> century pottery, with further CBM, was retrieved from post-hole **256**. The post-packing in post-hole **254** included SF 25, a large oval stone with a square central hole, strongly reminiscent of part of a millstone (plate 9) as well as animal bone and CBM. The dating of these features is slight, but currently favours a post-Roman phase: the two sherds of pottery may well be residual; the presence of potential millstones supports the stratigraphic dating of the structure as post-Roman, while disarticulated human bone was retrieved from fill 255 in post-hole **254**, which, if derived from the Anglo-Saxon cemetery, indicates that this feature post-dates it. The structure was sealed by silty clay layer 266, also provisionally identified as medieval. The generous use of stone within the post-holes was probably necessitated by the wet ground conditions, in which a post was likely to sink unless its weight was spread.

The evaluation trench 21 in Zone 5 encountered two highly ambiguously dated features: an alluvial spread producing C4<sup>th</sup> and 13<sup>th</sup>-14<sup>th</sup> material, cut by a ditch whose lower fill produced Roman and late Saxon finds, corresponding to the ditch recorded by the current project as **G871**. At the time, it could not be ascertained whether the medieval pottery was intrusive or the other material residual. Ditch **G871** was associated with a post-hole, which cut the lower fill of the ditch but was filled by the same deposit as the upper fill, indicating that it had been inserted during the lifetime of the ditch; pottery from post-hole **896** could not confidently be identified as either Roman or post-Roman. A single Roman *tessera* and sherds of late to post-Roman pottery were retrieved from fill 859 of section **858** in the ditch itself. The probable north end of this ditch, separated from **G871** by part of the school building, was **G882**: one of two sections excavated through this stretch of the ditch produced CBM as well as quantities of animal bone and charcoal, but no readily datable material. The north end of

**G882** was cut by gully fragment **887**, which was not quite perpendicular to the ditch (check stratigraphic relationships on drawn section) and produced no dating evidence. The ambiguous alluvial spread was not identified during the excavation. The dating of this feature group remains provisional, although it may be clarified by the full finds assessment; it cannot plausibly be proposed as a boundary to the cemetery.

## 7.6 Medieval

The north-north-east to south-south-west-aligned ditch **G037**, with its recuts **G284** and **G285**, which passes through Zones 3 and 5, cuts a number of burials. Pottery retrieved from sections through the original ditch and both recuts fell chiefly into a range between the 10<sup>th</sup> and 12<sup>th</sup> centuries, although one section through the original ditch produced a wider dating range of 10<sup>th</sup> to 13<sup>th</sup> century. Disarticulated human bone was also retrieved from several fills.

To the west of **G037**, parallel ditch **G038** also cut a number of burials, and seems likely to be contemporary with **G037**. Disarticulated human bone was retrieved from two sections through this ditch.

Grave **052**, a solitary burial lying to the east of the main cemetery area, was cut by the large, shallow pit **054**, which had truncated the head and left shoulder of skeleton 7; 10<sup>th</sup> to 12<sup>th</sup> century pottery was retrieved from the pit fill. Directly adjoining the eastern edge of the double ditch **G037/G284/G285** were two large pits whose long axes were parallel to the ditches: pit **105** truncated skeleton 22 in grave **103**, while pit **159**, directly to the south, truncated skeleton 37 in grave **157** and cut the edge of ditch **G285**. 10<sup>th</sup> to 11<sup>th</sup> century pottery was retrieved from pit **105**, and residual Roman pottery from pit **159**; disarticulated human bone and CBM were retrieved from the fills of all three pits.

Post-hole **172**, at the north side of Zone 3, and pits **684** and **722**, in the centre of Zone 5, were provisionally phased as medieval by the presence of disarticulated human bone, potentially derived from the Anglo-Saxon cemetery. CBM was retrieved from the fills of all three features, and pit **684** also produced residual Roman pottery.

At the northern edge of Zone 5, the double gully **G956/G957**, currently phased as early medieval, was cut by west-north-west to east-south-east aligned ditch **1204**. This feature appeared to terminate to the east, respecting the edge of medieval ditch **G1066** (below). A section excavated at the terminal produced a total of 20 sherds of 12<sup>th</sup> to 13<sup>th</sup> century pottery from two of its three fills; an additional section produced one more 12<sup>th</sup> to 13<sup>th</sup> century sherd and a Roman sherd, clearly residual in this context. Gully **G956** was also cut by large, sub-circular, very steep-sided pit **969** (fig. 18, dwg. 310). Fragments of waterlogged wood were retrieved from the primary fill of this feature, but finds were otherwise sparse: its four fills produced a total of five fragments of Roman CBM and one undiagnostic Roman potsherd, all presumably residual. Pit **969** has been provisionally assigned to this phase by its stratigraphic position and by analogy with neighbouring pit **1200**.

