

Wessex Archaeology

Syon House, Syon Park Hounslow

An Archaeological Evaluation of a Bridgettine Abbey
and an Assessment of the Results



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Summary

In May 2003 an archaeological evaluation was undertaken by Channel 4's Time Team at Syon House, Syon Park, Hounslow, (centred on NGR 517300 176700) to locate the ground plan of the abbey church and associated precinct of the former Brigettine abbey, which occupied the site before the Dissolution of the monasteries by Henry VIII. The Brigettines were a dual order serving both nuns and monks. It was also intended to establish whether the present Syon House, a Tudor mansion, was built on the foundations of the former cloister block. The work, undertaken over three days in May 2003, comprised a geophysical survey and eight machine-dug trial trenches located across the site.

The archaeological evaluation was successful in achieving the aims and objectives of the project. The geophysical survey produced results of sufficient clarity to enable an interpretative plan of part of the Brigittine abbey to be proposed. The eight trenches demonstrated the validity of much of the geophysical survey results and provided detail on the location, layout and extent of the abbey church, and the location of a possible cloister to the south, along with other monastic buildings.

The excavation has also provided detail on the construction and development of the abbey church and its internal layout, particularly in relation to a series of pier bases within the abbey church.

The physical remains of the abbey were subject to robbing and demolition, as well as severe truncation as a result of a post-medieval landscaping. In consequence the evaluation only produced evidence for the foundation trenches, rubble cores and rubble-filled robber trenches of the abbey buildings with no surviving *in situ* stonework or floor surfaces. Despite these disturbances, other archaeological evidence survived, most notably two inhumation graves.

The limited survival of deposits associated with the abbey beyond those associated with the foundations of the buildings limited the stratified assemblage of later medieval finds. Finds recovered include personal items (strap-end, button), construction material (architectural fragments, wall plaster and glass) and domestic equipment (pottery) as well as more direct evidence for the inhabitants of the abbey in the form of human remains. The faunal remains (fish, birds, young pig) are indicative of high status consumption waste. Of particular interest are the fragments from a pair of spectacle frames, a rare item with only one known parallel, from London, and the fragments of human skull with associated dress pins. All these items provide human interest in the history of the abbey and its inhabitants.

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The geophysical survey was undertaken by John Gater with staff from G.S.B. Prospection, and survey by Henry Chapman, University of Hull. Excavation strategy was conducted by Miles Russell, University of Bournemouth, site recording was coordinated by Phil Harding, assisted by Steve Thompson of Wessex Archaeology. The excavations were undertaken by the Time Team's retained excavators with help from Bob Cowie, Stuart Hold, Dave Saxby and Raowl Bull (MoLAS). Thanks are also extended to members of Richmond Archaeological Society for help with finds processing. The archive was collated and all post-excavation analysis and assessment undertaken by Wessex Archaeology including management (Roland J C Smith), report (Phil Harding), finds (Lorraine Mephram), human bone (Jacqueline I McKinley), animal bone (Dr Stephanie Knight) and illustrations (Mark Roughley). Specialist comment on the draft report and discussion of the results was kindly provided by Barney Sloane (monastic expert).

The progress and successful completion of the work also benefited from discussion on site with specialists of medieval archaeology Jonathon Foyle (architecture), Philippa Gregory (historian), Debbie Ford (pottery), Barney Sloane and Mick Aston (monasteries) and Christopher de Hamel (manuscripts).

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1 BACKGROUND

1.1 Description of the site

- 1.1.1 In May 2003 an archaeological evaluation was undertaken by Channel 4's Time Team at Syon House, Syon Park, Hounslow (Figure 1). The site is in Syon Park, in the immediate locality of Syon House, an extensive 16th century quadrangular house belonging to the Duke of Northumberland. The area of investigation, which lies in the borough of Hounslow, consisted of lawns surrounding the house, centred on NGR 517300 176700.
- 1.1.2 The site is flat and low-lying, approximately 250 m north-west of the Middlesex bank of the River Thames on a terrace at *c.* 6 m OD. The underlying geology is mapped as Kempton Park Gravel (British Geological Survey, 1998; South London. England and Wales Sheet 270. Solid and Drift Geology. 1:50,000), however the excavated trenches suggest that the gravel is covered by 'brickearth' of the Langley Silt Complex, which is mapped as terminating on the north edge of Syon Park.
- 1.1.3 The present day house occupies the site of the abbey of the Order of the Most Holy Saviour, a Bridgettine abbey, founded by Henry V. It was the only Bridgettine house in England. By the time of its suppression in 1539 it was the tenth wealthiest monastery and the wealthiest of all non-Benedictine religious houses in England.
- 1.1.4 The Bridgettine Order was founded by St Bridget of Sweden in 1346, although it did not receive papal recognition until 1370. St Bridget experienced visions, which were thought to be direct conversations with Christ. They were known as her 'Revelations' and formed the basis for the Bridgettine way of life. Bridgettine houses were unusual in that they contained both women and men, who lived in separate cloisters. There was a shared church, but even there the men and women were kept apart, with the nuns in a separate raised gallery (Bolton Holloway 2000). The ideal community consisted of 60 sisters, 13 priests, 4 deacons and 8 lay brothers (Dunning 1981).
- 1.1.5 The original Bridgettine abbey was at Vadstena in Sweden, and had Bridget's daughter, St Catherine, as the first superior (Johnston 1964). It consisted of a central chapel, with a square cloister for the nuns on the northern side, and an open priest's cloister and various other buildings to the south.
- 1.1.6 The origin of English involvement with the Bridgettines lay with the marriage of Phillipa, daughter of Henry IV, to Eric XIII of Sweden in 1406. Phillipa, accompanied by Henry FitzHugh of Ravensworth, visited Vadstena. Henry, inspired by the monastery, determined to found a Bridgettine house at Cherry Hinton,

Cambridgeshire. Henry IV was also influenced by the saint's monastic vision and intended a house in the dilapidated hospital of St Nicholas, York. Neither plan was carried forward, but significantly, two of the Vadstena brothers, John Peterson and Katillus Thorberni, came to England in 1408, where they remained until 1415 (Johnstone 1995, 2).

- 1.1.7 After Henry IV's death in 1413, Henry V determined that Shene (now Richmond upon Thames) should become a major centre of Lancastrian influence (Johnstone 1995, 3). As well as embarking on a substantial palace, he founded three monastic houses of the strictest form: a Carthusian monastery at Shene itself, an (aborted) Celestine monastery, and a Bridgettine abbey across the Thames in Isleworth.
- 1.1.8 The site of the first Brigettine abbey was in Twickenham Park, immediately across the river from the palace (probably in the vicinity of St George's road near the southwest side of Twickenham Bridge). The king laid the foundation stone in 1415, and proceeded to spend £867 4s 11 ¾ d on the building works by 1419 (Urwin 1965, 29). In 1421, surviving documents record that the abbess had chartered three ships for one year to bring Huddlestone stone to the site, and that bricks made in local kilns were used. Vadstena sent four sisters, two brothers and a novice to join the two brethren already in England.
- 1.1.9 The monastery was described in Henry V's petition to Pope Martin V as having '*a church, cemetery, bell-tower, bell, houses, habitations, beds, bedding, gardens, courtyards, plots and other utensils and offices necessary for the habitation of the Father and seventeen Brothers and eight Conversi...and another monastery adjoining the same monastery but separate and entirely distinct from it together with houses, habitations, courtyard, cloister, gardens, plots, beds, bedding, utensils, and other offices necessary for the habitation of the Mother and Nuns and lay sisters numbering sixty persons...*' (ibid, 31). This makes clear the intended arrangement of the double house sharing one church.
- 1.1.10 Probably due to the marshy nature of the ground, and despite the great expenditure, a decision was taken to move the monastery from this site to a new site in 1426. Henry VI granted them a site (that of Syon House) in the following manner. '*...to the abbess and convent of the Monastery of St Saviour, Mary, and Bridget of Syon...a certain house which the said late king (Henry V) built...with the intention of founding...other religious persons, and intention never fulfilled.*' (Urwin 1965, 32). This may indicate that the monastery was established in the aborted Celestine foundation of Henry V, with significance for the archaeology of the site if true.
- 1.1.11 The foundation stone of the new church was laid by John, Duke of Bedford, on 5th February 1426. The Syon Martiloge, a record written at the monastery, specifies that this was at the north-east corner of the church (Virginia Bainbridge pers comm). In 1431, royal permission was given for the community to move into the new monastery. Building of the monastery continued throughout the 15th century, initially under the control of Robert Westerby, a master mason with a long royal connection (Johnston 1995, 3).
- 1.1.12 Between 1461 and 1479, some £6,226 was spent on constructing the church, chapter house, cloister, dormitory and smithy, with the church alone costing £4,138.

Following Vadstena's remarkable reversal of normal custom, Syon may have had its high altar at the west end of the church, since papal approval was sought for just such (Johnston 1969, 184, quoting Cal Papal Regs xiii, 789). In 1468 the ship *Mary* was provided with protection papers while carrying stone from Caen for Syon. The church was finally consecrated in 1488, but plague ravaged the community in that year, killing seven sisters and three brothers, including the Confessor-General. In 1483 Edward IV's body was brought in its coffin to Syon en route to Windsor, and in 1494 Sir William Stanley was buried at the abbey at a cost of £15 19s.