The large, east-north-east to west-south-west aligned ditch **G1066**, near the northern edge of Zone 5, converged with double gully **G956/G957** at its western end, but the relationship was obscured by the disturbance caused by the modern school building. Two of its three fills produced mid-12<sup>th</sup> to mid-13<sup>th</sup>-century pottery. The eastern end of **G1066** intersected a recut sequence of north to south-running ditches: the relationship here was obscured by large, sub-circular pit **1200**, which cut both features. The lowest ditch in the north to south-running sequence was **1128**, which appeared to be a continuation of mid-Roman ditch **938** at the northern site edge, from which it was separated by a modern foundation trench. Ditch **1128** was then truncated by two recuts (fig. 19, dwg. 341); no readily datable material was retrieved from the first recut, **1088**, but later recut **1087** produced 26 sherds of 12<sup>th</sup> to 13<sup>th</sup> century pottery, with 5 residual Roman sherds, from its upper fill, suggesting that it and ditch **G1066** formed a coherent entity.

In Zone 6, the mid-Roman ditch group **G404/G405/G453** was cut approximately at right-angles by three ditch groups currently phased as late Roman, and at a different angle by roughly east to west-aligned ditch **G447** and its recut, **452**. Ditch **G447** was provisionally identified on site as a medieval drainage ditch. Section **512** of the recut contained lengths of roundwood laid along the length of the ditch, apparently in an attempt to improve the flow of water. Two small, closely-set features, possibly post-holes, adjoined the southern edge of this feature: residual Roman CBM was retrieved from eastern post-hole **406**, which cut the edge of the ditch, while western post-hole **360**, which did not intersect the ditch, produced a sherd of post-medieval pottery. It is possible that the two features represent successive positions of a replaced post. Ditch **G447** seemed likely to be contemporary with the much narrower linear feature **G366** which extended southwards from its south side, although the relationship was destroyed by the cut of a modern drain. The horizontally laid timber in **G366**, which could be recognised as lengths of silver birch, appeared to have been pegged into place by pairs of rectangular-sectioned stakes driven in vertically at intervals along the sides of the vertically-sided, flat-based trench (fig. 10). At the eastern edge of Zone 6, the east-north-east to west-south-west aligned linear feature **369** was clearly associated with **G366**, as it also contained horizontally laid timber with an upper layer of brushwood, although vertical stakes were not present here (fig. 9). Both features were cut into clayey silt layer 403, which overlay the natural and appeared to be an alluvial deposit, although finds of 3<sup>rd</sup> century or later pottery, animal bone and CBM suggested an occupation horizon of late Roman or later date.

The short linear feature **780**, cutting post-hole **779** to the east of structure 693, was filled with stone blocks that appeared to be demolition rubble, and has been provisionally interpreted as a medieval drain.

A single *tessera* and a 12<sup>th</sup>-13<sup>th</sup> century potsherd were retrieved from fill 1185 in post-hole **1184** in Zone 5.

### **7.7 Post-medieval**

Clay tobacco pipe was retrieved from upper fill 947 in Zone 5 pit **931**, indicating a post-medieval date for this feature, and consequently for otherwise undated post-hole **932**, which cut it. A scatter of other undated post-holes in the vicinity of **932** may be datable by association, representing a post-medieval structure.

A stone-lined well, **G889**, was encountered at the northern edge of Zone 4. The well was roughly 1.3m in diameter, and was excavated to a depth of 0.8m, retrieving medieval and post-medieval pottery from upper fill 903. Occasional fragments of Roman pottery, including samian ware, were retrieved from the back-fill of the well's construction cut, and a Roman date was postulated on site for this feature. However, the presence of mortar-covered bricks within the upper surface of fill 903 suggests a brick cap or well-head, which, with the proximity of a medieval to post-medieval well found in Trench 18 during the evaluation, suggests that the well is likely to be considerably later and the Roman material residual.

Post-hole **169** lay within a loose group of pits and post-holes at the north side of Zone 3. A single sherd of post-medieval to modern pottery was retrieved from it, although post-hole **172**, its nearest neighbour in a loose group of pits and post-holes, has been provisionally dated as medieval.

### **7.8 Currently unphased**

A double row of irregularly-shaped and unequally-sized pits runs northwards from the western end of linear feature **G446**. These features, recorded as **G501** and **G506**, clearly form two alignments and appear to comprise a single structure. However, the possible dating for these features is ambiguous: pits **550** and **552**, at the south end of the eastern pit alignment, are cut by the possible robbed-out wall **392**, currently phased as late Roman,

while finds from other pits in these groups were identified on site as medieval. Reassessment of the site phasing in the light of the full specialist reports may help to ascertain whether the medieval material in the pits is intrusive or the Roman material in the linear feature residual.

Closely adjacent, parallel north-north-east to west-south-west aligned linear features **G806** and **G861** near the centre of Zone 5 produced only some fragments of CBM and an iron nail from section **801** through **G806**. Both features were cut at their northern ends by east to west aligned ditch **853**, from which no datable material was retrieved. It is possible that these features can be dated by their spatial associations when the site phasing has been clarified by the full specialist finds reports.