- 1.1.13 The monastery possessed a famous library which contained nearly 1500 books and was thus among the largest of its type in the country. Expense accounts show that a resident scribe/binder was paid by the year as well as by the book. He used vellum (calf skin), forel (a grade of parchment made from sheepskin in imitation of vellum), and deer and kid skin; clasps, paper, glue, paste, thread, cord, bosses, pigments, pumice, gold, and alum and rosin for preparing writing surfaces. Ink was made of galls, copperas, gum Arabic or frankincense. He was responsible for the care and maintenance of the library and would be punished if the books got lost (Erler 1985).
- 1.1.14 Cloisters for the brethren were probably on the north side of the church, while those of the sisters lay to the south, if Vadstena formed any kind of model. Multiple infirmaries existed (one each for the brothers and sisters, one for those sick in the mind, and possibly others). Beyond the inner court was the outer court, containing offices, storerooms, stables and a refectory for visitors (perhaps a guest hall?) with a 'high' table and a 'grooms' table. On the riverward side of the precinct was a wharf for imported goods and building stone.
- 1.1.15 The cloisters were used for the burial of the brethren and sisters. The Martiloge (translated by Claes Gejrot and Virginia Bainbridge) notes that from at least 1485, 30 burial plots were established in each cloister. The plots lay in pairs, the first two being next to the first window in the cloister and the second pair being next to the second window. Furthermore, one of each pair was described as lying next to the wall. From this one could conjecture that the plots occupied only a north or south cloister walk, (although the current evaluation suggests otherwise – see paras 3.5.1-3.5.2) and that the walk had 15 windows. Plots were reused in order, so once all 30 had been filled, the bones of plot 1 were disinterred to make way for a new burial (and presumably stored in a charnel house). From this we know that 80 nuns died here between 1485 and 1539, and 55 brethren in the same period. A symbolic empty grave lay outside the church door, and the whole community gathered around it daily to contemplate their mortality (Blunt 1873, 142–3).
- 1.1.16 The monastery was a place of pilgrimage and almsgiving. Crowds of pilgrims visited, especially in Lent and at Lammastime, to make the most of the special indulgences granted by the abbey, known as the Pardon of Syon (Johnston 1969, 186), and, after 1500 to receive special blessings on rosaries (the Pardon of the Beads). In the 15th century, a Sussex will made provision for five pilgrims to go to Rome, Syon, Walsingham, Santiago de Compostella and Canterbury, showing the context in which this shrine was viewed (Duffy 1992, 193). Receipts from offerings at the shrine of St Bridget were near £29 in 1510, and in 1535, the shrine was the fourth most valuable in the country (Johnston 1969, 186).

- 1.1.17 After over 100 years of peaceful existence and royal favour, Syon became embroiled in the political turmoil surrounding Henry VIII's divorce and royal supremacy over the church. Richard Reynolds, a friend of Thomas More and a learned monk at Syon, was executed in 1535 for refusing to accept Henry as head of the church. Resistance against the crown continued at Syon, until the abbey was finally suppressed on 25th November 1539 (Johnston 1964). One or two items are said to still survive from the former abbey. The community at the current Syon Abbey in Devon claim to hold the cross from the top of Syon church (though this may be the same as), a fragment of the gatehouse and a key from the monastery door. A cope of early 14th century date used at the Abbey is in the Victoria and Albert Museum. Eighty books from the original library still survive, including a number written there. The carved wooden altar rails in St Dunstan's church, South Brent, apparently came from the abbey church at Syon (www.plymouth-diocese.org.uk/parishes/exeter&devon/souhtbrent.htm).
- 1.1.18 Syon passed into the possession of the Crown and Henry VIII's fifth wife, Catherine Howard, was confined there before her execution in 1542. In 1545, the house was adapted to produce munitions for use against the French, and by 1547, the church was seriously dilapidated, and had to be renovated for Henry VIII's body to stay en route to Windsor from Westminster. It was during this stay that the coffin reportedly burst and dogs scavenged from the corpse. Somewhen after Henry's death, Edward Seymour, Duke of Somerset, granted the site to himself, including 'the church, steeple and churchyard' and turned it into a house at a price of about £5,000. He laid out new gardens, including one established by his physician, Turner, which was the first botanical garden in the country (Batho 1956, 5). During this period, 'two sides' of the monastery were pulled down. However in 1552 the Duke was accused of plotting against the Crown and executed. Syon then briefly passed to the Duke of Northumberland, but under Mary I the Bridgettines were briefly recalled in 1557. Money was allocated for parts of the abbey to be rebuilt (Syon ms. D.XIV 6a), although whether this ever happened is uncertain. The following year, on Elizabeth I's accession in 1558, they left once again and eventually settled in Lisbon, Portugal. A small community later returned to England and now reside at Syon Abbey, South Brent in Devon.
- 1.1.19 After nearly forty years under various keepers, the leasehold of Syon passed to Henry Percy, 9th Earl of Northumberland in 1594. He acquired the freehold in 1604 and renovated it at considerable expense (Reynolds 1962), including extensive landscaping of the grounds (Alnwick Castle mss.), which may have involved clearing away remains of the abbey. It was substantially remodelled again in the 18th century, with the interior of the house being redesigned by Robert Adam and the grounds landscaped by 'Capability' Brown. Nothing on the surface remains to indicate to what extent the Tudor and later house and gardens reflected the layout of the earlier abbey and precinct.
- 1.1.20 A number of historic maps exist of parts of the site, dating from around the turn of the 17th century, along with one or two views of the house. These have been examined by Stewart Ainsworth of the English Heritage Archaeological Survey.

1.2 Previous archaeological work

Resistivity Survey

- 1.2.1 A resistivity survey covering the lawns to the east, south and north of the house was undertaken by GSB Prospection in 1998 (Gater 1998). The lawn approaching the front of the house to the west was surveyed a year later (Gater and Ovenden-Wilson 1999). Extremely clear resistance results were achieved by both surveys, providing a detailed map of the surviving remains below the lawns (Gater 1998). The combined results were divided into four sections, representing areas of lawn on the four sides of the house. Figures 2, 3 and 4 show the location, extent and results of the survey to the south and east of Syon House which are relevant to the Time Team project.

East Lawn

- 1.2.2 The lawns to the south-east and east of the house contained a number of rectilinear features, which did not appear to correlate with the known plans of 17th century formal gardens and were thought to represent earlier monastic remains (Gater 1998). These features were aligned east to west and appeared to define two sides of a building, which extended from the east façade of the Tudor house. The building was 33 m across and designed with internal column bases. These features were overlain by garden features that could be correlated by reference to a garden plan of 1739 with additional elements shown on an earlier map of 1635. The survey area was extended to the east during the Time Team project to reveal the east end of the building (Figures 2 and 3).

South Lawn

- 1.2.3 An array of rectilinear high resistance features, that were on the same alignment and perpendicular to the high resistance responses thought to relate to the abbey, was also discovered on the south lawn (Figure 3). However the dominant results south of the house coincided with features apparent on garden plans associated with the post-medieval house, with an additional drain, pipe or service trench.

North Lawn

- 1.2.4 The results were variable to the north of the house, in the ‘Sundial Garden’ (not shown on Figures 2 and 3). Some features were thought to be modern features or service trenches and others possibly associated with former foundations or garden features, although no clear correlation with 18th century map evidence was apparent (Gater 1998).

West Lawn

- 1.2.5 Most of the features on the west lawn were interpreted as garden features of varying dates (not shown on Figures 2 and 3). There were also rectilinear features that were regarded as former extensions of the north and south wing of the house, corresponding to maps and drawings of the 17th century (Gater and Ovenden-Wilson 1999).

MoLAS Trenches

- 1.2.6 Two small-scale archaeological evaluation trenches were dug immediately to the north-west of Syon House, to the rear of the former extension of the north wing, which was detected by geophysics. These investigations, by the Museum of London

Archaeology Service (MoLAS) (Cowie 2002), were conducted in an area known as the 'Laundry Green', and were undertaken in advance of development work. They yielded a number of features and stratified deposits, between 0.76 m and 1.08 m thick, interpreted as being contemporary with the abbey.

- 1.2.7 Natural brick-earth at 5.16 m OD in the Laundry Green area was cut by a series of features, including gullies and postholes. No date was available for the earliest gully, but the other features were interpreted as probably contemporary with the abbey, with domestic rubbish dumps and building rubble also associated with the abbey's occupation. Sherds of Coarse Border Ware and Tudor Green Ware, dated to between 1350 and 1500, clearly indicated activity contemporary with this occupation. These sherds were associated with bones of cow, sheep or goat, pig, marine and freshwater fish, as well as the shells of oysters, cockles and mussels. Smaller numbers of rabbit and deer bones indicated some high status consumption.
- 1.2.8 Dumped building material included brick, roof tile and Flemish floor tile. A slightly later dump, interpreted as possibly contemporary with the demolition of the abbey, yielded similar material plus glazed ridge tile.
- 1.2.9 A second trench on the south side of a modern toilet block, approximately 20 m south-west of these dumps, also uncovered stratified deposits at least 1.45 m thick. A series of gravel layers, probably a path or road, was overlain by a dump containing a sherd of Tudor pottery. These deposits were cut by a probable robber trench for the wall of a 16th century building, which contained a fragment of redeposited Reigate Greensand moulding, that almost certainly originated from the abbey (Cowie 2002).
- 1.2.10 Traces of the abbey buildings have come to light in garden works. In particular, excavation for a pond in the central courtyard of the current house revealed an *in situ*, although apparently patched, tiled floor at a depth of about 3' 6" (pers. comm. Topher Martin, estate gardener). A photographic record of this floor is held by Mr Martin. Additionally, survey of a surviving undercroft in the west range of the house, thought to be late medieval, has been published by the Royal Commission on Historical Monuments of England.

2 METHODS

2.1 Introduction

- 2.1.1 A project design for the work was compiled and provided by Videotext Communications (Videotext Communications 2003). Full details of the circumstances and methods are contained in this document and are summarised here.

2.2 Aims and objectives

- 2.2.1 The project provided an opportunity to evaluate the only Bridgettine house in England, using a combination of geophysics and archaeological machine dug trenches to establish details of the abbey layout, construction and architectural furnishings/fittings.

- 2.2.2 The Bridgettine order were double houses, containing both women and men. It is uncertain how these houses were arranged in the medieval period, especially whether they were modelled on the original Bridgettine abbey at Vadstena in Sweden where the nuns and monks occupied buildings on opposite sides of the church.
- 2.2.3 The investigation at Syon set out to locate the position of the church and the plan of the abbey complex, its extent and state of preservation. It was also intended to establish whether the present Tudor mansion was constructed on the foundations of a former cloister and to reconstruct details of any formal garden features relating to the later landscaping. The conclusions would help to indicate how the Bridgettine house was arranged and form an important resource for the future management and interpretation of the site.