## 8.0 Discussion and conclusion

The excavation results from the Minster School site have been provisionally phased using ceramic spot dating (appendix 3): the general picture thus obtained will be refined and clarified by the full finds assessment. However, the dating of archaeological features remains likely to be affected by a high degree of residuality of finds, where new features have been cut through older ones, and material derived from the fills of the older features has been incorporated into the fills of the features cut through them. Some degree of intrusion of more recent material into older features, caused by later disturbance, is also to be expected.

The provisional interpretation of the site initially features a Roman managed landscape, with the scope of activity increasing from the early Roman phase (1<sup>st</sup> to 2<sup>nd</sup> century) through the mid-Roman phase (2<sup>nd</sup> to 3<sup>rd</sup> century) and culminating in the construction of substantial stone buildings and extensive boundaries and/or water management features during the late Roman phase (3<sup>rd</sup> to 4<sup>th</sup> century and later). More detailed dating and further assessment may identify additional areas of early Roman activity, as well as clarifying the sequencing of the repeatedly recut and remodelled ditches.

The domestic – and possibly agricultural – activities of the Roman period were succeeded by use of the western side of the site as a Christian cemetery during the later Anglo-Saxon period. A defining eastern boundary to the cemetery has yet to be identified, leaving the question open as to whether no graves were present across the centre and eastern side of the site, or whether the cemetery in this area had been obliterated by ground levelling for 20<sup>th</sup> century development. However, the provisional interpretation of a large, rectangular post-built structure in the south-east corner of the site as early medieval may indicate that the cemetery never extended into this area. The date range and purpose of this structure may be ascertained by further specialist assessment.

The very low level of intercutting among the graves in the cemetery might be taken to indicate that the cemetery had a short period of use: this seems implausible, considering the number of burials found by previous excavations, but will hopefully be confirmed or refuted by radiocarbon-dating of skeletal material. The presence of disarticulated bone in a number of grave fills may suggest that the graves were once more closely packed, but that the cemetery has been truncated by ground levelling for the construction of the school and only the deepest burials now survive; however, this would be expected still to result in some intercutting graves at cemetery base level (L. L. Keal, osteologist, pers. comm.). A more likely possibility is that the locations of previous burials were indicated with durable grave markers, and the agency by which they were buried had no need to economise on space by cutting new graves through old ones. This suggests that the cemetery was backed by considerable wealth and extensive estates, supporting the interpretation that it was associated with Southwell Minster.

An environmental sample taken during the evaluation suggested that building stone from the Roman building to the west of the present excavation site was being robbed in the Saxon to Saxo-Norman period. The question remains: if this was the case, what was being built with

the stone thus obtained? It is conceivable that the stone may have found its way into the early fabric of Southwell Minster, but the quantities of stone rubble being used on site as footings for post-built structures may indicate that most, if not all, of the robbed material remained closer to home. Further specialist assessment is likely to present a clearer picture.

Across the majority of the site, the latest phase of activity before the construction of the former Minster School appears to have been medieval, and to have been largely concerned with water management. Medieval features other than drains currently appear to be thinly and apparently randomly spread across the site, but it is likely that more features will be identified, and meaningful connections made, in the light of the full specialist reports.

As observed during the evaluation, post-medieval activity appears to have been concentrated within the area bordering Church Street. A well was found directly adjoining the street frontage, indicating occupation, and it is likely that further study of the excavation results will identify other occupation traces such as posthole alignments.

## 9.0 Final report

The programme of work required for the preparation of the final site report, which will supplant this interim report, will consist of

- Compilation of an overall context summary giving a minimum record of every excavated and recorded context, to be included with the final report
- Preparation of a full site matrix, to establish the phasing and relationships of individual feature groups, features and contexts within features
- Detailed specialist assessment of the Roman pottery and ceramic building material
- Detailed specialist assessment of the post-Roman pottery and ceramic building material
- Specialist assessment of non-ceramic Roman building materials, such as painted plaster and *tesserae*
- Specialist assessment of the glass
- Specialist assessment of the clay tobacco pipe
- Specialist assessment of the lithic artefacts
- Specialist assessment of the faunal remains, drawing on the ceramic spot dating already provided
- Conservation of metal finds and any other potentially unstable recorded finds
- Individual specialist assessment of the metal finds and other recorded finds
- Specialist assessment of the preserved wood
- Processing of the environmental samples taken during the excavation
- Specialist assessment of the results of the environmental sampling
- Reassessment and reinterpretation of the findings of the excavation in the light of the information provided by the specialist finds and environmental reports

- Specialist assessment of the human remains in the light of the improved interpretation and phasing of the site, to be followed by targeted scientific dating
- Updating the phase plans of the site according to the findings of the reassessment
- Study of historic and archival documentary sources to assist in the identification and interpretation of major features
- Preparation of a final report including all the above information and updating the interpretation presented accordingly
- Preparation of an ordered project archive for storage and long-term curation

## 10.0 Project archive

Following the completion of the full report, the project archive will remain in the custody of PCAS until transference to a suitable receiving museum can be arranged.

## 11.0 Acknowledgements

Pre-Construct Archaeological Services would like to thank JWA Architects for this commission.

## 12.0 References

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## Appendix 1: Colour Plates



**Plate 1:** Location of the site, looking SE along Church Street. The Old Rectory can be seen beyond the site entrance on the right-hand side of the road.



**Plate 2:** General shot of the site at the start of the project, looking W from the E site boundary.



**Plate 3:** General shot of the site at the start of the project, looking N from the S site boundary.





**Plate 4:** Composite panoramic view of the E side of the site, from a vantage point at the centre.



**Plate 5:** Composite panoramic view of the W side of the site, from a vantage point at the centre. The cemetery is visible at the centre of the picture, and the Roman building at the rear to the left.





**Plate 6:** Skeleton 32 overlying the wall of the Roman building at the SW corner of the site, looking S.



**Plate 7:** Floor surface 812 exposed in Roman building 693, looking E.



**Plate 8:** Intercutting graves 111 and 109, looking S. The older grave, 109, containing skeleton 24, is closer to the camera.



**Plate 9:** Possible millstone fragment SF 25 in post-hole 254.

## Appendix 2: Skeleton Register

Skeleton no.	Grave or cut no.	Description
1	012	Supine, extended, head to W; heavily truncated by two later features
2	041	Supine, extended, head to W; heavily truncated by two later features
3	043	Supine, extended, head to W; truncated and disturbed by machining
4	045	Supine, extended, head to W; truncated by modern feature and disturbed by machining
5	047	Probably supine, extended, head to W; heavily truncated, only lower legs remaining
6	050	Supine, extended, head to W; heavily truncated by modern feature, only legs and one hand remaining
7	052	Supine, extended, head to W; heavily truncated by two later features
8	055	Supine, extended, head to W; truncated by later feature and disturbed
9	058	Fragment; probably supine, extended, head to W; almost wholly destroyed by modern features
10	066	Supine, extended, head to W; slightly disturbed but complete
11	068	Supine, extended, head to W; truncated by modern feature; remains heavily disturbed but apparently reinterred
12	070	Supine, extended, head to W; disturbed at W end
13	073	Supine, extended, head to W; truncated by later feature; remains heavily disturbed but apparently re-ordered
14	077	Supine, extended, head to W; previously excavated but left in situ by evaluation; radiocarbon-dated to 1262±34 BP (within a likely range of late 7 <sup>th</sup> to mid- to late 8 <sup>th</sup> century) by evaluation
15	079	Supine, extended, head to W; truncated by school building and disturbed during machining; grave encountered during evaluation
16	081	Supine, extended, head to W; remains heavily disturbed but apparently reinterred
17	086	Supine, extended, head to W; truncated by modern feature and disturbed by tree rooting
18	088	Probably supine, extended, head to W; heavily truncated by two linear features, only lower legs remaining
19	092	Probably supine, extended, head to W; heavily truncated and disturbed; uncertain whether all bones retrieved were from the same individual
20	099	Supine, extended, head to W; complete and little disturbed
21	101	Probably supine, extended, head to W; fragmentary, heavily truncated by two later features
22	103	Supine, extended, head to W; truncated by two later features; legs crossed; associated with one iron object, probably a coffin nail (small find 6)
23	107	Probably supine, extended, head to W; heavily truncated, only lower legs and feet remaining
24	109	Supine, extended, head to W; cut by grave <b>111</b> and later feature, and disturbed by later activity, possibly ground levelling
25	111	Supine, extended, head to W; truncated and disturbed; associated with iron nails (small finds 7, 8, 9 and 12); grave cuts grave <b>109</b>
26	117	Fragmentary; roughly articulated but heavily disturbed; no grave; within the construction cut of the modern school wall, probably redeposited during construction
27	119	Supine, extended, head to W; truncated (stratigraphic relationships unclear) and disturbed by machining; possibly reinterred
28	130	Supine, extended, head to W; truncated (skull absent); associated with one iron object, possibly a coffin nail (small find 11)
29	132	Supine, extended, head to W; slightly disturbed by machining
30	136	Supine, extended, head to W; truncated by later feature and by machining
31	143	Probably supine, extended, head to W; heavily disturbed, possibly reinterred, but associated with two possible coffin nails (small finds 15 and 16)