2.3 Fieldwork methods

- 2.3.1 The fieldwork strategy was undertaken using a ground resistance survey to extend the comprehensive results already known from the site supplemented by ground penetrating radar. Archaeological evaluation was by a series of machine-excavated trenches to test the validity of interpretations about the abbey based on the results of the geophysical survey.
- 2.3.2 Eight machine-excavated trenches of varying lengths were dug (Figures 3 and 4) after consultation with the on-site director, Miles Russell and associated specialists. The precise location of individual trenches was guided by the results of the geophysical survey and to answer specific aims and objectives of the project design.
- 2.3.3 Trenches beyond the maintained lawn were excavated using a wheeled JCB mechanical digger and back hoe fitted with a toothless ditching bucket and were 1.6 m wide. A small tracked mini-digger, with a bucket 1 m wide, was used to open trenches within the lawn after the turf had been removed by hand. All machine work was undertaken under constant archaeological supervision and ceased at the identification of significant archaeological deposits, or where natural deposits were encountered first. When machine excavation had ceased all trenches were cleaned by hand and archaeological deposits were planned, recorded and representative samples excavated by hand. Consideration was also given to features relating to the formal gardens. These features were planned and recorded for comparison with features shown on known maps.
- 2.3.4 A sufficient sample of all deposits was examined to allow the resolution of the principal questions outlined in the aims and objectives above. Other deposits were recorded and preserved *in situ* but not excavated.
- 2.3.5 All archaeological deposits were recorded using the Museum of London Archaeological Service's *pro forma* record sheets with a unique numbering system for individual contexts. Trenches were located using a Trimble Real Time Differential GPS survey system. All archaeological features and deposits were planned at 1:20 or 1:50 and sections drawn at 1:10 or 1:20, as appropriate to the circumstances. All principal strata and features were related to Ordnance Survey datum and a photographic record of the investigations and individual features was maintained.

- 2.3.6 The work was carried out over 20th-22th May, 2003. All spoil was metal detected by Bill Yendl.
- 2.3.7 At the completion of the work all trenches were reinstated using the excavated spoil from the trenches and the turf relaid. All artefacts were transported to the offices of Wessex Archaeology where they were processed and assessed for this report.
- 2.3.8 A unique site code, SYP 03, was agreed with the London Archaeological Archive and Research Centre (LAARC) before the work began.

3 RESULTS

3.1 Introduction

- 3.1.1 Details of individual excavated contexts and features, a full geophysical survey report (GSB 2003) and results of artefact analysis are retained in archive.

3.2 Geophysical survey

- 3.2.1 Resistance survey was undertaken on the east lawn to extend the area of the previous survey (Figure 2). In addition Ground Penetrating Radar (GPR) was also used on the east lawn and areas of the previously surveyed south lawn to assess the survival and depth of the archaeological deposits (Figure 2).
- 3.2.2 The extended resistance survey revealed high resistance responses that were aligned north to south to the east of the previous survey area. This anomaly defined the east end of the abbey church (Figure 3). A large, well-defined buttress was apparent in the south-east angle (Trench 4) although the corresponding north east corner was obscured by a later garden feature (Trench 6). Additional high resistance responses close to the east wall of the abbey with others to the north and north-east were also thought to represent garden features.
- 3.2.3 A large pier base, excavated in Trench 1 (Figure 4, 149), was not revealed by geophysics due to the inability of conventional resistance to penetrate more than 1 m below the present ground surface. However its discovery stimulated a reassessment of the results of the 1999 survey and identified an additional four possible pier bases immediately east of Syon House, including one sampled in Trench 8 (Figure 4, 802).
- 3.2.4 The results of the radar survey on the east lawn were disappointing due to an inability to penetrate to any great depths caused by water levels. The radar survey on the south lawn mapped the depth and extent of a high resistance anomaly detected in the previous survey. It indicated that the feature, later identified as a reredorter (Trench 2) extended 5 m west of the trench edge and detected its vaulted construction, which was later confirmed by excavation.

3.3 Archaeological evaluation

- 3.3.1 The results of the archaeological evaluation are described by phase not by trench. Trenches 1, 4, 5, 6 and 8 were dug to examine details of the abbey church (Figures 3

and 4). Trenches 2, 3 and 7 were positioned to resolve the location of cloisters and precinct buildings. Figure 4 illustrates the location of the principal archaeological features identified during the evaluation in relation to the interpreted geophysical results. Details of minor and undated features are included in archive. Individual context numbers quoted in text identify the relevant trench according to their prefix number, thus context 101 relates to Trench 1, context 401 to Trench 4 and so on.

- 3.3.2 The results of the archaeological evaluation indicated that the abbey had been heavily robbed and the grounds extensively levelled for the formal planned gardens. No intact floors of the abbey or precinct buildings survived. The surviving evidence of the abbey was restricted to the lower parts of the abbey foundation trenches, most of which were filled with demolition rubble, with isolated patches of mortared wall core. Most facing stones had been removed.
- 3.3.3 Archaeological features and deposits were overlain by up to 0.70 m of levelling material from the make up of the formal gardens. This material lay below a compact mid grey-brown well-sorted silty loam topsoil, that averaged 0.22 m thick. Excavated features were generally filled with demolition material from the abbey or contained silts and sands derived from the ‘brickearth’ that also incorporated quantities of demolition rubble.

3.4 Phase 1: The abbey church

- 3.4.1 Remnants of trench-built walls and robber trenches for the abbey church were recorded in Trenches 1, 4, 5, and 6 (Figure 4). These, combined with the geophysical survey data, appear to belong to a single very large rectangular stone building, measuring internally at least 32.3 m in width, and in excess of 60 m in length. The walls varied in thickness from a minimum of 2.15 m to a maximum of 2.9 m. The north-east and south-east corners were strengthened by heavy buttresses which extended approximately 4 m beyond the building walls (Photo 1). Further buttresses appear to have supported the south wall and show up on the geophysical survey (Figure 4). They appear to have formed bays of approximately 10 m width. The fabric of the walls was of stone, with roughly squared facing stones containing a core comprising limestone (possibly Caen or Huddleston magnesian limestone) and Reigate greensand rubble set in an off-white granular mortar. The walls were laid on a bed of mortar at the base of the trench, at a height of about 4.8 m OD. It would seem that the foundations of the walls and their buttresses were probably no more than 1 m deep.
- 3.4.2 Internal features had been removed by the exceptional level of horizontal truncation (at least 0.4 m across the whole building) that had occurred presumably during the levelling of the meadows east of Syon House in the early 17th century. Thus no floor levels survived within the abbey church within any of the trenches excavated. However, a small, patched area of yellow and green floor tiles was uncovered during the excavation of a pond in the central courtyard some 33 m west of the current evaluation trenches (see para. 1.2.10 above). There is reason to believe that this may form part of the building’s floor.
- 3.4.3 The roof of the building is likely to have been supported on a series of stone columns. Geophysical evidence, and examination of Trench 8 suggest that at least one, and

probably four very deep rubble-filled cuts were situated in an area some 31 m west of the building's east wall (Figure 4). They were arranged regularly to form a square with dimensions of about 11 m on a side, and roughly 10 to 12 m in from the conjectured line of the north and south walls. Furthermore, the east and west pairs of cuts lay in line with probable external buttresses detected against the south wall line by geophysical survey (Figure 4). Trench 8 showed that the north-west cut was over 2 m deep. Its original form could not be determined. The location, scale and fill of the examined cut suggest strongly that all four anomalies were massive pier bases, robbed at the same time the building was stripped out. If so, they would suggest that the western part of the building was perhaps divided into aisles of equal width.

- 3.4.4 This was not apparently the case in the eastern part of the building. At the centre point of Trench 1, a very large, and not entirely robbed pier base was found (Figure 4, 149; Photo 2). It was located 15 m from the internal face of the north and south walls, and also lay about 14 m east of the two eastern-most pier bases described above. Of great significance was the determination from excavation that it comprised two phases. The first phase consisted of a roughly rectangular, or possibly square, foundation (147) measuring 2.5 m north-south, made of roughly hewn, randomly laid Reigate stone cobbles and chalk fragments set in a hard yellow sandy mortar. Subsequently, a larger, rhomboid or possibly subcircular cut had been made round the pier base to a depth of at least 4.67 m OD (although the feature was not bottomed). This had been backfilled with poorly or un-mortared blocks of Reigate stone, chalk and limestone (149), and effectively extended the width of the base to at least 4.1 m. Between the original base and the later cut could be seen a thin veneer of silty brickearth 0.04 m wide, believed to be undisturbed natural subsoil remaining *in situ*.
- 3.4.5 The features excavated in Trenches 1, 4, 5 and 6 form part of a building that can only be interpreted as the abbey church. It was constructed on a massive scale, perhaps resembling King's College Chapel, Cambridge, constructed almost at the same time (1446 – 1515), and on a grand design (88.4 m long by 12.2 m wide), although the structure implied here is nearly three times as wide. The pattern of probable pier bases suggest that the western part of the building was divided into three aisles, while the eastern end may have been divided in two along a line of central columns. One might normally assume that this dual division was to form two presbyteries, one for the brothers and one for the sisters, but the situation, even for a double house, is far from clear.

3.5 Phase 1: South of the Abbey Church

- 3.5.1 About 17 m south of the abbey church, Trench 7 was laid out to examine some particularly strong geophysical anomalies thought to be the walls of a possible cloister. Four principal features dating from the abbey phase were located (Figure 4). Towards the western end of the trench a massive north-south wall footing (716) was located. It was made principally of chalk rubble with occasional brick fragments. No facing stones were found. The top of the wall survived to a height of 5.92 m OD. About 2.70 m east of this wall was another, smaller wall (714), of about 0.9 m width, and also made of mortared stone rubble. Neither wall had been robbed out at the levels at which they were found. These two walls are believed to have formed a passageway, and have the appearance of a cloister walk or alley. If so, wall (716) would appear to have formed the east wall of a building lying to the west, and wall

(714) an arcade wall. If this is a correct interpretation, the main bulk of the cloister would have lain east of Trench 7.

- 3.5.2 Within the passageway formed by the two walls were found two graves (708) and (712) containing poorly preserved human skeletons (Figure 4; Photo 3). The graves were steep-sided and flat-based, and aligned east west. They were identified immediately under the topsoil at c 5.84 m OD, and when excavated proved to be approximately 0.4 m deep. The cuts lay 0.2 m apart. Arranged around each skeleton were a number of iron nails indicating the existence of wooden coffins. The coffins were probably rectangular and measured between 1.65 m and 1.8 m long. No other grave finds were noted.
- 3.5.3 The skeletons were not lifted, but examined by anatomist Dr Alice Roberts. They were both adult, extended and supine, but a significant amount of the bone had decayed away. The skeleton in grave (712) comprised the main bones of both legs, some of the foot bones, and a portion of the skull. The skeleton in grave (708) was similar, but both humeri and one radius, ulna and bones from the hand, as well as part of the pubis, were also present. Both crania were characterised by gracile brow ridges, rounded, high frontal bones and the lack of an occipital external protuberance. One of the skeletons showed small mastoid processes. The pubis fragment from grave (708) was undiagnostic. In the light of these characteristics, it was concluded that there was a greater degree of probability that the burials were female.
- 3.5.4 North of Trench 7, further human remains were encountered in Trench 5. The principal aim of Trench 5 was to identify the line of the south wall of the church, which it did (Figure 4, 501). However, during clearance of the make-up for the gravel drive and associated topsoil, a fragment of human cranium was recovered. Despite careful cleaning of the entire area, no grave cut could be found, but the cranium had brickearth adhering, and it is almost certain that it represents the vestiges of a further burial immediately outside the south wall of the church. Too little of the skull remained for firm identification of sex or age, although once again, the balance of probability was thought to lie with it being female (Alice Roberts pers comm). The skull was noteworthy for the fact that the stains or remnants of ten copper alloy pins were found at the interface between the adhering brickearth and the cranium. These were excavated off-site by a conservator and their original positions on the skull estimated. It is thought that these pins formed part of a burial headdress. One other site has produced evidence for such stains, on 10 skulls excavated at Clementhorpe nunnery, York (Brinklow *et al.* in prep). Of the 10, 70% were female, and the others unknown.
- 3.5.5 The results of the resistance survey indicated the presence of more monastic buildings beyond the cloister. Trench 2 revealed a large brick built structure, which was identified as the reredorter (Figures 4 and 5). It was aligned east to west, 3 m across and approximately 15 m long, as calculated from the resistance survey. The south wall (206) was 0.96 m thick, constructed of bricks laid in an English Garden bond with firm white mortar and spanned a drain, 1.20 m below the ground surface, that ran parallel to the reredorter. A vertical chute, 0.24 m square, was located in the brickwork of the wall immediately above the drain. The north wall (204) was probably of similar dimensions and construction and was cut into the natural subsoil. The roof of the central reredorter vault (205) was built of irregular bricks, laid in a

random bond with soft, mid yellow sandy mortar, which suggests that it had probably been repaired. It was possible to establish that the reredorter chamber was accessed through an arch that connected it to the drain to the north. It was not possible to gain access to the chamber, which was largely filled with demolition rubble, to establish the depth of the structure.

- 3.5.6 A further east-west wall line, robbed on at least two occasions, was recorded in Trench 2 to the south of the reredorter (Figure 4, 212). This feature does not correspond to anomalies on the geophysical survey. The northern section of Trench 2 contained no features despite the geophysical survey suggesting the presence of at least two wall lines.
- 3.5.7 An area of a plaster floor (216) was located at the south end of the trench, although there was nothing to define its enclosing walls.

3.6 Phase 2: The Dissolution

- 3.6.1 The Dissolution of the monastery did not immediately affect the structure of the abbey at Syon, however a major phase of demolition is likely to have occurred following the reign of Mary in 1558. This can be traced in the archaeological record. All walls of the abbey church, including the piers, were cut by robber trenches, which were backfilled with demolition rubble. Although the quantity of garden levelling and make-up was relatively thick, especially to the east of Syon House, the layers of demolition rubble overlying the wall cores of the church were generally thin. This suggests that the upper demolition levels were truncated, carted away or spread by the numerous phases of landscaping that have occurred in the garden since the demolition.
- 3.6.2 In Trench 1 two features (Figure 4, 140 and 117) with flat bases were identified that ran parallel to and immediately inside the north and south walls of the abbey building. They averaged 3.10 m across and 0.15 m deep and were filled with compact crushed brick fragments. They are of unknown function and date although their position, both within the abbey and stratigraphically, suggested that they were associated with the internal design of the main church and were subsequently robbed.
- 3.6.3 There were also a number of features, especially in Trench 1, that were undated and unassociated with the walls (not shown on Figure 4) that were overlain by the garden make-up and probably date to the demolition of the abbey.
- 3.6.4 A series of backfilled demolition deposits occupied a massive feature in Trench 2 (Figure 4, 223), which abutted the south wall of the reredorter. They probably relate to the demolition of the precinct buildings. They were exposed on the surface but not excavated.
- 3.6.5 In Trench 3 a large pit (306), which measured 5 m east to west and 1.10 m deep was recorded (Figure 5). The base of the pit had been deliberately backfilled with layers of demolition rubble, while the upper parts were made up and levelled by deposits of mixed gravel and redeposited 'brickearth'.

3.7 Phase 3: The formal gardens

- 3.7.1 Trench 6 was positioned to identify and interpret a large geophysical anomaly of 9 m sq. located in the north-east corner of the abbey church and to establish its relationship to the abbey and a linear feature (Figure 4), thought to be a drain or path. The excavation revealed the south edge of a brick built garden feature that formed part of the planned garden. The exposed kerb of the feature (623) prescribed an arc of bricks, two or three courses high, although it is unclear whether it was originally circular or oval. The central floor area (607) was laid with brick pavers laid end on end face down on a mortar bed. Areas of the floor had been disturbed when the garden was redesigned. The entire feature was built over a domed, brick built arched culvert (611), aligned north to south in a slot 0.85 m wide, which may have supplied water to a central water feature.
- 3.7.2 A culvert (162), which was also visible on the results of the ground resistance survey, of similar construction to that underlying the garden feature, was also found in Trench 1. It was aligned north-west to south-east and was cut through a feature (121) that contained some demolition rubble.
- 3.7.3 In Trench 7 the foundations of a brick wall (704) 1 m wide and aligned north to south were identified. The foundation consisted of three courses of brick, laid in a stretcher bond, each of which was set in from the course below. The wall is slightly off-set from a geophysical anomaly on a similar alignment (Figure 4) and this suggests that there are some elements of the geophysical survey results interpreted as part of the abbey, which are more likely later features. The foundation ran parallel to and 1.6 m east of a feature of similar width (718), which may represent a path associated with formal gardens.
- 3.7.4 Several spreads of undated gravel were noted during the evaluation, which are likely to represent gravel paths.

4 FINDS

4.1 Introduction

- 4.1.1 Finds were recovered from all eight of the trenches excavated, although very little material was recovered from Trenches 5, 6 and 8. Finds came from both stratified and unstratified contexts within these eight trenches, from phases relating both to the use of the abbey and to post-Dissolution activity. The assemblage comprises mainly bulk finds, with a smaller proportion of individually recorded Objects ('small finds'), mainly metalwork. All finds have been cleaned (with the exception of the metalwork) and have been quantified by material type within each context. There is also a register of individual Objects. Quantified data form the primary finds archive for the site, and these data are summarised by trench in Table 1.
- 4.1.2 Subsequent to quantification, all finds have been at least visually scanned in order to gain an overall idea of the range of types present, their condition, and their potential date range. Pottery and ceramic building material have been subjected to more formal scanning, including quantification by ware group/type (details below). Spot dates

have been recorded for selected material types as appropriate. All finds data are currently held on an Excel spreadsheet.

- 4.1.3 This section presents an overview of the finds assemblage, on which is based an assessment of the potential of this assemblage to contribute to an understanding of the site in its local and regional context.

Table 1: All finds by trench (number / weight in grammes)

CBM = ceramic building material

Material type	Tr. 1	Tr. 2	Tr. 3	Tr. 4	Tr. 5	Tr. 6	Tr. 7	Tr. 8	TOTAL
Pottery	2/21	11/43	1 / 2		1/5	3/1123	4/75		22/1,269
CBM	32/18,424	3/231	10/4099	19/13,970	-	2/1152	10/3127	2/3126	78/44,129
Wall plaster	4/65	-	-	-	-	-	1/5	-	5/70
Fired Clay	-	-	-	-	-	1/2	-	-	1/2
Glass	1/3	-	17/1	2/3	-	-	-	-	20/7
Stone	5/1,455	1/3,740	1/288	2/1,358	-	-	1/64	-	10/6,905
Worked flint	2/6	-	-	-	-	-	-	-	2/6
Metal	3	8	20	9	10	-	4	-	54
<i>Cu alloy</i>	-	3	-	1	10	-	-	-	14
<i>iron</i>	3	5	17	3	-	-	1	-	29
<i>lead</i>	-	-	3	5	-	-	3	-	11
Worked Bone	-	3/2	-	-	-	-	-	-	3/2
Human Bone	3/126	-	44/314	-	13/111	-	-	-	60/551
Animal Bone	8/205	30/123	20/127	-	-	2/3	2/115	-	62/583
Marine Shell	-	1/2	16/330	-	-	-	-	-	17/332

4.2 Pottery

- 4.2.1 The small assemblage of pottery includes material of possible later prehistoric, Romano-British, medieval and post-medieval date.
- 4.2.2 Three residual sherds were identified, consisting of a sandy sherd, probably Iron Age in date (unstratified in Trench 6), and two Romano-British greyware sherds (respectively from pit 306 and unstratified in Trench 6).
- 4.2.3 The remainder of the assemblage can be dated to the late medieval or early post-medieval period. Fabric types identified include Cheam whiteware (15th century bifid rimmed vessel from topsoil in Trench 7), ‘Tudor Green’ ware (robber trench 212, construction cut 501, and unstratified in Trench 1). The sherds from robber trench 212 come from a 15th century thin-walled cup (Pearce and Vince 1988, 172, fig. 127). A body sherd of Siegburg type stoneware (topsoil in Trench 7) can be dated to the 15th/16th century. Also recovered from the same context was a rim sherd from a 15th century vessel in a miscellaneous sandy ware. Two coarse redware sherds were found unstratified in Trench 6, including a rim from a glazed dripping dish.