Skeleton no.	Grave or cut no.	Description
32	145	Probably supine, extended, head to NW; truncated and disturbed by tree rooting and machining; overlies the footings of a stone wall; associated with one iron object, probably a coffin nail (small find 20)
33	147	Supine, extended, head to SW; slightly truncated and disturbed by machining; associated with two iron nails (small finds 18 and 19)
34	134	Supine, extended, head to W; complete but disturbed, possibly reinterred; associated with two iron nails and a copper alloy ring (small finds 13, 14, 17)
35	152	Supine, extended, head to W; complete and little disturbed
36	154	Supine, extended, head to W; juvenile skeleton; truncated and disturbed by modern feature
37	157	Probably supine, extended, head to W; fragmentary (truncated by later ditches), only parts of legs remaining
38	174	Probably supine, extended, head to W; truncated at pelvis by modern structure, only legs and one hand remaining; associated with a probable coffin nail (small find 024)
39	180	Possibly supine, extended, head to W; fragmentary, only pelvis and some lower arm and hand bones remaining
40	349	Supine, extended, head to W; exposed but reburied without full recording. Grave cut by grave <b>351</b> .
41	351	Supine, extended, head to W; exposed but reburied without full recording. Grave cuts grave <b>349</b> .
42	1179	Disarticulated remains, apparently reburied within a robber trench

### Appendix 3: Ceramic spot dates

Context	Total Roman sherds	Total post-Roman sherds	Total unknown	Total CBM	Ceramic date
0001	1	0	0	6	ROM;CBM ? Date
0003	0	0	0	3	Roman CBM
0005	0	0	0	5	Roman CBM
0011	2	0	0	7	ROM
0013	0	0	0	1	18th +
0020	0	0	0	1	Roman CBM
0023	0	0	0	2	post Roman CBM ?
0027	15	6	0	8	late 15th to 16th;? Later CBM
0029	0	1	0	2	early/mid 10th to early/mid 11th
0030	1	2	0	11	late 10th to 12th
0032	1	0	0	27	ML2+
0042	0	0	0	2	Roman CBM
0044	5	0	0	4	ROM
0046	4	1	0	7	late 10th to 12th;? 1 x med CBM
0048	1	1	0	2	late 10th to 12th
0048 (with skele)	0	1	0	0	10th to 11th
0051	2	0	0	4	ROM
0053	0	0	0	1	?
0056	0	0	0	1	?
0056	0	0	0	12	Roman CBM
0057	8	3	0	5	pot 10th to 12th;? 1 emod CBM
0059	0	0	0	2	?
0061	3	1	0	2	10th to 11th ?
0067	2	1	1	7	modern ?
0069	0	0	0	18	Roman CBM
0071	2	0	0	19	2C+
0072	62	28	0	12	late 18th to mid 20th
0074	1	0	0	1	L2+
0076	3	0	0	1	ROM
0080	1	3	1		10th to 12th
0083	53	2	1	10	10th to 12th
0087	0	0	0	8	medieval to post medieval ? CBM
0089	0	0	0	2	?
0091	0	0	0	9	19th + CBM
0093	0	0	0	4	medieval to post-medieval CBM
0098	27	0	0	8	L3+
0100	4	0	0	16	2C+
0106	2	3	0	12	10th to 11th
0108	0	0	0	4	Roman CBM
0110	5	0	0	15	M-L3
0112	4	0	0	9	L3
0118	1	0	0	5	M-L2+
0120	1	0	0	18	ROM

Context	Total Roman sherds	Total post-Roman sherds	Total unknown	Total CBM	Ceramic date
0127	1	0	0	3	ROM
0131	3	0	0	5	M-L3+
0133	1	0	0	1	M-L3+
0135	10	0	0	14	3C+
0137	1	0	0	11	pot ROM;early modern CBM ?
0144	2	0	0	7	3C+
0146	0	0	0	2	Roman ? CBM
0148	8	0	0	8	M-L3
0150	1	0	0	1	ROM
0153	2	0	0	16	M-L3+
0155	1	0	0	1	ROM;Roman/med to post med CBM
0158	4	0	0	4	ROM
0160	1	0	0	1	L3-4
0166	0	1	0	2	late 10th to mid 11th
0168	2	1	0	5	late 18th to 20th
0171	0	1	0	1	late 18th to 20th
0173	0	3	0	0	late 18th to 20th
0175	0	0	0	4	Roman CBM
0177	2	0	0	1	M-L3+
0179	1	10	0	16	13th
0181	2	2	0	0	late 18th to 20th
0183	1	0	0	0	ROM
0185	0	0	0	1	?
0194	2	1	0	2	10th to 13th ?
0196	10	0	0	21	M-L3+
0198	2	0	1	31	late 10th to 12th ?
0200	4	3	0	11	late 10th to 12th;1 poss emod CBM
0201	15	0	0	2	M1-M2
0203	0	0	0	2	Roman CBM
0207	2	0	0	4	ROM
0213	5	0	0	6	M-L1 - 2
0215	5	0	0	2	M-L1 - 2
0219	2	0	0	1	L2+
0228	0	0	0	6	Roman CBM
0232	1	0	0	0	M-L3+
0234	1	0	0	1	M-L1 - M2
0235	0	0	0	2	?
0238	0	0	0	1	Roman CBM
0240	0	0	0	2	?
0245	39	2	0	6	13-15th or L4
0249	5	0	0	8	3-4
0257	1	0	0	1	M2+
0259	0	0	0	4	early modern CBM
0262	1	0	0	0	3-4C ?
0266	6	0	0	2	L2+
0270	1	0	0	1	L3+
0274	0	0	0	1	Roman CBM
0278	0	0	0	1	Roman/medieval CBM