4.3 Ceramic building material

- 4.3.1 With the exception of Trench 5, ceramic building material (CBM) was recovered from all trenches, in moderate amounts. The assemblage comprises floor tiles, roof tiles and bricks.

4.3.2 The floor tiles are all incomplete. All are plain, with glaze in varying colours (green, black/brown, blue and yellow); examples came from robber trenches 114, 128, 150 and 802, pits 117 and 306, the south buttress of the church (401), topsoil in Trenches 3 and 7, and unstratified in Trenches 1, 4 and 6.

4.3.3 The roof tiles are largely undiagnostic, with the exception of a peg-tile from pit 306. A small number of bricks were also recovered, from robber trenches 116 and 128, topsoil in Trench 7 and pit 306, with two complete examples unstratified in Trench 4. A further three bricks were recovered from Trench 1 (also unstratified), one of which is a King Closer type. All the bricks are unfroged.

4.4 Stone

4.4.1 The stone comprises eight architectural fragments and two incomplete whetstones. All of the architectural fragments are in limestone. Three appear to be ashlar (cut 142, pit 306, Trench 4 unstratified), preserving one worked surface. One piece is chamfered (topsoil in Trench 2). Two small pieces are from mouldings, and are in a finger-grained stone (cut 142, Trench 1 unstratified). Two small fragments from pit 118 are undiagnostic.

4.4.2 In addition, two whetstones were recovered, from topsoil in Trench 7 and unstratified in Trench 4 respectively.

4.5 Worked flint

4.5.1 Two flint flakes were recovered from Trench 1, one unstratified and one from robber cut 150. They are made from flint gravel and are otherwise undiagnostic.

4.6 Glass

4.6.1 A very small amount of glass was recovered. Abraded glass from pit 306 and layer 408 represents the remains of window quarries. The fragments are in a very degraded condition, almost entirely devitrified, a characteristic of medieval potash glass. In addition, a small fragment of pale blue vessel glass, probably Romano-British, was recovered from Trench 1 (unstratified).

4.7 Wall plaster

4.7.1 Five fragments of wall plaster were recovered, deriving from robber trench 114 and topsoil in Trench 7. No evidence of paint is present on the surfaces. The mortar is fine-grained with frequent sub-rounded chalk inclusions.

4.8. Metalwork

4.8.1 The metalwork assemblage includes objects of copper alloy (14), iron (29) and lead (11).

Copper Alloy

- 4.8.2 The majority of the copper alloy objects comprise pins. A small group (10 pins) came from layer 500, associated with human remains. They were found adhering to fragments of skull, and are presumed to represent the fastening of an headdress. A further pin came from robber trench 212. All the pins have plain, solid heads and can be dated here by associated pottery to the 15th century. Similar examples have been found on other London sites, used as dress pins to fasten veils, and are dated to the 14th and 15th centuries (Egan and Pritchard 1991, 297).
- 4.8.3 Two rectangular sheet fragments, folded together, came from Trench 4 (unstratified). One of the fragments is decorated with an incised design and the second has two small perforations on one end. They could represent a mount, possibly from a casket or book (cf Margeson 1993, fig. 40, 456; Egan 1998, fig. 60, 227).
- 4.8.4 A strap-end was unstratified in Trench 2. This appears to be a composite type with forked spacers and rounded end (cf Egan and Pritchard 1991, fig. 95, 685). Two rivets are still *in situ* at the top, holding a fragment of leather. This form was not apparently introduced until the late 13th or early 14th century, dying out in the early 15th century (*ibid.*, 145).
- 4.8.5 Also unstratified in Trench 2 was a small button. This is a composite biconvex object, made of two pieces of stamped sheet metal soldered together, with a separate shank (in this case of iron) passing through a central hole at the back. Similar examples from London are dated from the late 13th to late 15th centuries (Egan and Pritchard 1991, 276, fig. 179, 1404).

Iron

- 4.8.6 The majority of the assemblage comprises nails from Trenches 2, 3, 4, 6 and 7. These were recovered from robber trench 212, pit 306, the south buttress of the church (401), topsoil in Trench 7 and unstratified in Trenches 4 and 7. They all have square-sectioned shafts and are in a corroded condition. They are assumed to represent structural nails.
- 4.8.7 Other objects, at this stage unidentified, were recovered from robber trenches 150, 212, pit 306 and Trench 4, and may also be structural in origin.

Lead

- 4.8.8 Most of the lead consists of window came fragments (unstratified in Trench 4 and pit 306). The fragments from pit 306 are cast, of typical medieval type, while those from Trench 7 were probably milled in a toothless mill. The earliest documentary reference to the lead mill is in the mid 16th century, but earlier examples of milled comes are known, for example from an early 15th century context at Battle Abbey (Knight 1985).
- 4.8.9 A cylindrical object with a central perforation, possibly a weight, was unstratified in Trench 4. Two objects from Trench 7 were either unstratified or from topsoil. Both are roughly circular in shape with one flattened surface and are possibly musket balls. Four other fragments (unstratified from Trenches 4 and 7) are waste material.

4.9 Worked bone

- 4.9.1 Two worked bone objects were recovered. A thin, tapering fragment of bone, possibly fish, recovered from robber trench 212, may have been utilised as a pin or needle.
- 4.9.2 More interesting are the two joining fragments of worked bone found unstratified in Trench 2. These form part of a pair of spectacle frames. The frame has an internal groove to hold the lens; traces of a carved projection on the exterior edge could be part of a handle, or part of the protrusion opposite the handle where the lens was inserted. The surfaces are polished. These fragments can be paralleled by a more complete pair of frames from Trig Lane, London, dated to the mid/late 15th century (Rhodes 1980; 1982). The two pairs are comparable in size, both intended for a lens of about 30 mm in diameter. More recent finds, mostly from London, are reviewed by Stevenson (1995). The methods of manufacture of these spectacles, their European parallels and the context for their use are discussed by Rhodes (*ibid.*). This type of spectacles, known as ‘riveted spectacles’, are the earliest known European variety, invented in Italy in the 13th century. Dated spectacles of this type in Britain span several centuries from the early 15th century to the mid 16th/mid 17th century, although Rhodes suggests that the type went out of use in this country at the beginning of the 16th century (1982, 59).

4.10 Human bone

- 4.10.1 Apart from the two inhumation burials recorded but not excavated in Trench 7, disturbed fragments of human bone were also recovered from three other trenches (Trenches 1, 3 and 5). Fragments of skull came from the surface of the brickearth in Trench 5; these were associated with a number of copper alloy pins (see above), resulting in green staining to several fragments. The skull is of an adult (c.20-40 years), and has contradictory traits of both male and female. On site specialist advice suggested female on balance (see para. 3.5.4 above).
- 4.10.2 The right radius and right femur from an adult male (c.30-50 years) came from the demolition rubble dump in pit 306. Exostoses on the femur are indicative of a physically active life. The left tibia of an adult ?female, and a lumbar vertebra of an adult ??female (c.20-40 years) were unstratified finds in Trench 1.

4.11 Animal bone

- 4.11.1 Only 63 bones were recovered, of which 52% could be identified (N=33). All are in fair or good condition with no evidence of gnawing, although one is burnt.

Table 2: Animal bone species list and percentages (NISP)

	Cattle	Sheep/goat	Pig	Bird	Fish	Unidentified	Total
NISP	8	6	3	14	4	28	63
% of identified bone	23	17	9	40	11		

- 4.11.2 Species include cattle, sheep/goat and pig, in addition to fish and bird remains. The fish and birds were found mainly in robber trench 212. The fish bones are head bones

rather than the more commonly found vertebrae, and could be waste from processing, although fish heads have been enjoyed as a delicacy. The birds are represented by several Galliformes, pheasant sized, and Passeriformes (corvids), crow or rook sized. The Galliformes almost certainly represent food remains and are mainly wing and leg bones, while the corvid bones are mainly from the wing, so may again be food waste rather than animals killed just for sport or as pests.

- 4.11.3 Three sheep/goat horncores in the same robber trench make a rather strange group, and these indicate a deposit of butchery waste, an interpretation that differs from the bird and maybe fish remains. Unfortunately the sample is too small to clarify this point. One horncore had depressions characteristic of malnutrition and milking stress (Albarella 1995).
- 4.11.4 Large numbers of chopped ribs and the bones of smaller species in robber trench 212 and pit 306 indicate table waste, and the scapula and humerus of a very young pig in pit 306 confirms this interpretation.

4.12 Marine shell

- 4.12.1 The small shell assemblage comprises largely of oyster shells recovered from pit 306, with three fragments of mussel shell from robber trench 212. The majority of the oyster shells are left valves and the lack of right valves may suggest that the oysters were not being prepared on site.

5 ENVIRONMENTAL SAMPLES

- 5.1 No environmental samples were recovered during the course of the project.

6 DISCUSSION

- 6.1 The archaeological evaluation at Syon House has been very successful in achieving the aims and objectives of the project. The geophysical survey has produced results of sufficient clarity to enable an interpretative plan of part of the Brigittine abbey to be proposed and to be tested by archaeological excavation. The eight trenches have demonstrated the validity of much of the geophysical survey results and have provided detail on the location, layout and extent of the abbey church, and the location of a possible cloister to the south, along with other monastic buildings.
- 6.2 The excavation has also provided detail on the construction and development of the abbey church and its internal layout, particularly in relation to a series of pier bases within the abbey church. Detailed discussion of the abbey complex is provided in Appendix 1 kindly provided by Barney Sloane.
- 6.3 The excavation has also demonstrated that there are elements of the geophysical survey results that do not correspond to buried remains and that some geophysical anomalies, interpreted as part of the abbey, are more likely elements of the 18th century formal gardens or other later features.