Context	Total Roman sherds	Total post-Roman sherds	Total unknown	Total CBM	Ceramic date
0290	0	0	0	1	Roman CBM
0295	6	0	0	4	L3+
0299	1	0	0	2	ROM
0302	17	0	0	12	3C+
0304	6	0	0	12	M-L3
0306	0	0	0	1	Roman CBM
0308	3	0	0	1	L3+
0312	1	0	0	0	ROM
0314	0	0	0	6	Roman CBM
0316	0	0	0	5	Roman CBM
0318	0	0	0	3	Roman CBM
0321	3	0	0	0	4C
0322	32	1	0	1	VL4;intrusive med ?
0325	0	0	0	4	Roman CBM
0327	1	0	0	0	M1+
0331	0	0	0	1	Roman ? CBM
0333	0	0	0	2	?
0335	0	0	0	1	Roman CBM
0343	1	0	0	1	ROM
0345	1	0	0	2	2C+
0346	0	0	0	1	Roman CBM
0359	0	0	0	10	Roman CBM
0361	0	1	0	1	mid 17th to 18th
0365	3	0	0	13	ROM
0388	31	0	0	36	L2
0391	4	0	0	18	mid 19th + CBM
0393	13	0	0	64	M3+
0403	2	0	0	7	3C+
0404	4	0	0	3	ROM
0407	0	0	0	13	Roman CBM
0409	1	0	0	14	ROM
0413	1	0	0	0	L3+
0416	2	0	0	1	2C
0418	0	0	0	2	?
0420	17	0	0	3	ML2
0421	33	0	0	23	L2+
0423	5	0	0	2	L2
0426	3	0	0	9	M-L2
0428	4	0	0	12	ROM
0432	1	0	0	4	ROM
0434	2	0	0	16	M2+
0436	2	0	0	2	ROM
0441	1	0	0	12	ROM
0443	4	0	0	16	ROM
0445	4	0	0	11	3+
0451	2	0	0	12	ROM
0455	0	0	0	1	Roman CBM
0463	0	0	0	8	Roman CBM
0465	6	0	0	3	2C+



Context	Total Roman sherds	Total post-Roman sherds	Total unknown	Total CBM	Ceramic date
0467	0	0	0	13	Late 18th + CBM
0471	0	0	0	3	?
0475	0	0	0	1	Roman CBM
0477	0	0	0	1	Roman CBM
0479	0	0	0	1	?
0481	5	0	0	4	ROM
0482	10	0	0	11	4C
0486	2	0	0	1	2C
0488	12	0	0	10	M3/VL4
0496	0	0	0	2	?
0508	1	0	0	0	ROM
0513	60	0	0	54	L4
0520	4	0	0	0	2C
0522	0	0	0	3	? Roman CBM
0525	0	0	0	2	?
0527	0	0	0	1	medieval CBM ?
0530	0	0	0	4	?
0536	0	0	0	2	Roman CBM
0538	5	0	0	8	M2+
0547	0	0	0	12	Roman CBM
0549	5	0	0	24	4C
0551	0	0	0	4	Roman CBM
0553	0	0	0	3	Roman CBM
0559	1	0	0	0	ROM
0569	0	0	0	1	Roman CBM
0571	0	0	0	8	Roman CBM;smudged context
0574	5	0	0	4	M2+
0576	94	0	0	63	L1-EM2
0578	4	0	0	4	3C+
0582	0	0	0	2	? med CBM
0589	1	0	0	1	ROM
0593	0	0	0	1	Roman CBM
0597	1	0	0	11	ROM
0600	0	0	0	3	Roman CBM
0606	0	0	0	2	Roman CBM
0611	12	0	0	40	M-L1 - E2
0615	0	0	0	4	Roman CBM
0619	0	0	0	12	Roman CBM
0620	0	0	0	8	Roman CBM
0623	0	0	0	2	Roman CBM
0625	0	0	0	6	Roman CBM
0645	2	0	0	10	EROM ?
0649	0	18	0	6	late 18th to early 19th
0654	0	0	0	1	?
0658	0	0	0	5	Roman CBM
0661	2	0	0	0	ROM
0666	5	0	0	34	ROM
0666/7	14	0	0	27	ROM
0667	6	0	0	42	EROM