- 6.4 The physical remains of the abbey were subject to robbing and demolition, as well as severe truncation as a result of a number of phases of post-medieval landscaping within the grounds of Syon House. In consequence the evaluation only produced evidence for the foundation trenches, rubble cores and rubble-filled robber trenches of the abbey buildings with little surviving *in situ* facing or other architectural stonework. Floor tiles, roof tiles, architectural stonework, window glass and wall plaster were, however, recovered from other deposits. No floor levels within the abbey church were recorded and the only floor identified was a patch of plaster floor in Trench 2. Much of the demolition rubble that presumably lay over much of the abbey remains was also subject to severe truncation and removed during post-medieval landscape.
- 6.5 Despite these disturbances, other archaeological evidence survives, most notably two inhumation graves in Trench 7. Redeposited human remains were also recorded and suggest disturbance to other graves.
- 6.6 The limited survival of deposits associated with the abbey beyond those associated with the foundations of the buildings has limited the stratified assemblage of later medieval finds and environmental material. The majority of the finds that were probably contemporary with the construction and use of the abbey buildings were recovered from demolition or other disturbed deposits.
- 6.7 Finds recovered relate largely to the structure and use of the abbey, and include personal items (strap-end, button) and domestic equipment (pottery) as well as more direct evidence for the inhabitants of the abbey in the form of human remains. The faunal remains (fish, birds, young pig) are indicative of high status consumption waste. Of particular interest are the fragments from a pair of spectacle frames, a rare item with only one known parallel, from London, and the fragments of human skull with associated dress pins. All these items provide human interest in the history of the abbey and its inhabitants.
- 6.8 Little of this material, however, can be considered to be *in situ*, and much of the structural material, for example, was recovered from demolition deposits within post-Dissolution robber trenches. Other items, including the spectacle frames, were topsoil or unstratified finds. Nevertheless, as an adjunct to the stratigraphic data, a limited amount of useful information can be gained on the structure of the abbey and its use.

7 RECOMMENDATIONS FOR FURTHER WORK

- 7.1 This assessment demonstrates the international value of the evidence provided by the evaluation. It has profound implications for the study of 15th-century monasticism, the scale of Lancastrian royal patronage, and the flowering of late Perpendicular architecture. It also provides important data that can be incorporated into the Syon House and Park Conservation Plan, and used for the management of the archaeological resource. It further provides the basis for adding to the landowner's ability to provide access to the site's past through improved visitor information, signage or guides.

- 7.2 There is too little still known to provide the basis for a major publication on the work of this site. However the results of this evaluation merit dissemination to a wider archaeological and academic audience through the publication of a short note in *Medieval Archaeology*, or the *Archaeological Journal*. The short note should provide the background to the project, a summary of the main findings, and a consideration of these against what evidence already exists for the layout of the abbey. This consideration should seek to draw together the plan elements of the abbey buildings, and offer up a proposed plan of the abbey precinct as we currently understand it. This plan, and a number of photographs of the excavations would provide illustrative accompaniment to the text.
- 7.3 A copy of this assessment report will be lodged with the Greater London Sites and Monuments Record, along with a copy of the geophysical survey.

8 THE ARCHIVE

- 8.1 The archive, which includes all artefacts, written, drawn and photographic records relating directly to the investigations undertaken, is currently held at the offices of Wessex Archaeology under the site code SYP 03 and Wessex Archaeology project code 52568. It is intended that, in accordance with the wishes of the landowner, the excavated material and records will eventually be deposited and curated at Syon House.

The paper archive is contained in a lever arch ring binder file. It includes:

Project Design

Assessment Report

The geophysics report, including a record of all data, plots of the results, interpretation with detailed comments and conclusions.

The excavation archive includes:

- 8 A4 context index sheets
- 161 A4 context record sheets
- 2 A4 graphics register sheets
- 1 A1 drawing sheets
- 38 A3 drawing sheets
 - A4 drawing sheets
- 6 A4 Photographic register sheets
 - A4 Object Register sheets
 - A4 Sheets of results, showing levels data
- 6 A4 Sheets of GPS data showing trench location, geophysics grid and TBMs

The photographic archive includes:

- 59 colour transparency slides
- Monochrome photographs

There is also:

- 4 pages of finds data, including:
 - finds by context
 - object record
 - pottery by context and ware code
 - CBM by context

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APPENDIX 1: A discussion *by Barney Sloane*

The plan of the church

The church plan requires some serious consideration. The issues can be boiled down to three points. One, if papal permission to copy Vadstena and place the high altar at the west end of the church was followed, how would this affect the overall layout of the church (and thus the cloisters). Two, how was the roof held up. Three, what can be deduced from the existence of two phases of pier bases.

The central pier base found in Trench 1 may have been one of several, although none showed up on the geophysics. These may have formed the supporting spine for a dividing wall running up to the east end of the building. As suggested above (para. 3.4.5), such a wall may have served to create two presbyteries in the eastern end of the church. The brethren and sisters were forbidden to share space within the monastery, but both required their own choirs and liturgical space. The presbyteries would each have measured a respectable 32 m by 15 m, and provided ample space even for 60 sisters. The major problem with the liturgical arrangement of this huge church is that it is quite possible that the entire structure was reversed, and the liturgical focus lay to the west. Such churches are effectively unknown in Britain, and the result on the arrangement of cloister and other buildings is, again, far from clear. At Vadstena, the west end of the church held the sanctuary and the shrine of St Brigit and St Katarina (Brigit's daughter). One modern source, Lars Bergquist (2000; (www.sweden.se/templates/FactSheet_4404.asp)) states that the church was organised so that the brothers' presbytery was at the west end, with the nuns to the east in a gallery, and the lay folk gathered in the middle of the church, with iron grating to separate them from the outer aisles where side altars stood.

Structurally too there is the matter of converting what looks like a two-aisle east end into a three-aisle western half. The mechanism of transformation and its effect on the roofing is entirely unclear at present.

The matter of two phases of pier base raises at least two possibilities. The first turns on the nature of the materials used in the phase 1 construction. There was apparently no obvious limestone rubble in the rectangular pier base, although that stone made up a significant proportion of the external walls and of the cruder base widening plinth of phase 2. The mortar was also yellow, rather than the off-white used elsewhere. We know that magnesian (Huddlestone) limestone was used in the building of the 1414 Syon Abbey in Twickenham Park (see para. 1.18, above), and it seems inherently probable that the bulk of building materials for the new abbey at its current site, particularly for rubble cores, would have been robbed from the Twickenham site. Thus, we might reasonably expect limestone in the cores of all the abbey buildings on the current site. The phase 1 pier has none. There do appear, however, to have been buildings on the current site before the arrival of the Bridgettines: the aborted Celestine foundation of 1414. Perhaps the phase 1 pier is a trace of such incomplete structures, reincorporated within the later Bridgettine house?

The second possibility is that structural movement during or after construction of the Bridgettine church required radical mitigation, and that this pier was simply expanded to help shore up weakness in the superstructure. In this argument, the lack of any observable limestone would simply be down to chance.

(Future Aim: Determine the pier base layout and confirm two-phase and lack of limestone)

The lack of graves and other definable internal features within the east end (if that is the correct interpretation) is worth noting. While we have argued for the loss of at least 0.4 m of horizontal stratigraphy below the 15th-century floor level, the remains of larger tombs and vaults might have been expected to be present below this level. This could be chance and the small sample area, or it may indicate that in some way the east end of the Bridgettine abbey church was never set aside for burial. Such a pattern can be seen at the 15th-century Carthusian house of St Anne Coventry (Soden 1995), where the only burial found was a casket containing the redeposited bones of a man placed centrally in the choir. In contrast, the nave there contained at least 40 burials. But this brings us back to the issue of the western high altar.

(Future Aim: Open area excavation of both presbyteries to elucidate patterns of robbing/graves etc)

The disposition of the former building appears to have a direct relationship with the layout of the current Syon House. The large stone wall still visible in the southern side of the basements of the north wing would appear to match almost exactly our predictions of the line of the north wall of the church. To confirm that this may represent the only upstanding element of this lost Perpendicular masterpiece would require accurate 3D survey, drawing of the masonry and petrological comparison. Equally, the southern church wall appears to be coinciding on the line of the south face of Syon House. Is it possible that under the plasterwork and cladding, and pierced by doorways, windows and services, a very large piece of the south side of the abbey church might still be retained within the wall fabric? Such a potential might be unlocked by a standing building survey, and examination of any future decoration and refurbishment schemes.

(Future Aim: Undertake detailed SBS on south wall and basement of north wing)

The undercroft that still survives in the west range of the house must, we think, now be redated. Such an undercroft is not consonant with the western end of such a church, and it must surely now be seen within the light of Somerset's tenure of the site and his construction of a house for £5000. The fabric should certainly be re-examined at some stage to see whether the west or east walls contain masonry such as was found in the excavation trenches, or can be seen in the north basement wall. It may be that the west front of the church was partially incorporated into the house plan. If so, this would fix the dimensions of this huge building at either *c* 100 m, or 108 m long.