Context	Total Roman sherds	Total post-Roman sherds	Total unknown	Total CBM	Ceramic date
0675	1	0	0	0	ROM
0677	0	0	0	23	Roman CBM
0686	2	0	0	5	L3
0691	1	0	0	2	ROM
0697	9	0	0	23	AD150-200
0698	0	0	0	2	Roman CBM
0699	2	0	0	16	ROM
0701	0	0	0	4	Roman CBM
0702	2	0	0	4	EROM
0709	2	0	0	0	ROM
0712	1	0	0	4	early modern
0715	21	0	0	1	L3
0724	0	0	0	1	?
0725	8	30	0	2	late 18th to early 19th
0728	3	0	0	42	FLAV/TRAJ;70-120
0730	0	0	0	1	Roman CBM
0731	1	0	0	4	ROM
0734	1	0	0	1	ML1-M2
0739	0	0	0	3	Roman CBM
0741	0	0	0	1	Roman CBM
0748	0	0	0	1	medieval ? CBM
0756	2	0	0	0	ROM
0758	1	0	0	1	ROM
0764	0	0	0	3	Roman CBM
0777	1	0	0	2	M-L3
0787	2	0	0	2	3C+
0790	2	0	0	3	ROM
0794	4	1	0	0	11th to 12th
0800	0	0	0	1	Roman CBM
0808	5	0	0	2	ROM
0809	0	0	0	3	Roman CBM
0811	1	0	0	6	ROM
0813	2	1	0	0	mid 11th to 12th
0816	2	0	0	0	ROM
0818	13	1	0	0	early to mid 12th ?
0822	6	0	0	5	M2+
0824	2	0	0	3	ML3?
0832	1	0	0	1	ML3?
0834	1	0	0	0	M2+
0842	0	0	0	1	Roman CBM
0843	3	0	0	0	ROM
0846	2	0	0	2	ROM
0852	0	0	0	3	?
0859	2	0	1	3	Roman/post-Roman;3C+
0863	1	0	0	2	ROM
0867	0	0	0	1	Roman CBM
0869	1	0	0	0	M2+
0870	0	0	0	1	?
0877	0	0	0	3	Roman CBM

Context	Total Roman sherds	Total post-Roman sherds	Total unknown	Total CBM	Ceramic date
0879	0	2	0	26	13th to 14th
0891	1	0	0	0	ROM
0898	0	0	9	1	Post-Rom/Roman
0899	0	0	0	3	Roman CBM
0901	3	0	0	0	M2+
0903	0	2	0	2	mid 16th to mid 17th;? Later CBM
0906	0	0	0	6	Roman & ? PR CBM
0907	6	0	0	4	ML1-E2
0911	7	0	0	5	AD150-200
0913	1	0	0	1	L2+
0915	0	19	1	9	mid 12th to early 13th
0917	0	0	0	1	Roman CBM
0925	0	1	0	0	11th to early 13th
0928	1	0	0	4	L1-E2
0943	0	0	0	1	Roman CBM
0947	1	3	0	4	17th to 18th
0948	0	0	0	1	Roman CBM
0958	0	0	0	1	Roman CBM
0962	2	30	0	2	13th to early/mid 14th
0962/979	1	3	0	10	13th to early/mid 14th
0963	0	2	0	1	13th to early/mid 14th
0970	0	0	0	1	Roman CBM
0972	0	0	0	1	Roman CBM
0973	1	0	0	3	ROM
0975	0	0	0	3	Roman CBM
0977	0	0	0	1	Roman CBM
0996	0	1	0	1	mid 12th to early/mid 13th
1002	0	1	0	6	11th to 12th ?
1009/1010	0	220	0	2	19th to mid 20th
1011	0	0	0	2	Roman CBM
1014	0	1	0	0	11th to 12th
1025	0	0	0	1	Roman CBM
1028	0	1	0	0	mid 12th to early/mid 13th
1030	1	0	0	1	ROM;poss post RO CBM
1034	2	11	0	0	mid/late 12th to early/mid 13th
1037	0	1	0	1	13th to early/mid 14th
1041	0	13	0	0	mid/late 12th to early/mid 13th
1048	1	30	0	17	18th
1061	1	1	0	1	mid 12th to early/mid 13th
1064	1	6	0	2	mid 12th to early/mid 13th
1092	3	1	0	1	mid 15th to 16th
1094	0	6	0	1	mid 12th to mid 13th
1096	0	0	0	6	Roman CBM
1097	0	8	0	3	mid 12th to early/mid 13th
1098	0	12	0	0	mid 12th to early/mid 13th
1105	1	2	0	0	mid 12th to early/mid 13th
1106	0	2	0	6	mid/late 12th to early/mid 13th
1108	0	7	0	1	mid 12th to early/mid 13th
1109	0	1	0	4	12th to 14th