(Future Aim: Undertake detailed survey of east and west walls of 16th-century undercroft)

The disposition of the cloisters

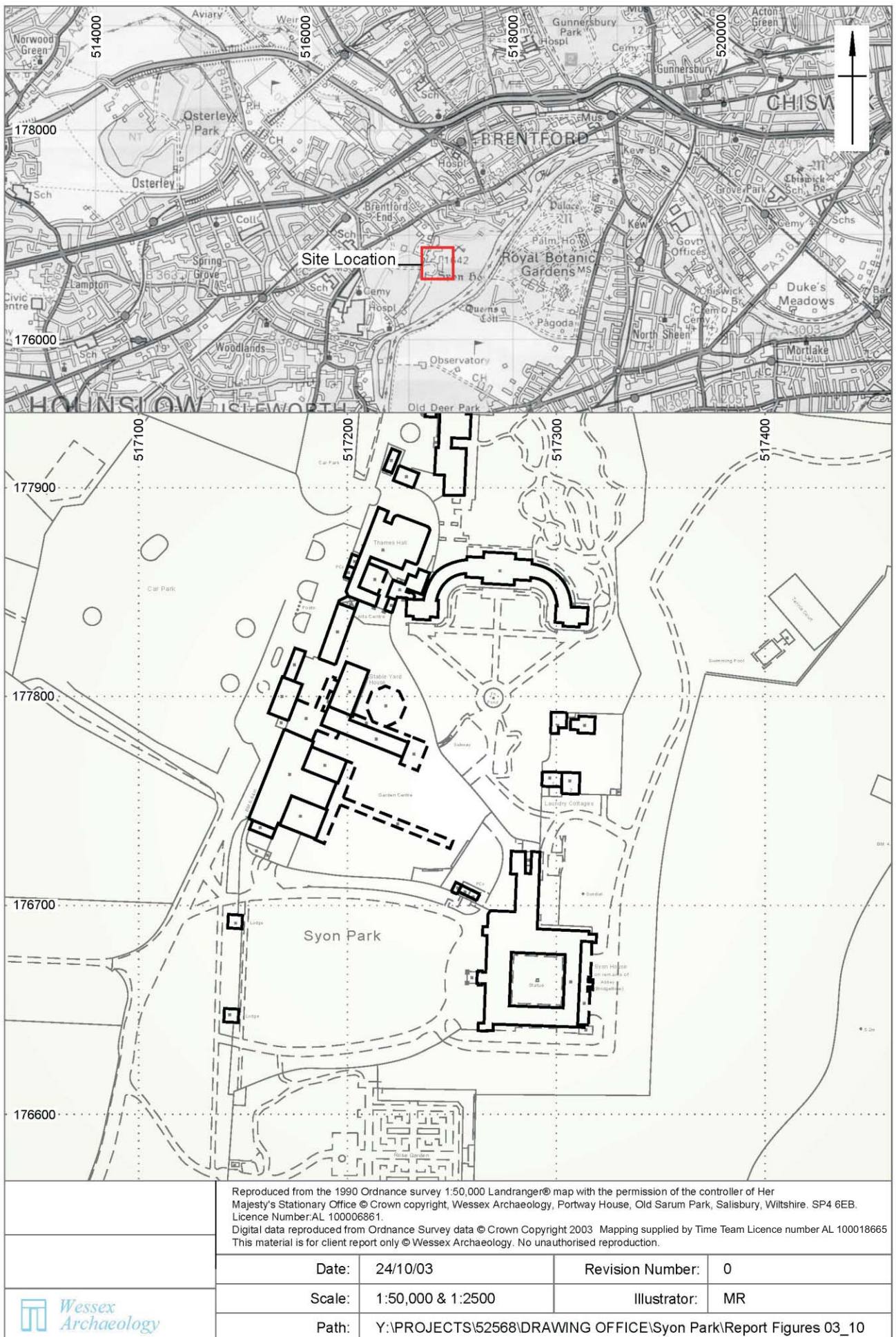
The principal cloisters for the community were specifically divided. At Vadstena, perhaps the model for Syon, since brethren from the Swedish house were involved in its foundation, the sisters were housed in a south cloister, and the brothers in a north cloister. One of the key

aims of the evaluation at Syon was thus to determine where the claustral ranges were in relation to the modern house and to the abbey church, and thus be able to advance the debate about how the whole monastery was laid out.

The starting point is again this vexed question of where the high altar lay. Notwithstanding the overall rarity of churches where the liturgical focus was at the west end, once inside the structure, only the different angle of lighting through the windows would have provided a sharp-eyed sister the proof that they were indeed facing west rather than east as normal. It stands to reason that the whole monastery could thus have been laid out as a mirror image with the cloisters projecting from the eastern half of the church. The Vadstena model of western monks' choir and eastern upper nuns' choir might argue for a more complex pattern again. In any event, a mirrored claustral layout would be consistent with the passageway found in Trench 7.

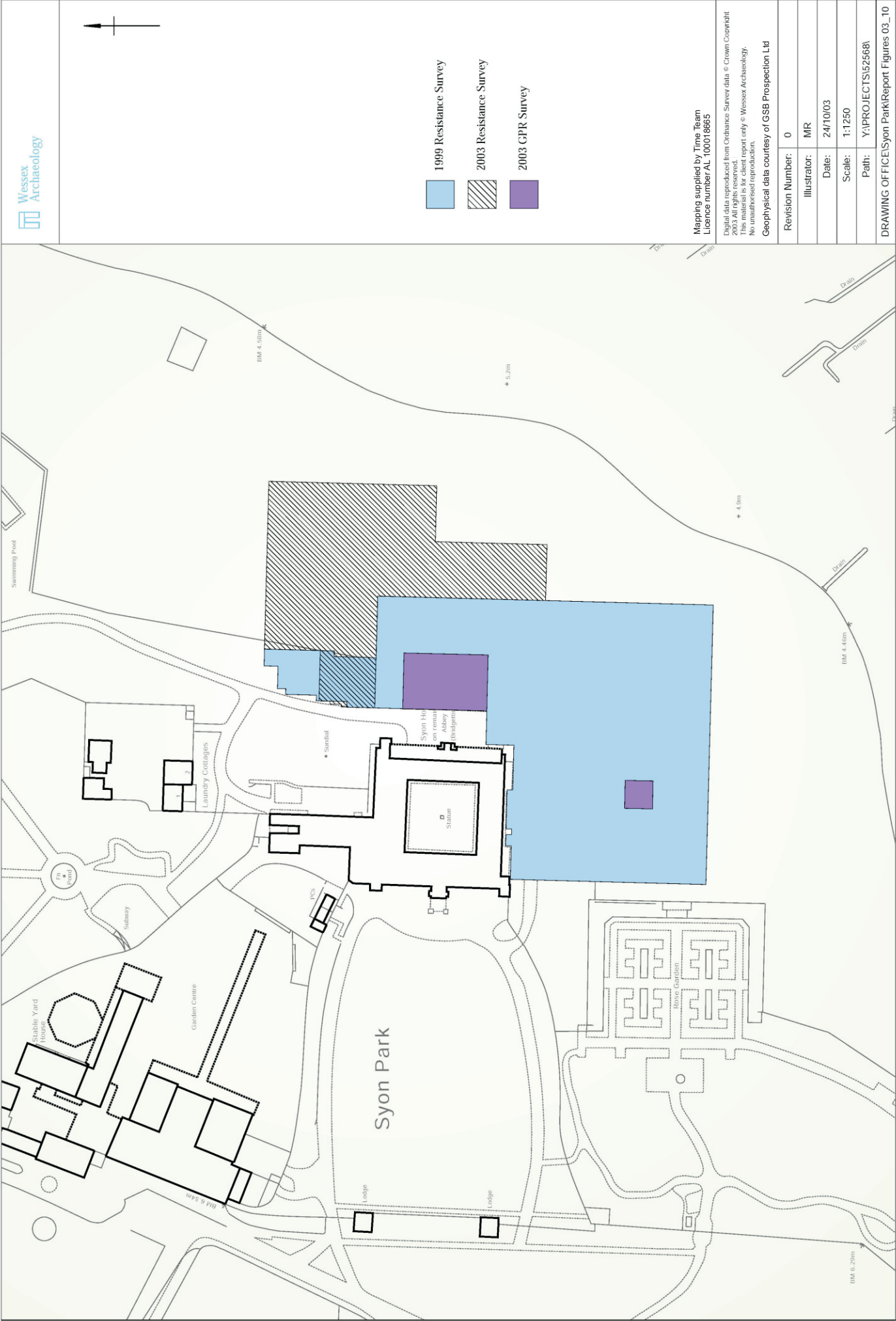
On top of this we know that the abbey had at least three infirmaries: one for the brethren, one for the sisters and one for those 'sick in the mind'. Such infirmaries may have been supplied with their own infirmary cloisters. If the main cloisters lay to the west in a conventional plan, infirmary cloisters would have lain eastward of these (e.g. the infirmary cloister at Westminster). Such a site would be consistent with the passageway indicated in Trench 7.

(Future Aim: Establish further detail of claustral layout through targeted fieldwork, possibly further geophysical imaging, and examination of aerial photographs. Confirm evidence from Papal Registers and Martilogue of documentary evidence for lay out)