Context	Total Roman sherds	Total post-Roman sherds	Total unknown	Total CBM	Ceramic date
1113	4	1	0	5	mid/late 11th to mid 12th
1116	0	1	0	0	11th to mid 12th
1129	1	0	0	2	ROM
1130	0	0	0	1	?
1131	1	0	0	1	ROM
1135	4	0	0	2	AD70-200
1139	5	26	0	17	mid/late 12th to early/mid 13th pot;poss later CBM
1141	0	0	0	3	Roman CBM
1142	0	0	0	1	Roman CBM
1146	0	2	0	2	mid/late 12th to early/mid 13th
1167	1	0	0	1	ROM
1169	1	0	0	1	ROM
1171	1	0	0	0	ROM
1173	0	0	0	1	Roman CBM
1175	1	1	0	0	mid 12th to early/mid 13th
1181	1	0	0	1	ROM
1183	0	0	0	1	Roman CBM
1185	0	1	0	0	mid 12th to mid 13th
1187	0	0	0	4	Roman CBM
1191	0	0	0	1	?
1198	1	0	0	0	3C+
1207	1	1	0	2	mid 12th to early/mid 13th pot;poss later CBM
1209	1	0	0	0	ROM
1222	0	2	0	0	13th to early/mid 14th
1224	0	0	0	1	Roman CBM
1226	0	2	0	0	mid 12th to early/mid 13th
1233	6	0	0	2	M-L3+
1236	1	0	0	0	ROM
1238	0	0	0	6	Roman CBM
1244	1	0	0	2	ROM
1246	0	1	0	1	mid 12th to early/mid 13th
u/s	21	0	0	1	2-4C

## **Appendix 4: Soil evaluation report**

by R. I. Macphail, Institute of Archaeology

### **Summary**

A field evaluation of the 'white layer' at the Old Minster site, Southwell, suggested this was a largely weathered natural tufa or marl, of likely early Holocene date. Samples were collected to further this suggested identification through laboratory analysis.

### **Introduction**

The Old Minster site, Southwell, Nottinghamshire was visited on the 10th of October 2012, in order to help determine the nature of a white layer which was present across major parts of the site, and was believed to be either 1) a lime-based foundation material for various structures or 2) a natural deposit (Johanna Gray and Neil Parker, Pre-Construct Archaeological Services Ltd, pers. comm.). Various examples of this white layer were discussed with Neil Parker, and two locations were selected for study and sampling, namely Contexts 133 and 134 (Figs 1-4). These were examined employing standard techniques (Goldberg and Macphail, 2006; Hodgson, 1997).

### **Results**

#### ***Local soils***

The Soil Survey of England and Wales mapped the soils surrounding Southwell as formed in Permo-Triassic reddish mudstone, and employing this information alongside field evidence a Typical Argillic Pelosol soil cover can be interpolated for the unmapped 'urban' area (Hodge et al., 1983). These soils (Worcester soil association) are described as "Slowly permeable non-calcareous and calcareous reddish clayey soils over mudstone - - -".

#### ***White Layer***

At both Locations/Contexts studied (133 and 134) the 'white layer' appears to be weathered, but essentially is a light grey colour (10YR6/1) when pure. It is, however, often rooted and burrow mixed, becoming a weakly humic soil and/or an anthropogenic soil containing charcoal and rubefied sand/fine brick material layer. Intact white layer material at 133 seems to include monocotyledonous plant fragments and possibly molluscs also occur within the white layer. Thin section soil micromorphology would be necessary to clarify this, however. At 134, the white layer is weakly iron-stained (?) in places giving it a reddish yellow colour (7.5YR6/8). It seems that the whitish layer is present over the dark grey and grey (5Y4/1-5/1) clay substrate (weathered Permo-Triassic mudstone). Some whitish nodules occur along the boundary between the two layers.

### **Discussion**

The field evidence and previous experience with such deposits suggests that the white layer is a natural marl or tufa (travertine) deposit; its preservation may be too poor to take this identification further, however (Hatch and Rastall, 1965; Weiner, 2010). If tufa, it may have formed as spring water emerged over the semi-impermeable clayey weathered mudstone geology on the slope north west of the Potwell Dyke. Numerous instances of tufa/marl formation dating to the early Holocene can be cited, for example at the Upper Paleolithic and

Early Mesolithic site of Three Ways Wharf, Uxbridge, and within alluvium at Pilgrims School, Winchester (Lewis et al., 1992; Lewis and Rackham, 2011; Macphail et al., 2009). A much nearer example is the early post-glacial marl on the A46 at Margidunum, Nottinghamshire (Wessex Archaeology)(Macphail, 2012). These examples, formed through calcium carbonate deposition from CaCO<sub>3</sub>-charged groundwater/springs, and calcium carbonate can embed plants growing on site or detrital plant material, as suspected at Southwell. It is very unlikely that a lime mortar foundation (white layer) would include unburned plant material and molluscs (Karkanas, 2007; Rentzel, 1997).

The field evidence suggests that the white layer is weathered tufa/marl, of natural origin. This tufa has been affected by weathering after exposure through erosion, building works, and possible liquid waste contamination; it has also been rooted and burrowed. Previously, this location would have been a source of clean water.

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