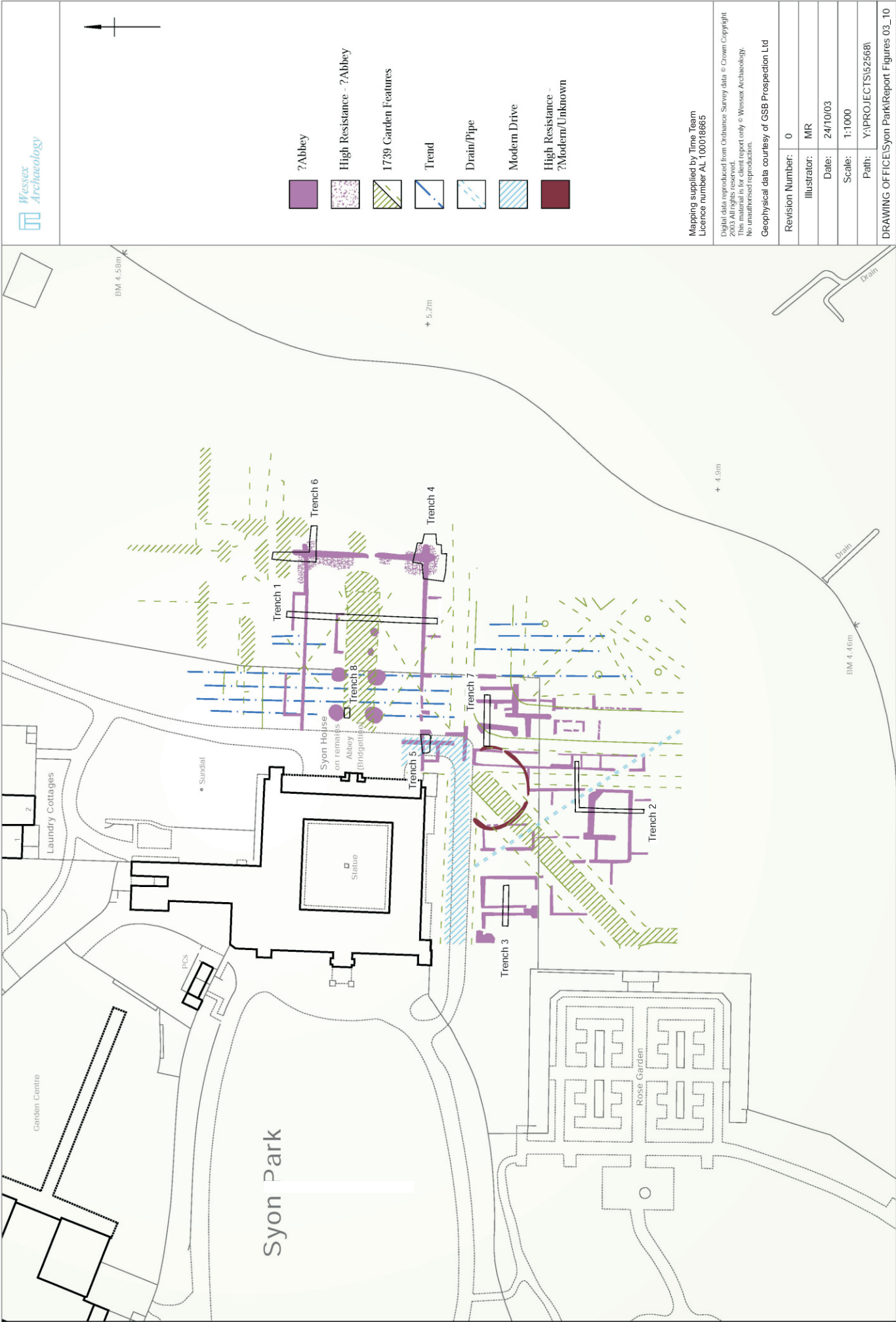
Site location

Figure 1

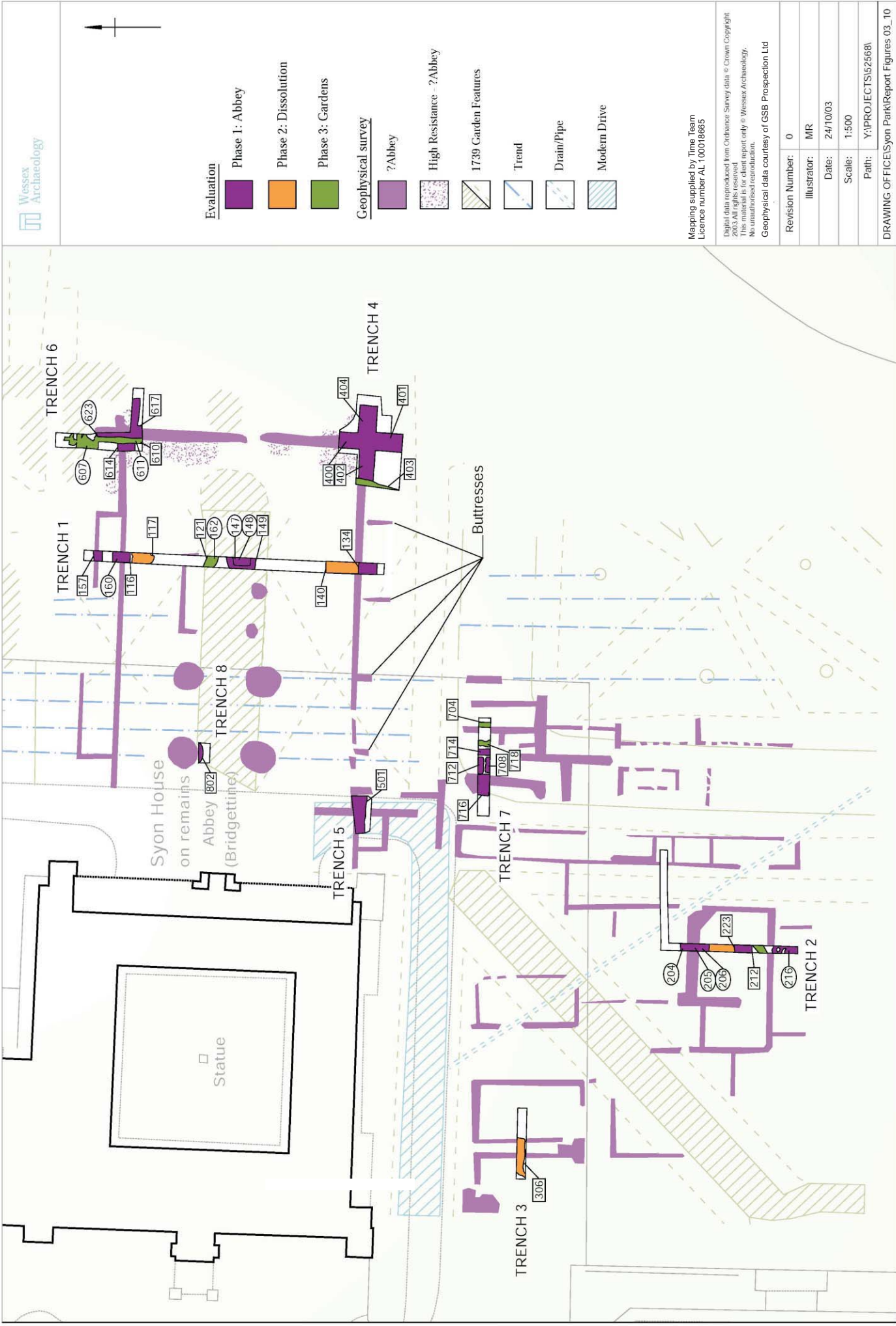


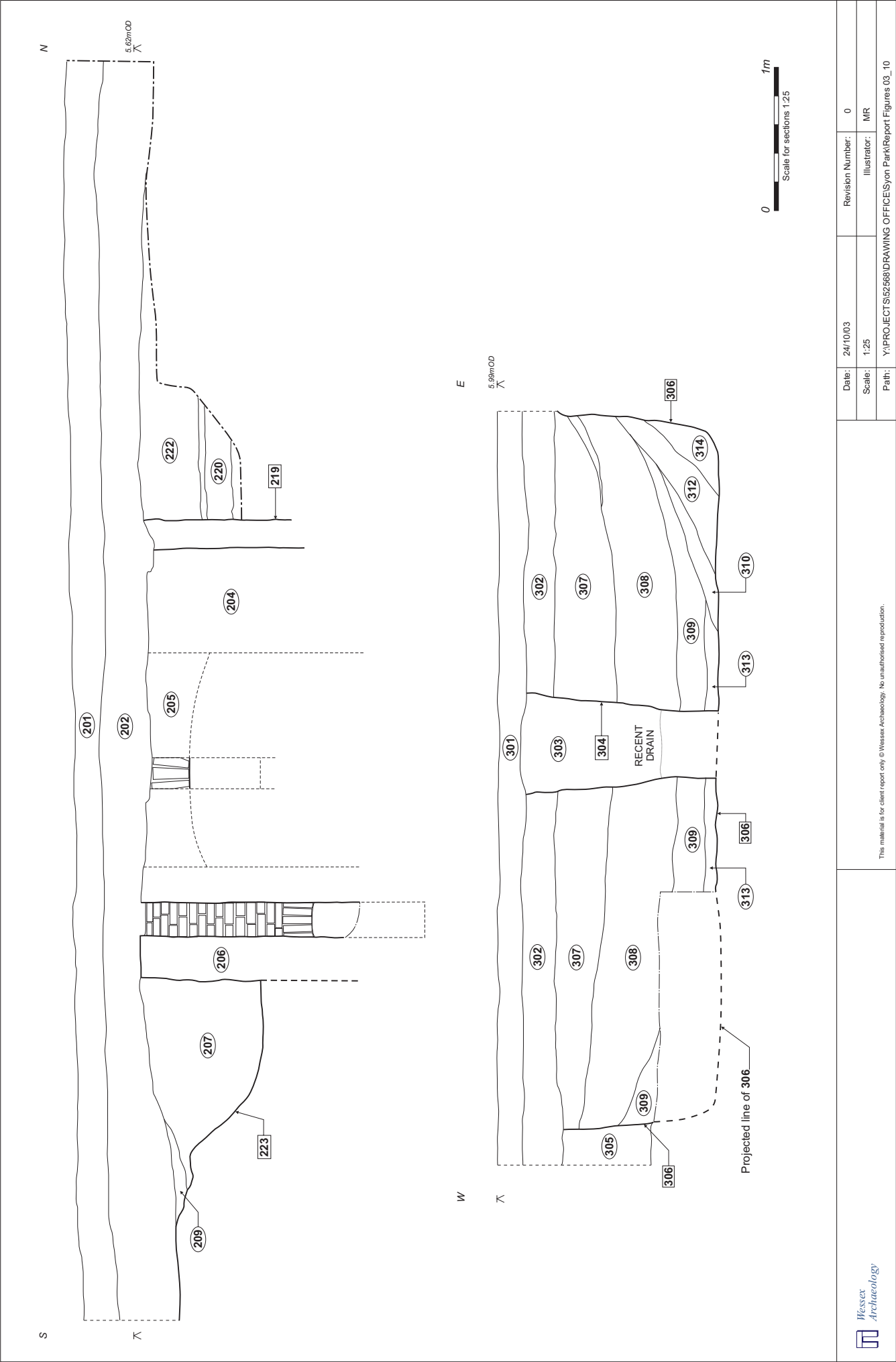
Location of geophysical survey areas

Figure 2



Summary interpretation of geophysics and trench locations





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Photo 1: The south-east corner of the abbey church with buttresses to the south and east. Looking west towards Syon House.



Photo 2: Pier base 149 in Trench 1 looking north.



Photo 3: Inhumation graves 708 and 712 in Trench 7, with wall foundation 716 in the background, looking west.

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